Deutsches Institut für Bautechnik

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment

ETA-08/0262 of 17 October 2017

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	SFS intec Flat Roof Fasteners
Product family to which the construction product belongs	Fasteners for flexible roof waterproofing systems
Manufacturer	SFS intec AG FasteningSystems Rosenbergsaustraße 10 9435 HEERBRUGG SCHWEIZ
Manufacturing plant	Factories of SFS intec AG
This European Technical Assessment contains	114 pages including 109 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	ETAG 006, used as EAD according to Article 66 Paragraph 3 of Regulation (EU) No 305/2011.
This version replaces	ETA-08/0262 issued on 25 April 2013

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Specific Part

1 Technical description of the product

The construction products are mechanical fasteners. The fasteners comprise a screw, blind rivet or anchor made of coated carbon steel, aluminium or stainless steel and a washer with or without integrated sleeve. The washers without integrated sleeve are made of coated carbon steel whereas the washers with integrated sleeve are made of polypropylene or polyamide. Some fasteners include a perforated lath made of coated carbon steel.

The fasteners are shown in the Annexes to this ETA.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The fasteners are intended to be used for the fastening of flexible roof waterproofing membranes according to ETAG 006. The possible substrates are steel or aluminium decks, concrete, aerated concrete, pumice panel or timber.

The performances given in Section 3.2 are only valid if the fasteners are used in compliance with the specifications and conditions given in sections 3.1 and 3.3 and the Annexes to this ETA.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the fasteners of at least 10 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

In order to use the fasteners for systems of mechanically fastened flexible roof waterproofing membranes according to ETAG 006 a separate ETA is necessary for the entire roof waterproofing system. The system ETA covers the wind uplift resistance of the entire system as well as the product characteristics of the components of the system.

3 Performance of the product and references to the methods used for its assessment

3.1 Characteristics of the product

The fasteners shall correspond to the information given in Annexes 1 to 94.

Corrosion resistance of blind rivet's mandrel type TPR-L shall be provided by minimum 8 µm galvanisation.

The material properties, dimensions and tolerances not indicated in Annexes 1 to 94 shall correspond to the information laid down in the technical information[1] to this European technical assessment.

3.2 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Characteristic tensile loading	See Annexes 95 to 109
Resistance to unwinding	pass
Resistance to corrosion of metallic fasteners	pass; ≤ 15 % surface corrosion

[1] The technical documentation is deposited with Deutsches Institut für Bautechnik and as far as relevant for the tasks of the approved bodies involved in the attestation of conformity procedure is handed over to the approved bodies.

Essential characteristic	Performance
Impact resistance and brittleness of plastic fasteners (before and after heat ageing)	pass; drop hight > 1,0 m
Requirements for results of Charpy tests for plastic materials (before and after heat ageing)	pass; not any significant decline compared to the results before heat ageing

The thickness and strengths of the materials listed in the tables of characteristic tensile loads (Annexes 95 to 109) are minimum requirements. The values given are also applicable for materials with higher thickness and strengths. The values of axial loading shown in Annexes 95 to 109 were determined by axial loading tests according to ETAG 006.

The fasteners are deemed to satisfy the requirements of ETAG 006 concerning unwinding. This was evaluated on the basis of the existing field experience of the manufacturer.

The durability requirements of ETAG 006 (resistance to corrosion of metallic fasteners, impact resistance and brittleness of plastic fasteners before and after heat ageing, requirements for results of Charpy tests for plastic materials before and after heat ageing) are satisfied for the coated carbon steel, aluminium, stainless steel, polypropylene and polyamide components of the fasteners.

All coated carbon steel components resisted to 15 cycles of the test procedure described in ETAG 006 (Kesternich test) and did not show more than 15 % surface corrosion.

The test results of the tests to check the impact resistance and brittleness of the polyamide components showed a drop height of more than 1.0 m before and after heat ageing of these components. Furthermore the results of the corresponding Charpy tests after heat ageing did not show any significant decline compared to the results before heat ageing.

3.3 Indications concerning installation

The installation is solely carried out according to the manufacturer's instructions. When assembling the fastener’s components the screw thread penetrating into the substrate shall not be damaged. The manufacturer hands over the assembly instructions to the assembler.

The conformity of the installed fastener with this ETA is attested by the executing company.

It is in the responsibility of the manufacturer to ensure that the information on the specific conditions according to 1, 2, 3.1 and 3.2 is given to those who are concerned. The information may be given by reproduction of the ETA. In addition all installation data shall be shown clearly on the package and/or on an enclosed instruction sheet, preferably using illustration(s).

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with ETAG 006 the applicable European legal act is: 1998/143/EC.

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 17 October 2017 by Deutsches Institut für Bautechnik

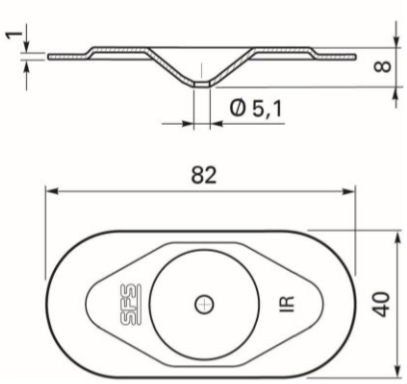
Dr.-Ing. Lars Eckfeldt
p. p. Head of Department

beglaubigt:
Reimuth

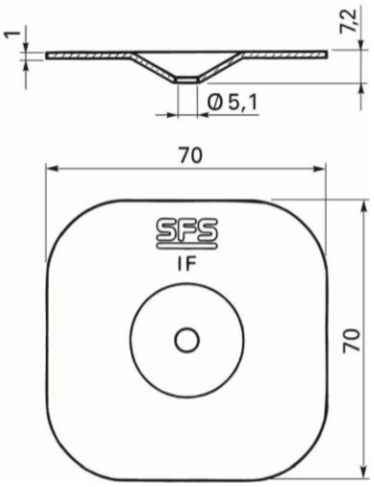
Deutsches Institut für Bautechnik DIBt

Combination 1A IR2-4,8 / IR-82x40	Combination 1B IR2-4,8 / IF-70x70

IR-82x40



IF-70x70



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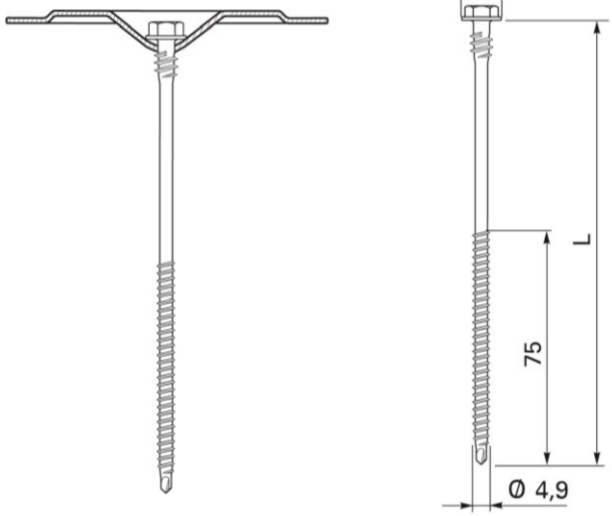

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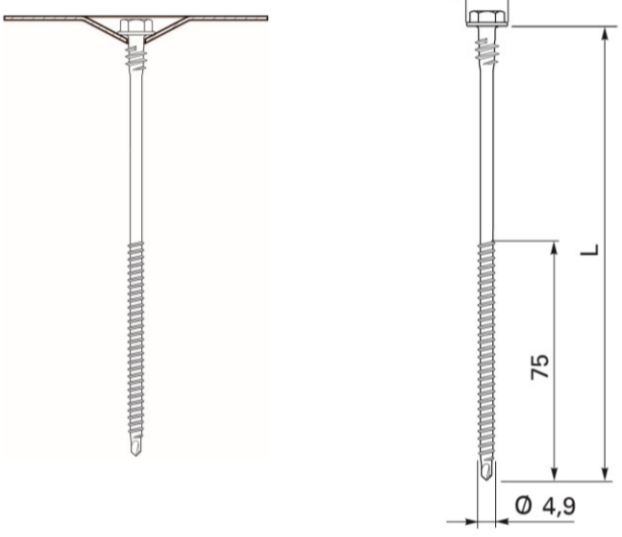
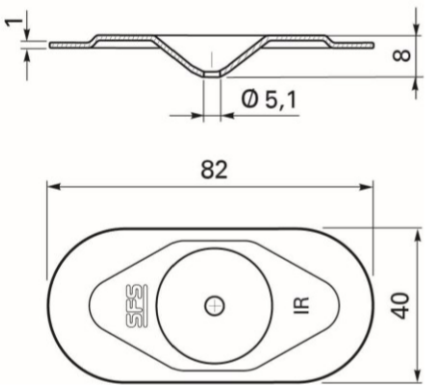


SFS intec flat roof fasteners	**Annex 1**

Deutsches Institut für Bautechnik DIBt

Combination 2A IR2-S-4,8 / IR-82x40	Combination 2B IR3-4,8 / IR-82x40

IR-82x40



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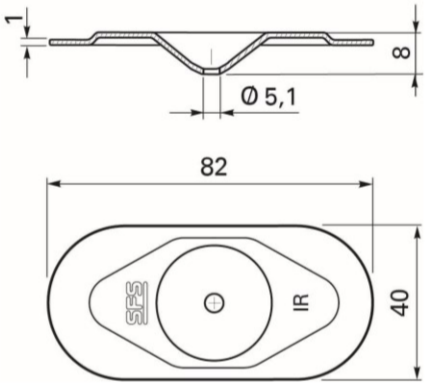

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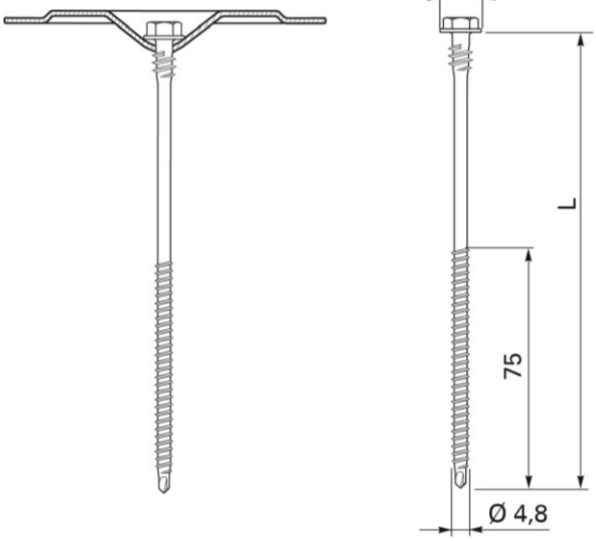

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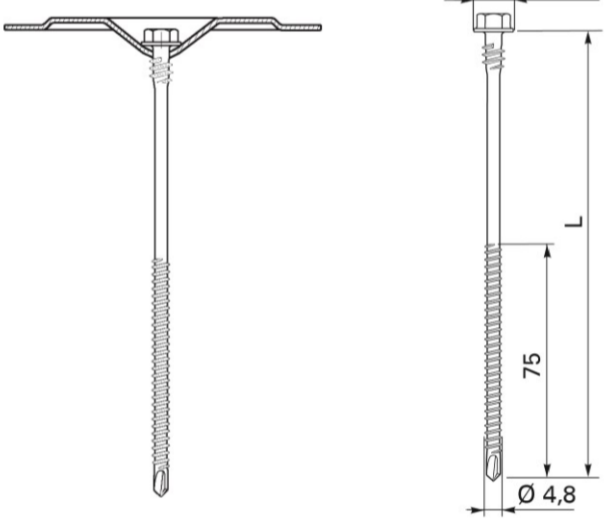

SFS intec flat roof fasteners	**Annex 2**

Deutsches Institut für Bautechnik DIBt

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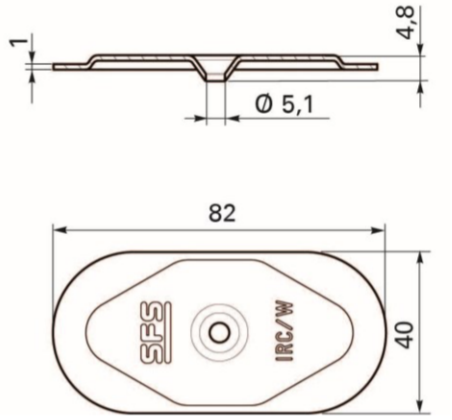
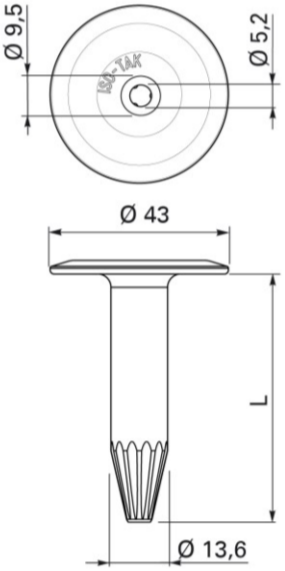
IRC/W-82x40



RP45



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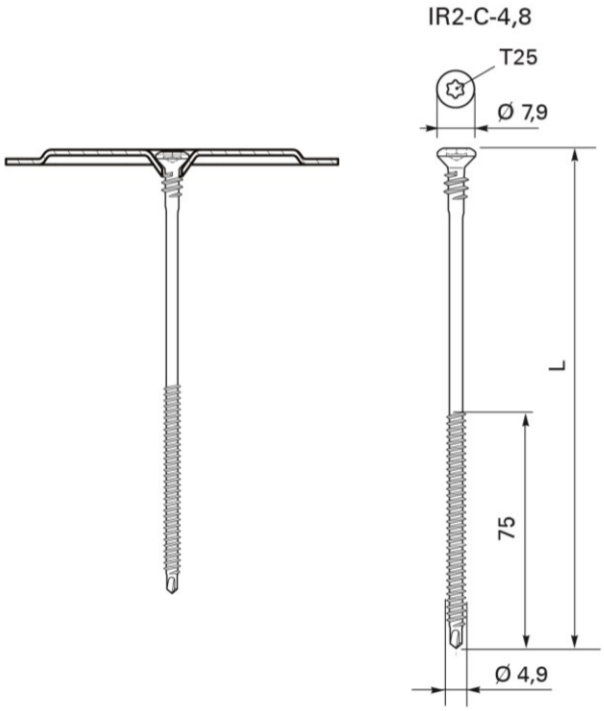
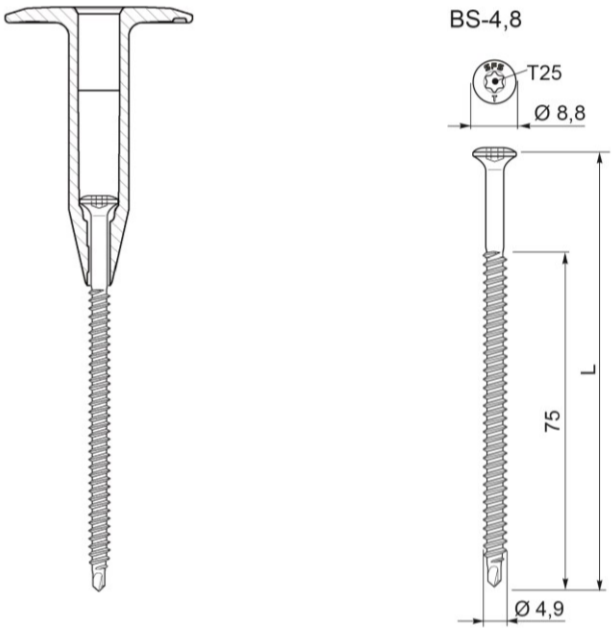


BS-4,8



SFS intec flat roof fasteners	**Annex 3**

Deutsches Institut für Bautechnik DIBt

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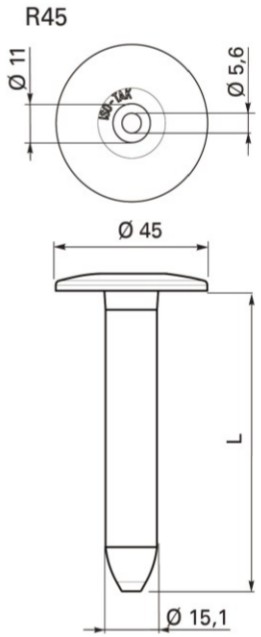
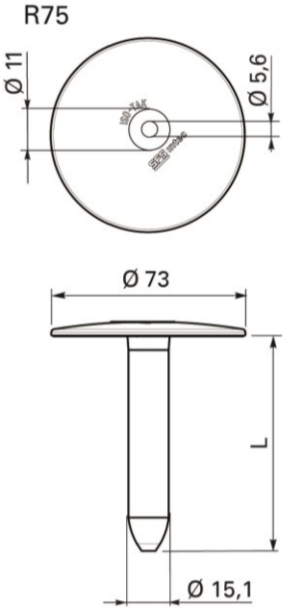
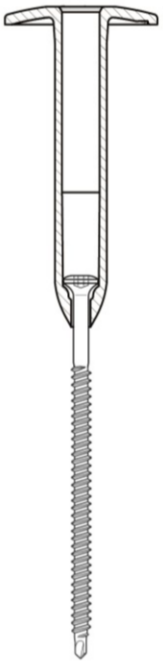
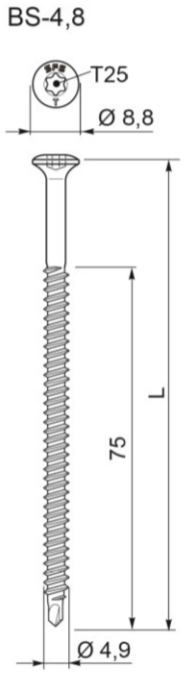
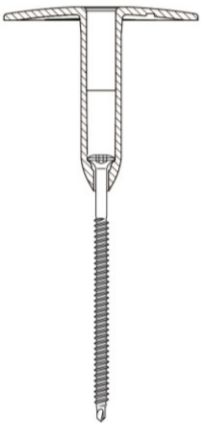
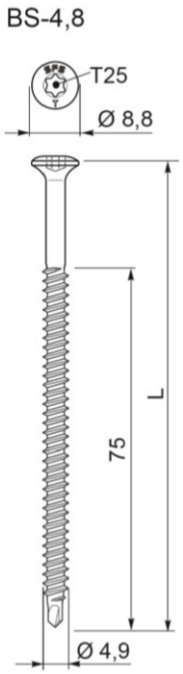










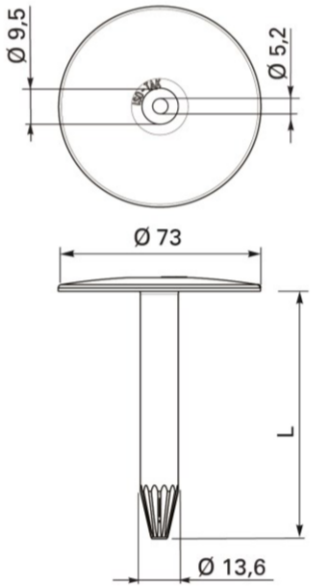


SFS intec flat roof fasteners	**Annex 4**

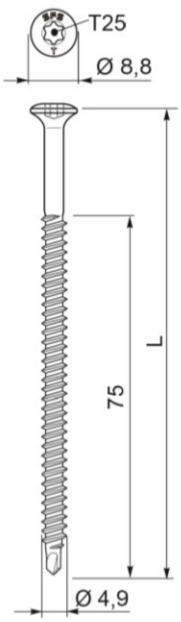
Deutsches Institut für Bautechnik DIBt

Combination 5A BS-4,8 / RP75	Combination 5B BS-4,8 / TPS

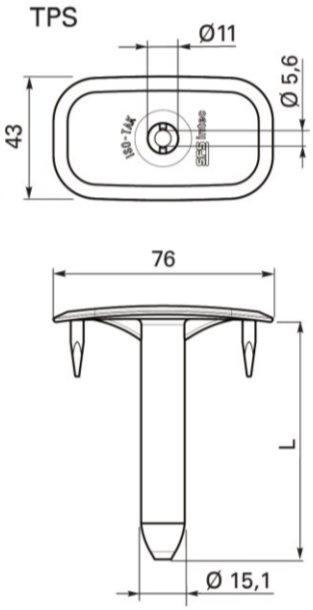
RP75

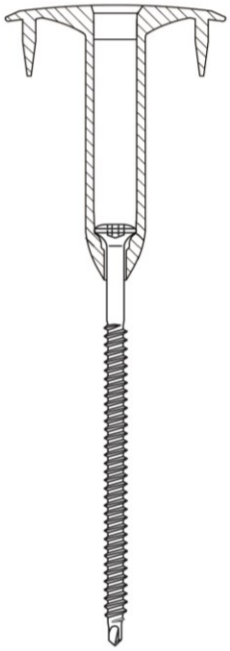


BS-4,8



TPS





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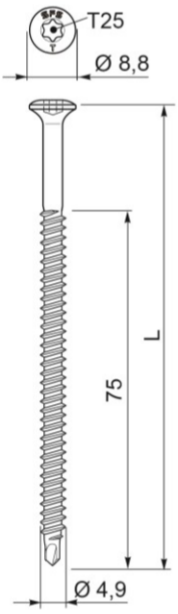
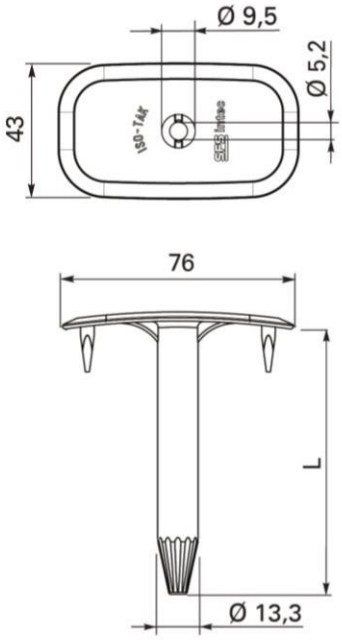


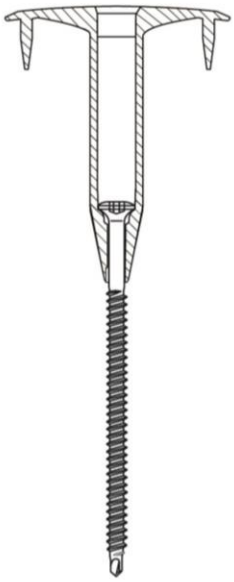
SFS intec flat roof fasteners	Annex 5

Deutsches Institut für Bautechnik DIBt

Combination 6A BS-4,8 / TPP	Combination 6B BS-4,8 / R48-3N

TPP





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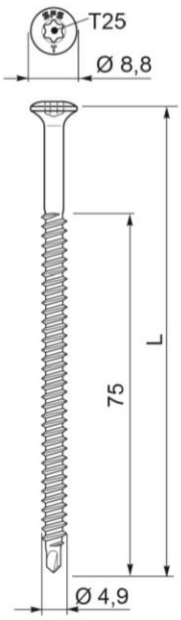

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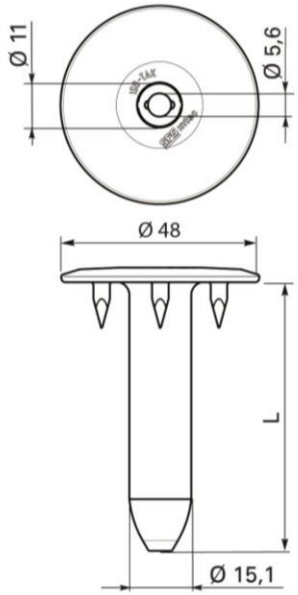

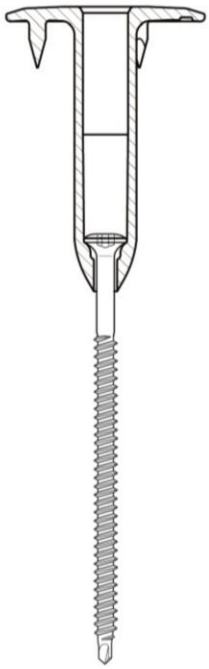

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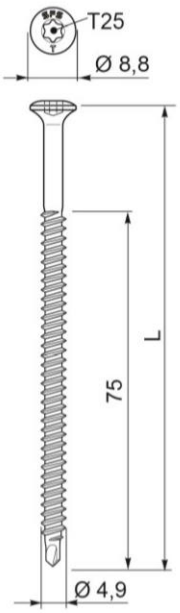
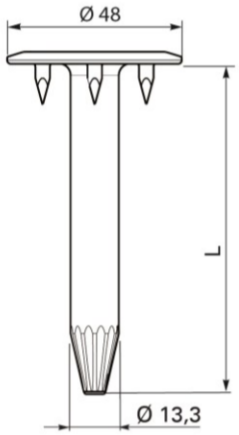


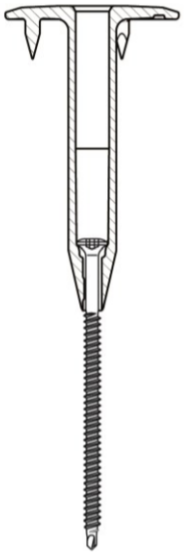
SFS intec flat roof fasteners	Annex 6

Deutsches Institut für Bautechnik DIBt

Combination 7A BS-4,8 / RP48-3N	Combination 7B BS-4,8 / SH-18/65 / Protan steelbar

RP48-3N





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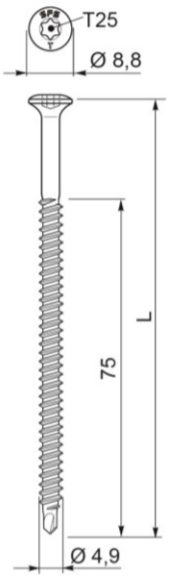
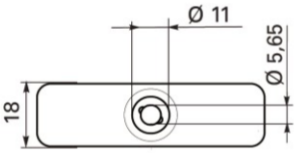
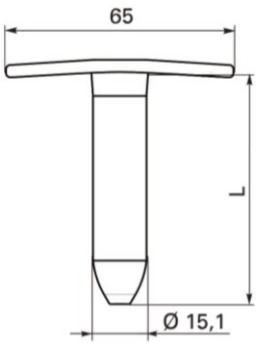
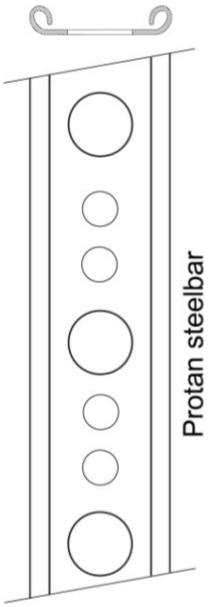


SH-18/65







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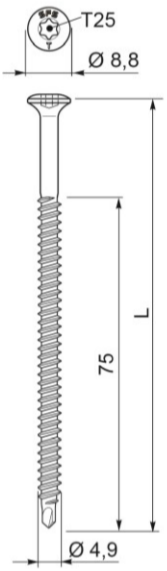
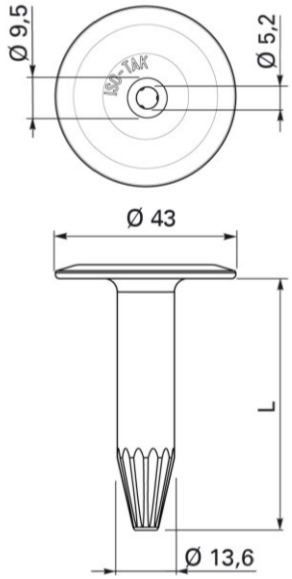


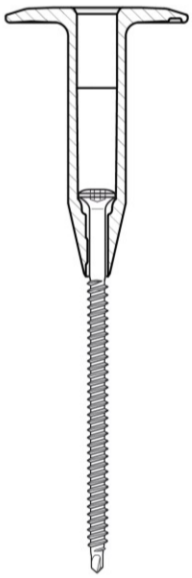
SFS intec flat roof fasteners	Annex 7

Deutsches Institut für Bautechnik DIBt

Combination 8A BS-S-4,8 / RP45	Combination 8B BS-S-4,8 / TPP

RP45





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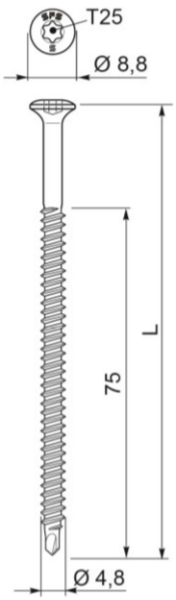
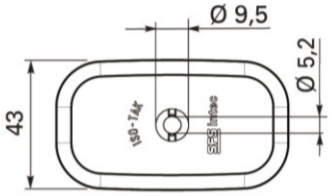
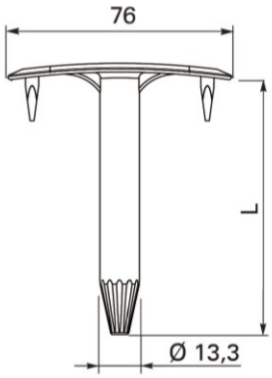
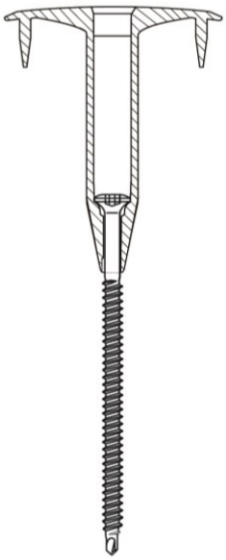


TPP







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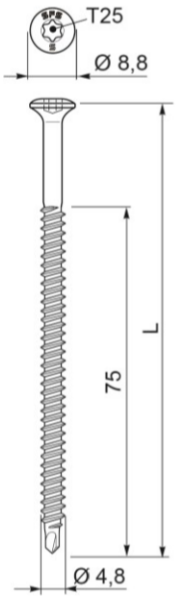
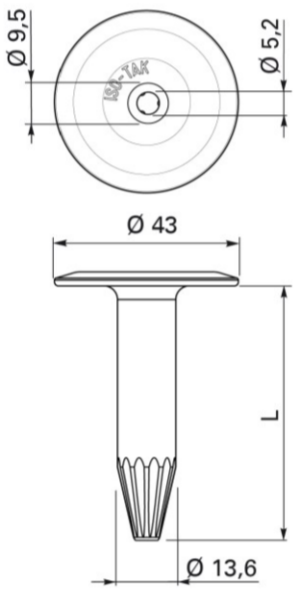


SFS intec flat roof fasteners	Annex 8

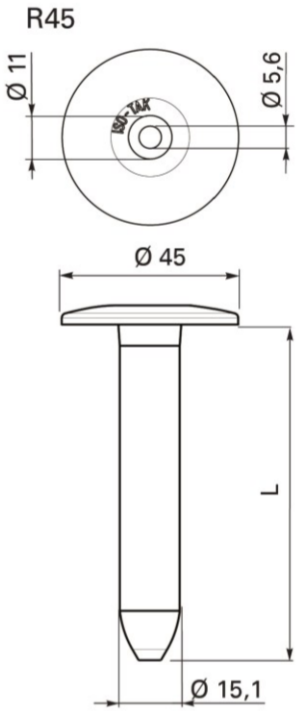
Deutsches Institut für Bautechnik DIBt

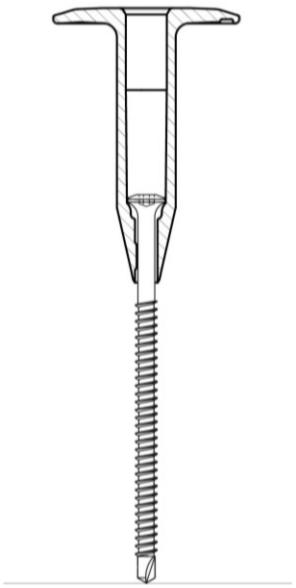
Combination 9A BS3-4,8 / RP45	Combination 9B BS-6,1 / R45

RP45

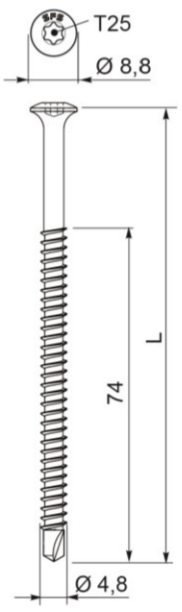


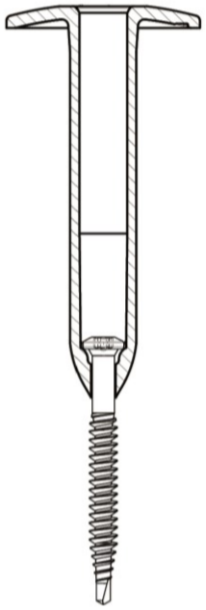
R45



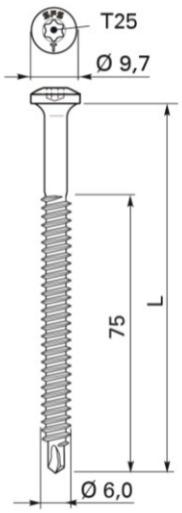


BS3-4,8





BS-6,1

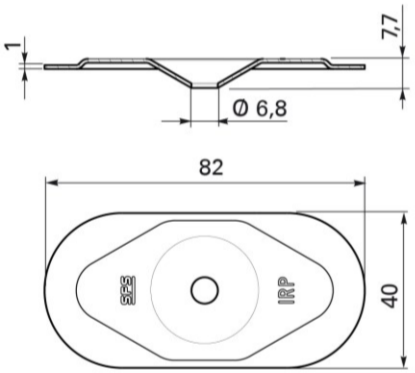


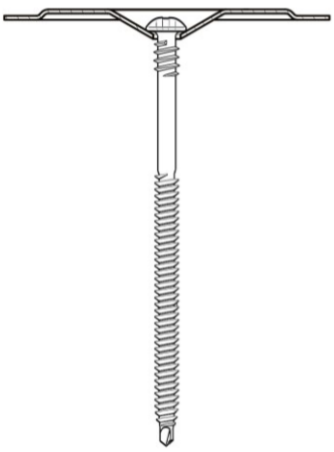
SFS intec flat roof fasteners	Annex 9

Deutsches Institut für Bautechnik DIBt

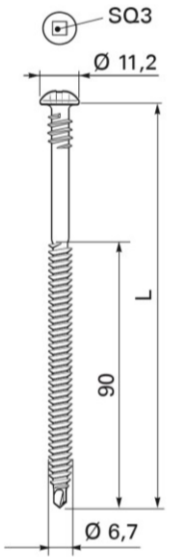
Combination 10A IFP2-6,7 / IRP-82x40	Combination 10B BS-6,7 / R45

IRP-82x40

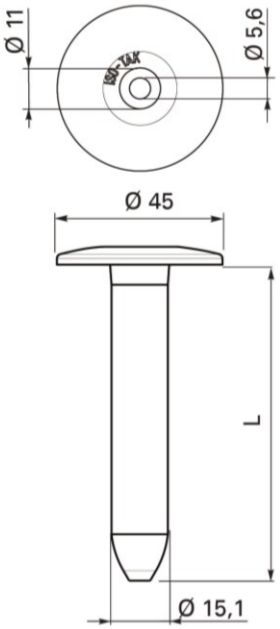


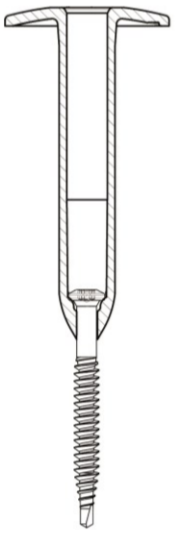


IFP2-6,7

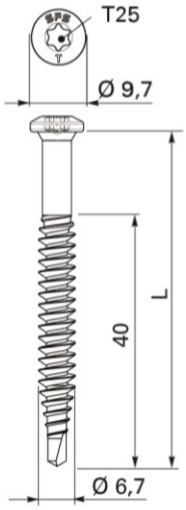


R45





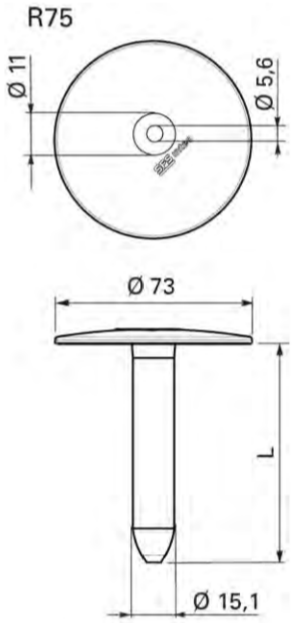
BS-6,7

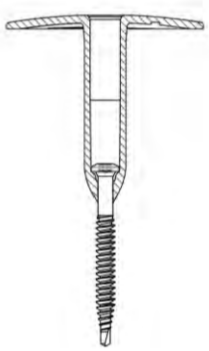


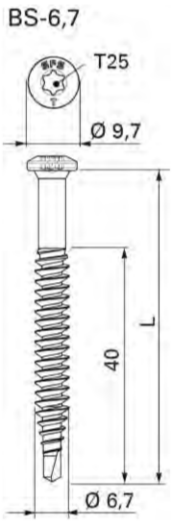
SFS intec flat roof fasteners	Annex 10

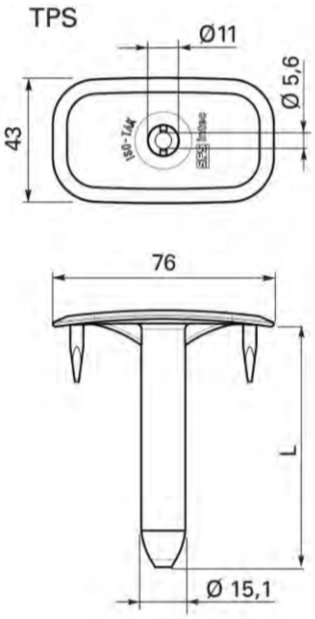
Deutsches Institut für Bautechnik DIBt

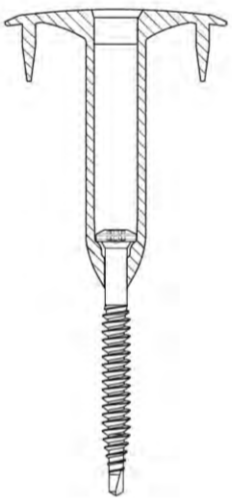
Combination 11A BS-6,7 / R75	Combination 11B BS-6,7 / TPS

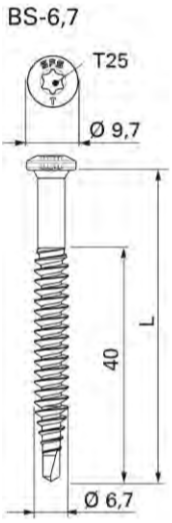








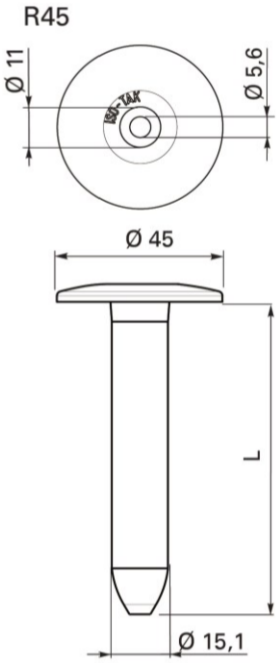


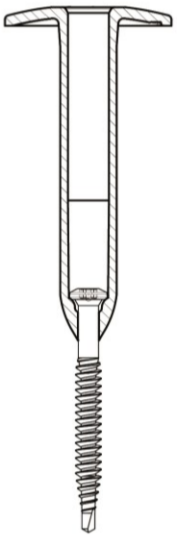


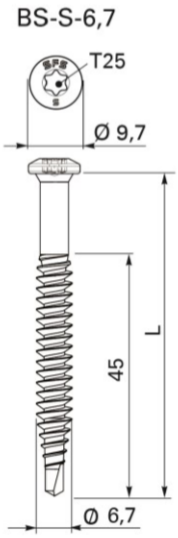
SFS intec flat roof fasteners	**Annex 11**

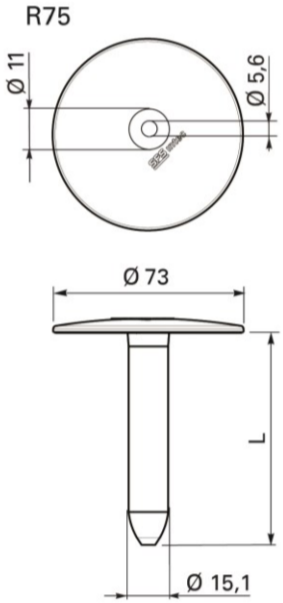
Deutsches Institut für Bautechnik DIBt

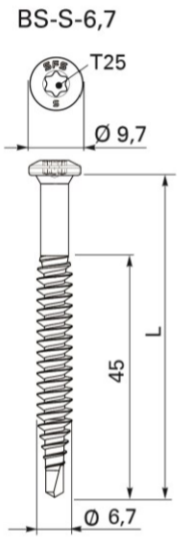
Combination 12A BS-S-6,7 / R45	Combination 12B BS-S-6,7 / R75









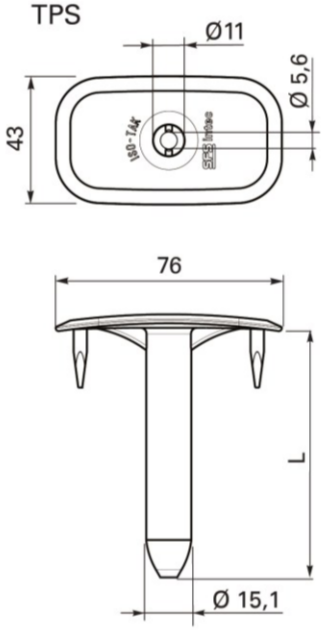


SFS intec flat roof fasteners	**Annex 12**

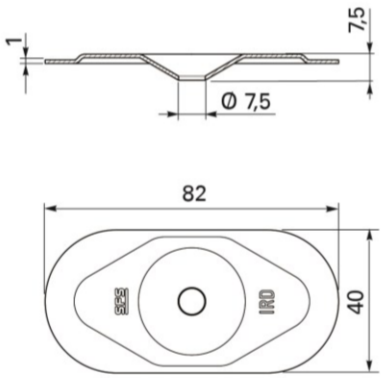
Deutsches Institut für Bautechnik DIBt

Combination 13A BS-S-6,7 / TPS	Combination 13B TPR-L-6,3 / IRD-82x40

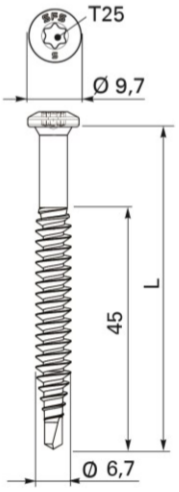
TPS

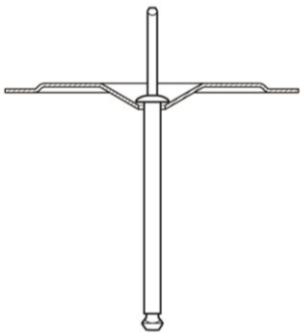


IRD-82x40

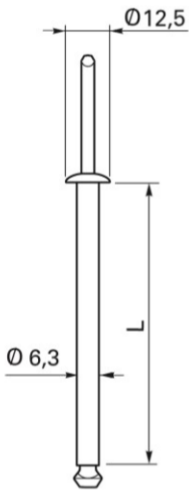


BS-S-6,7





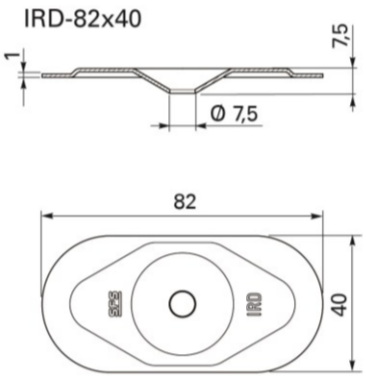
TPR-L-6,3

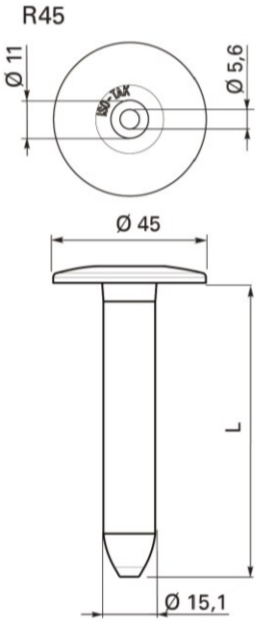


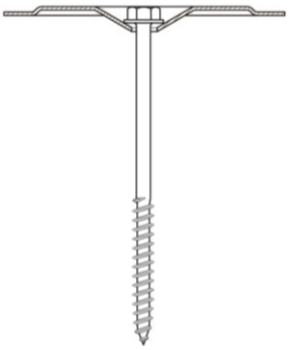
SFS intec flat roof fasteners	Annex 13

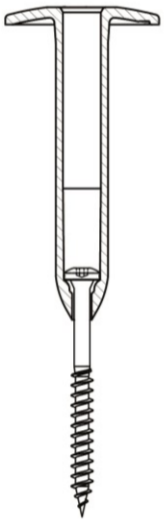
Deutsches Institut für Bautechnik DIBt

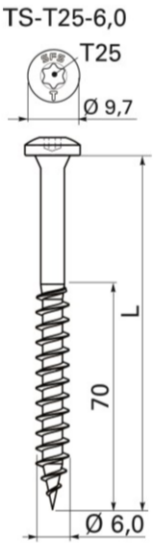
Combination 14A IG-6,0 / IRD-82x40	Combination 14B TS-T25-6,0 / R45









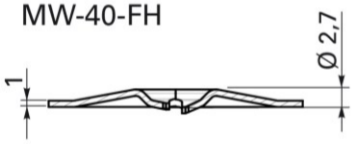


SFS intec flat roof fasteners	Annex 14

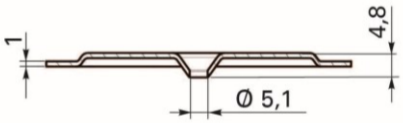
Deutsches Institut für Bautechnik DIBt

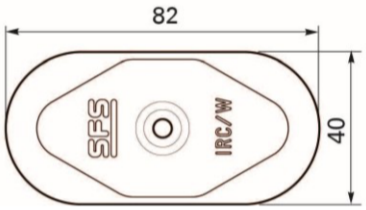
Combination 15A IWF-5,2 / MW-40-FH	Combination 15B IW-T-5,0 / IRC/W-82x40

MW-40-FH

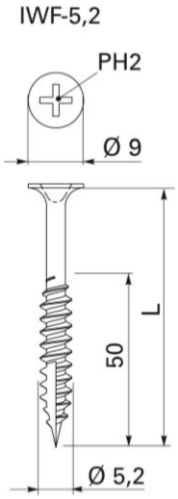


IRC/W-82x40

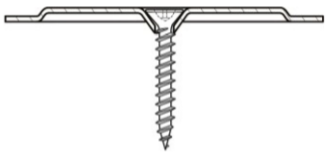


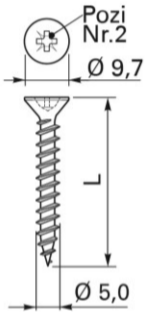


IWF-5,2



IW-T-5,0



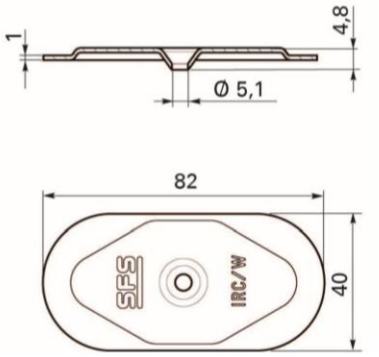


SFS intec flat roof fasteners	**Annex 15**

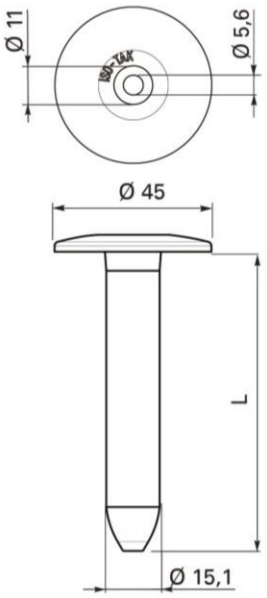
Deutsches Institut für Bautechnik DIBt

Combination 16A IW-S-5,0 / IRC/W-82x40	Combination 16B LBS-S-T25-8,0 / R45

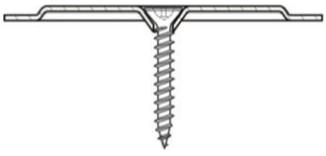
IRC/W-82x40

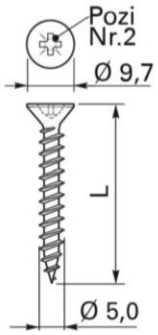


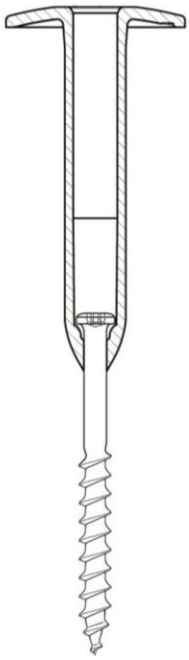
R45



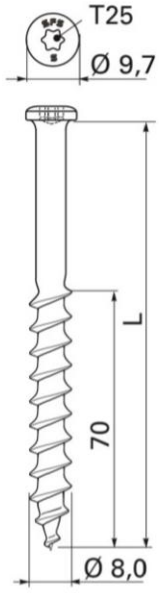
IW-S-5,0







LBS-S-T25-8,0

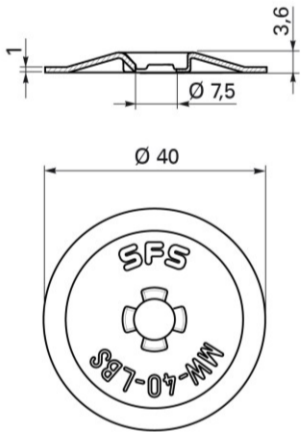


SFS intec flat roof fasteners	Annex 16

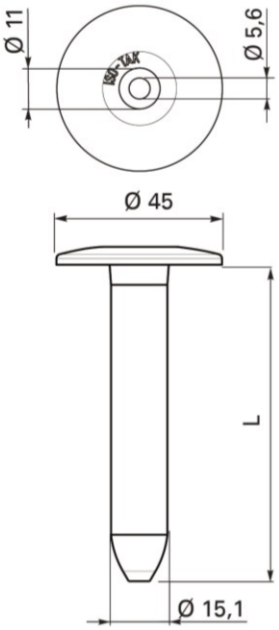
Deutsches Institut für Bautechnik DIBt

Combination 17A LBS-T25-8,0 / MW-40-LBS	Combination 17B LBS-T25-8,0 / R45

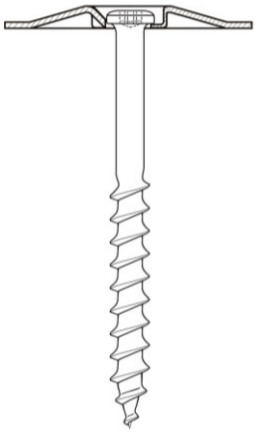
MW-40-LBS

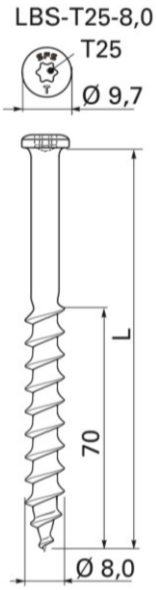


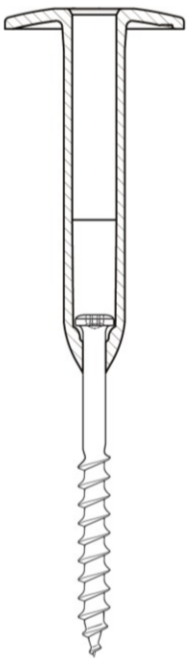
R45



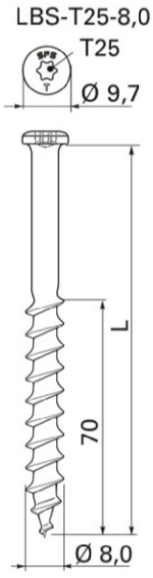
LBS-T25-8,0







LBS-T25-8,0

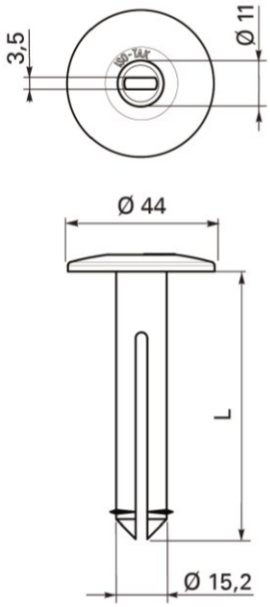


SFS intec flat roof fasteners	Annex 17

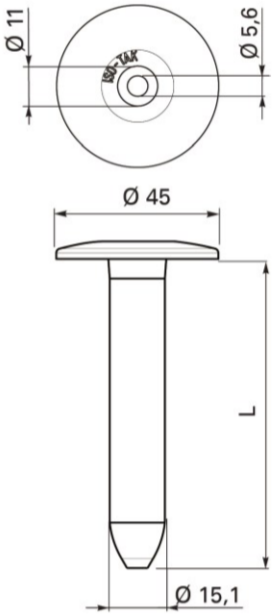
Deutsches Institut für Bautechnik DIBt

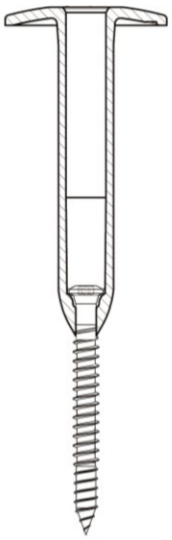
Combination 18A LB-45	Combination 18B FB-S-T25-7,5 / R45

LB-45

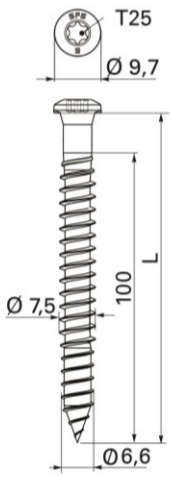


R45





FB-S-T25-7,5

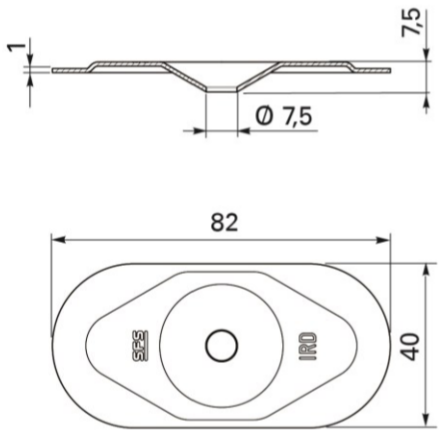


SFS intec flat roof fasteners	Annex 18

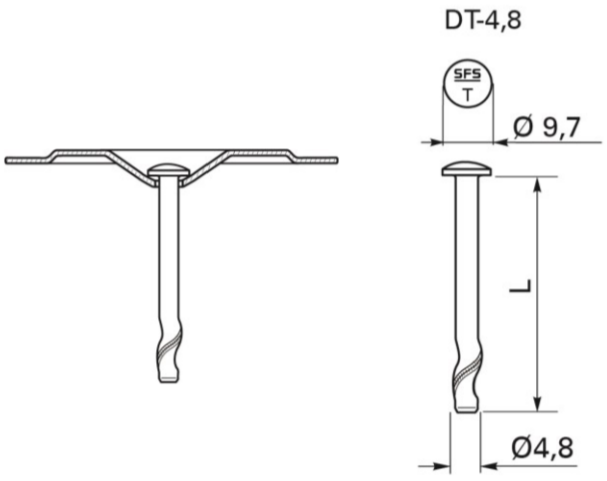
Deutsches Institut für Bautechnik DIBt

Combination 19A DT-4,8 / IRD-82x40	Combination 19B DT-4,8 / IF/IG-C-82x40

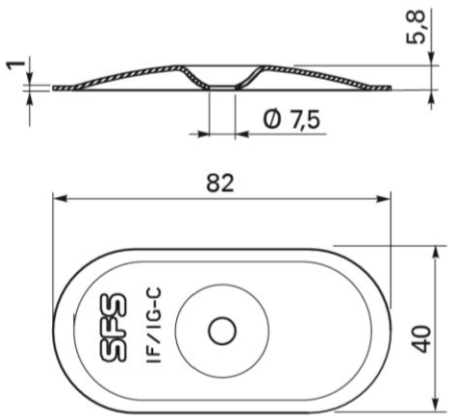
IRD-82x40



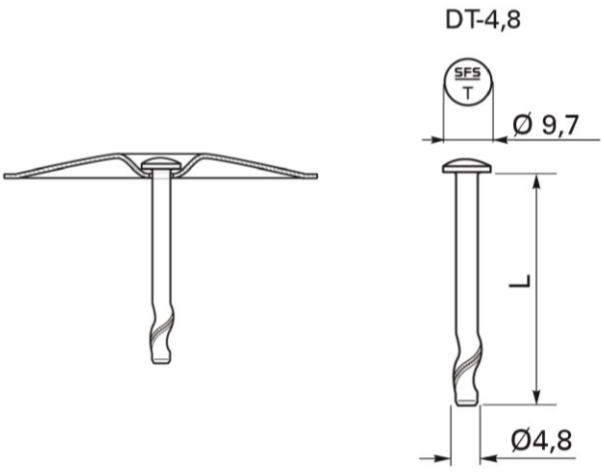
DT-4,8



IF/IG-C-82x40



DT-4,8

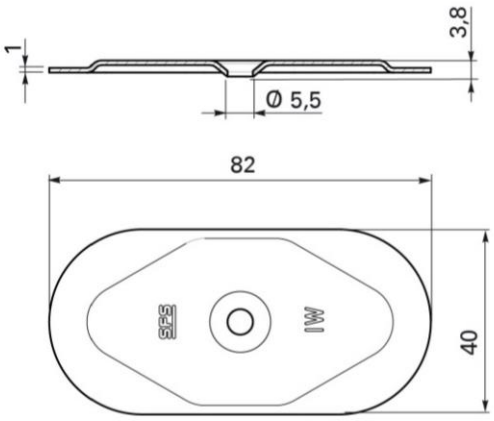


SFS intec flat roof fasteners	Annex 19

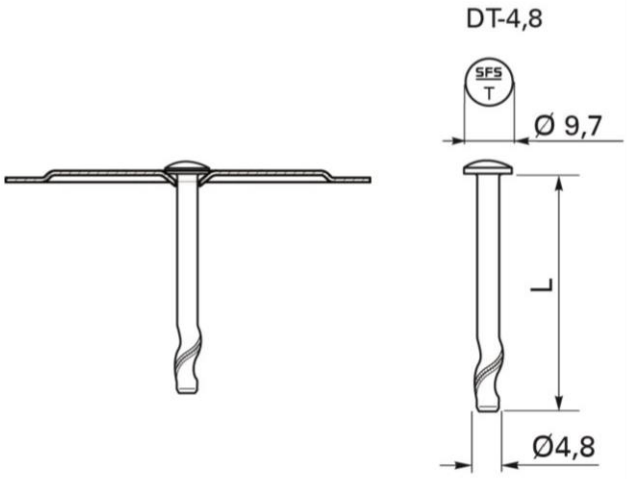
Deutsches Institut für Bautechnik DIBt

Combination 20A DT-4,8 / IW-82x40	Combination 20B DT-4,8 / R45

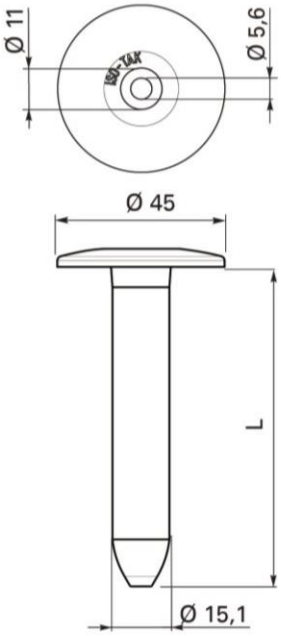
IW-82x40



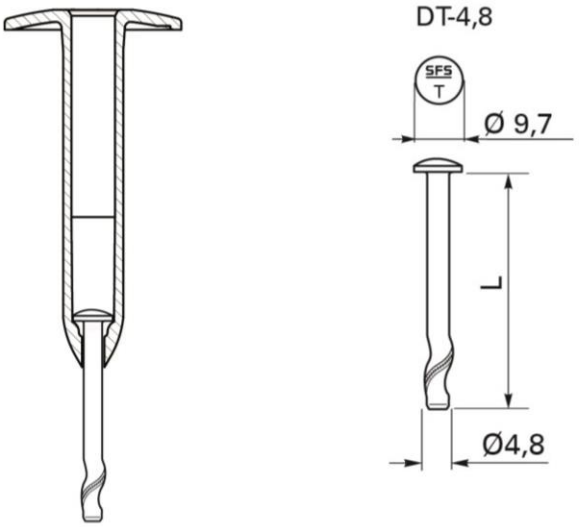
DT-4,8



R45



DT-4,8

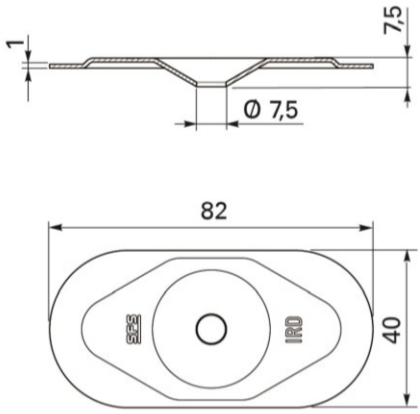


SFS intec flat roof fasteners	Annex 20

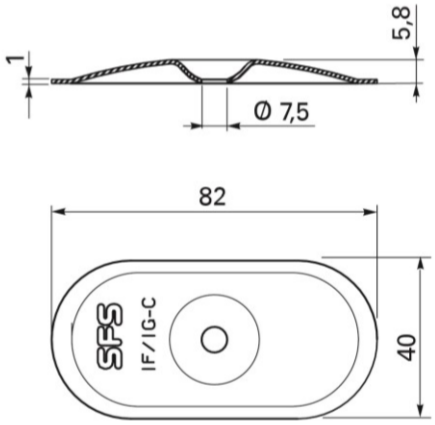
Deutsches Institut für Bautechnik DIBt

Combination 21A DT-S-4,8 / IRD-82x40	Combination 21B DT-S-4,8 / IF/IG-C-82x40

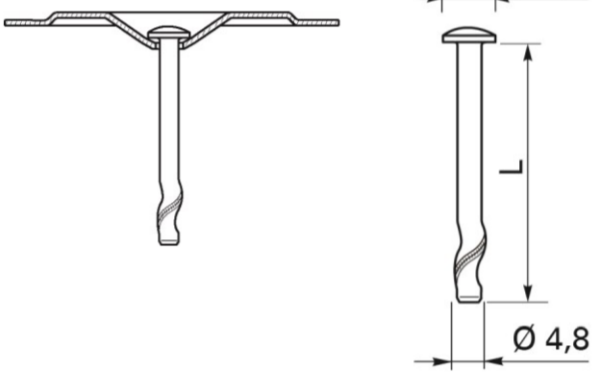
IRD-82x40



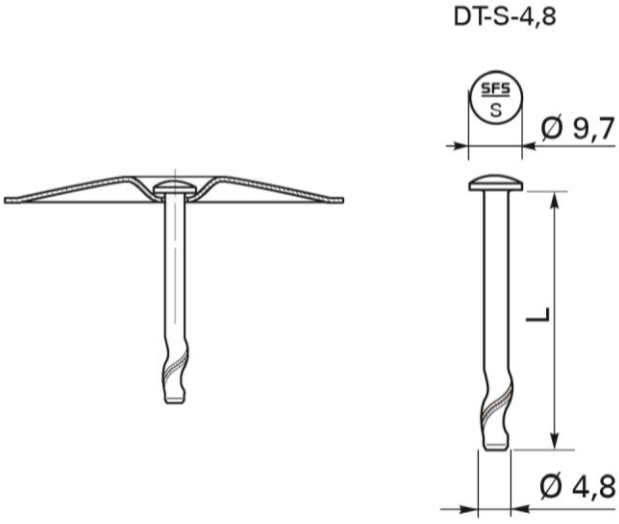
IF/IG-C-82x40



DT-S-4,8



DT-S-4,8

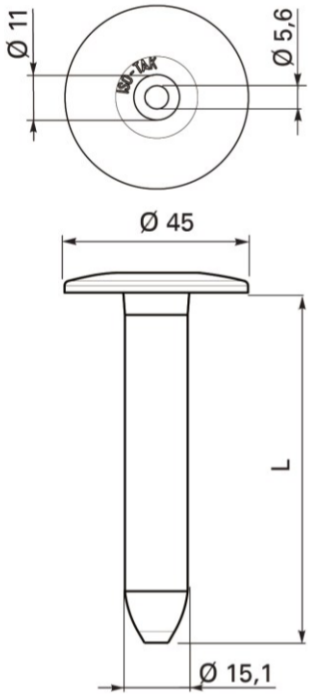


SFS intec flat roof fasteners	**Annex 21**

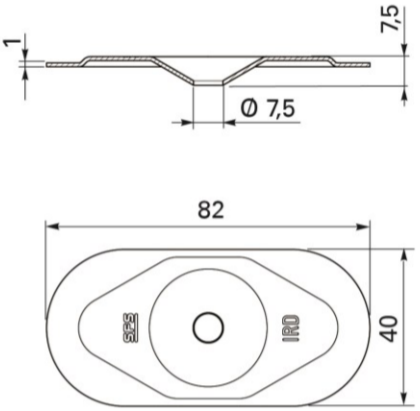
Deutsches Institut für Bautechnik DIBt

Combination 22A DT-S-4,8 / R45	Combination 22B DT-6,3 / IRD-82x40

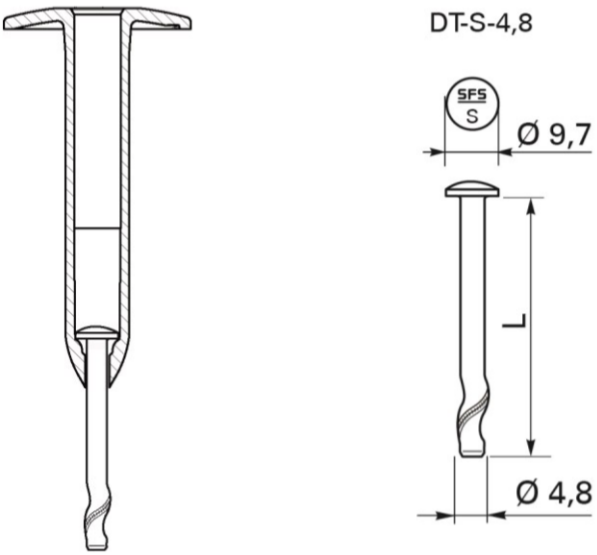
R45



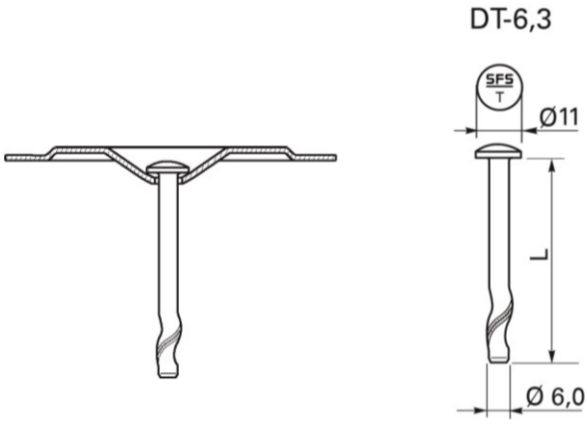
IRD-82x40



DT-S-4,8



DT-6,3

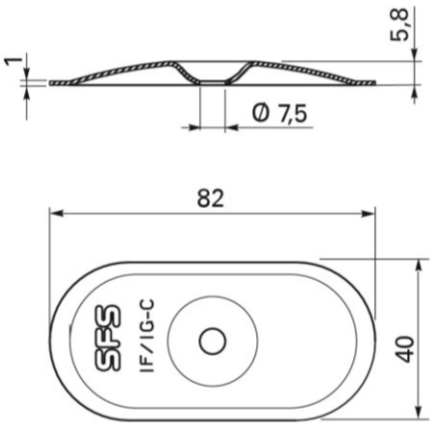


SFS intec flat roof fasteners	**Annex 22**

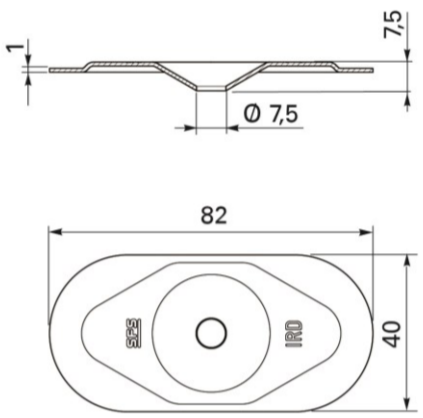
Deutsches Institut für Bautechnik DIBt

Combination 23A DT-6,3 / IF/IG-C-82x40	Combination 23B DT-S-6,3 / IRD-82x40

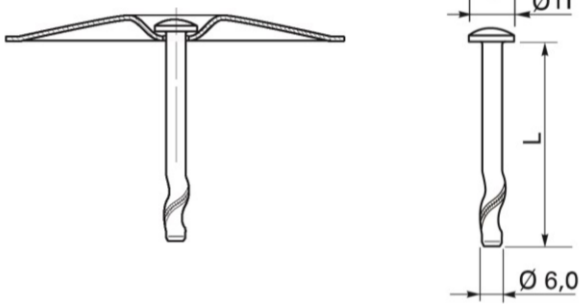
IF/IG-C-82x40



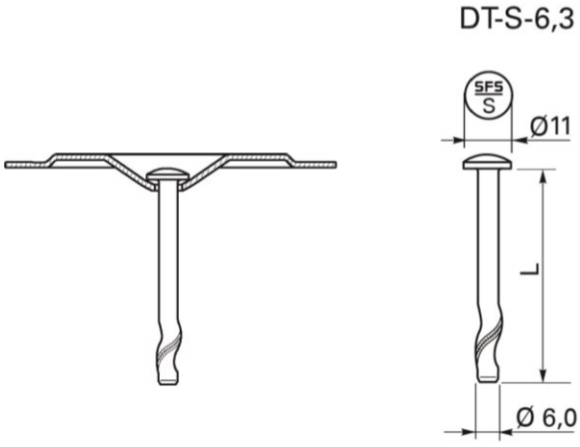
IRD-82x40



DT-6,3



DT-S-6,3

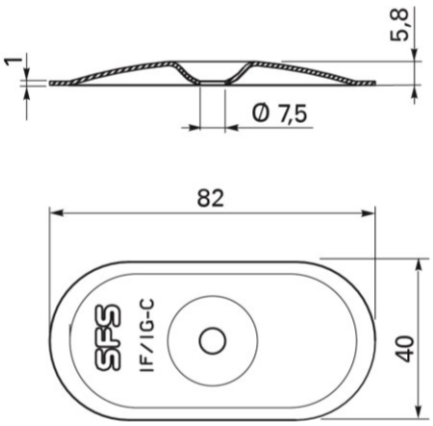


SFS intec flat roof fasteners	Annex 23

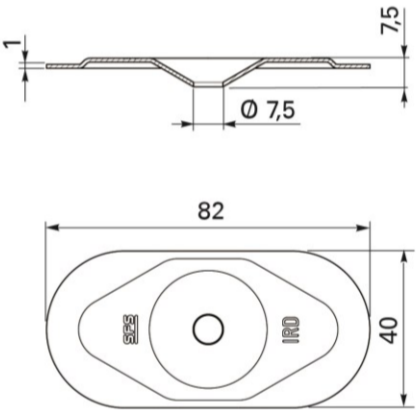
Deutsches Institut für Bautechnik DIBt

Combination 24A DT-S-6,3 / IF/IG-C-82x40	Combination 24B TI-6,3 / IRD-82x40

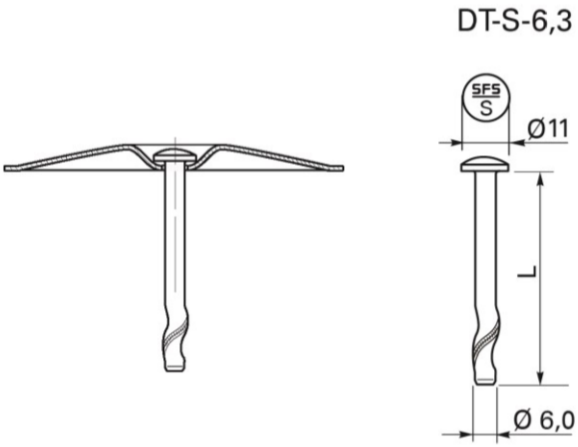
IF/IG-C-82x40



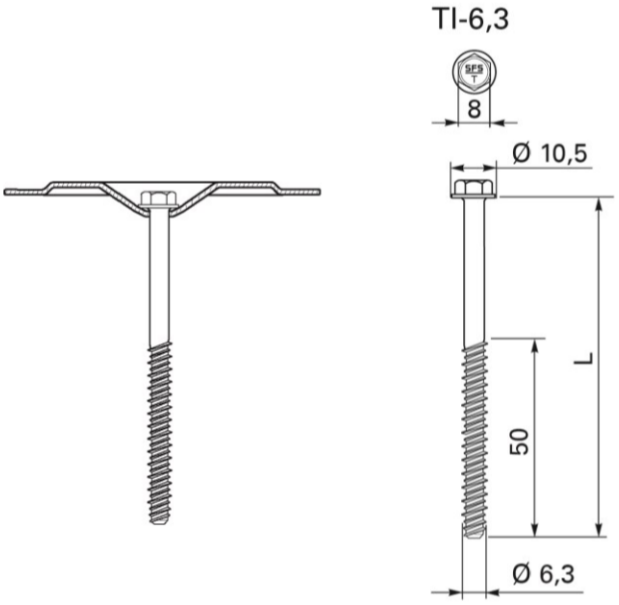
IRD-82x40



DT-S-6,3



TI-6,3

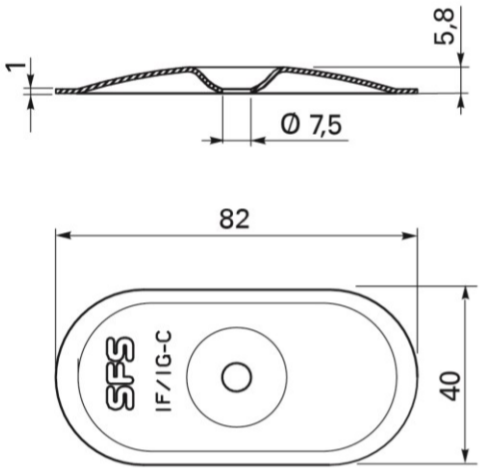


SFS intec flat roof fasteners	Annex 24

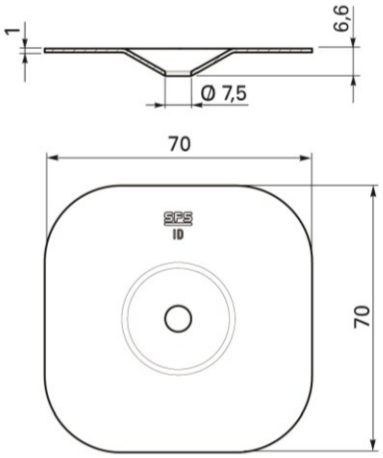
Deutsches Institut für Bautechnik DIBt

Combination 25A TI-6,3 / IF/IG-C-82x40	Combination 25B TI-6,3 / ID-70x70

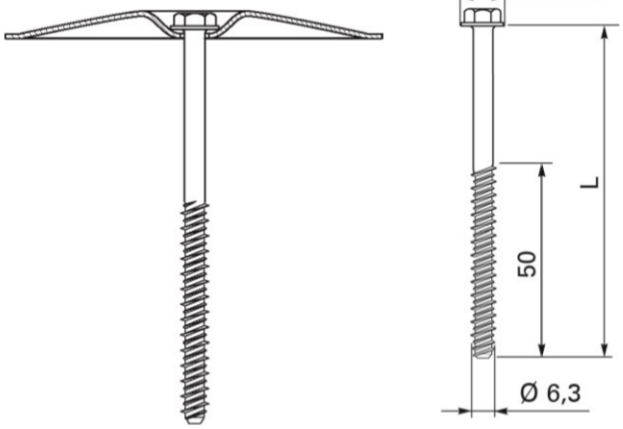
IF/IG-C-82x40



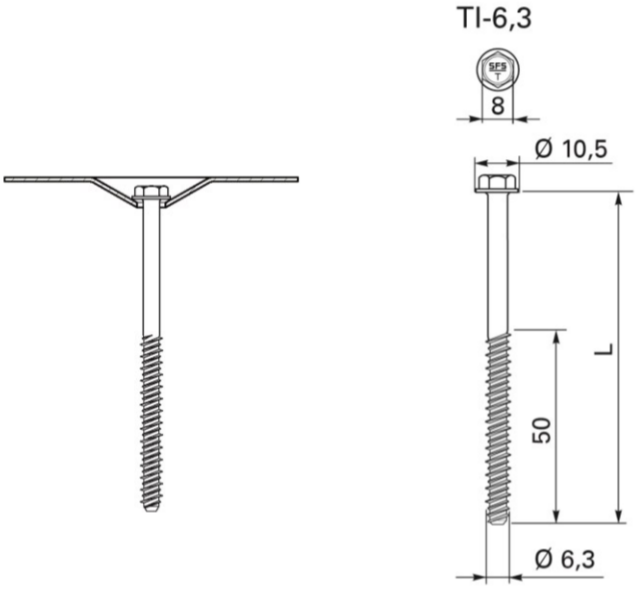
ID-70x70



TI-6,3



TI-6,3

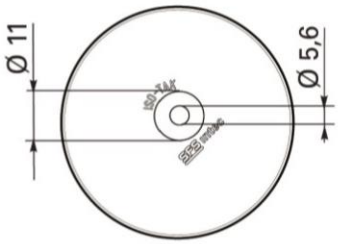


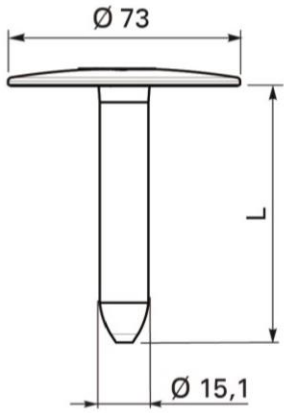
SFS intec flat roof fasteners	**Annex 25**

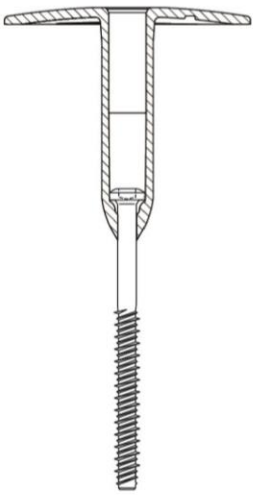
Deutsches Institut für Bautechnik DIBt

Combination 26A TI-T25-6,3 / R75	Combination 26B TI-T25-6,3 / TPS

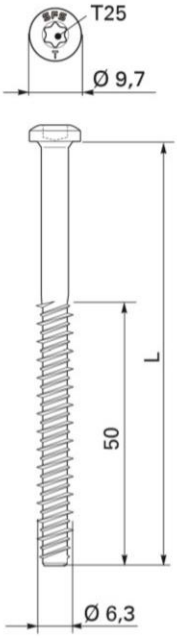
R75



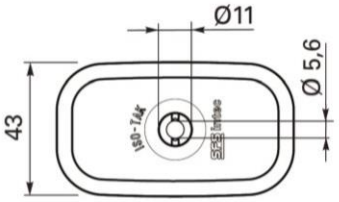


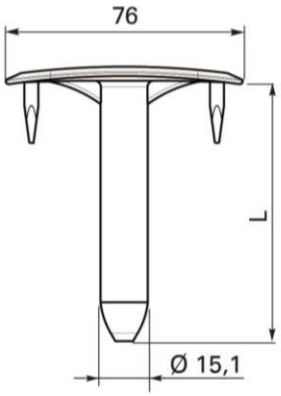


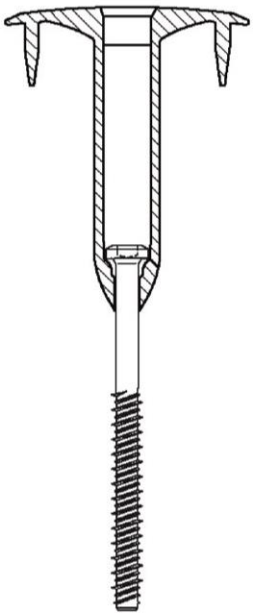
TI-T25-6,3



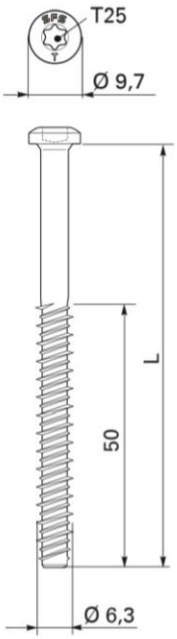
TPS







TI-T25-6,3

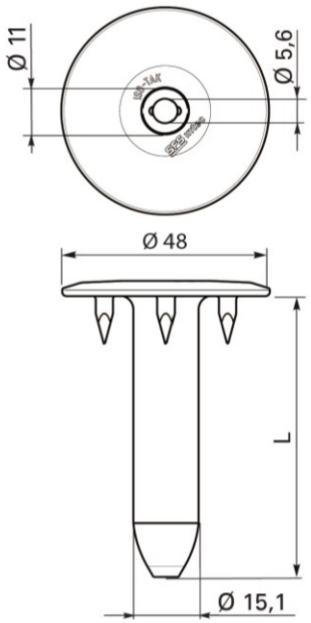


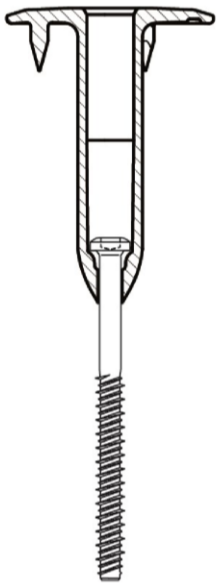
SFS intec flat roof fasteners	**Annex 26**

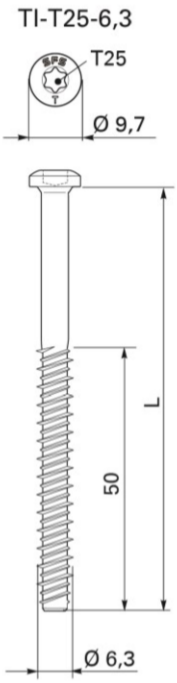
Deutsches Institut für Bautechnik DIBt

Combination 27A TI-T25-6,3 / R48-3N	Combination 27B TI-T25-6,3 / R45

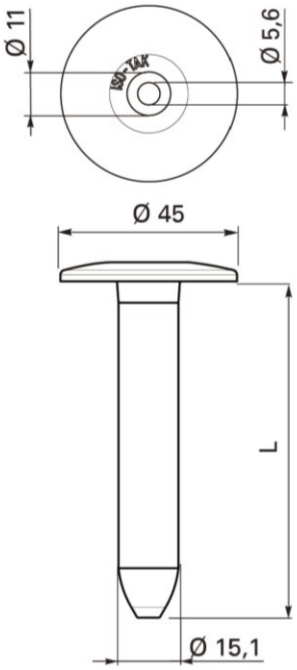
R48-3N

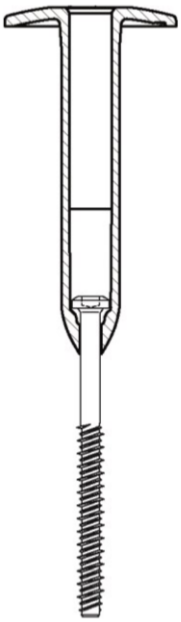


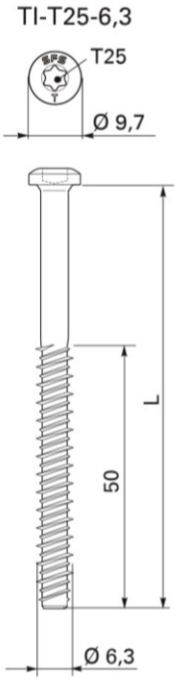




R45





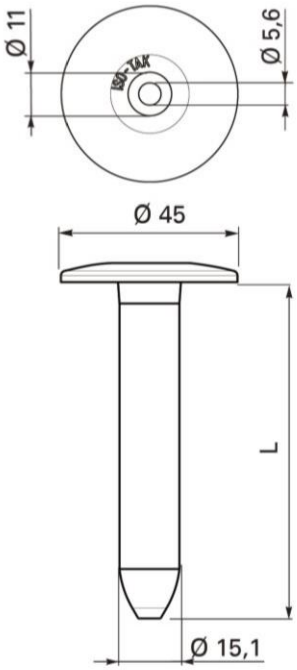


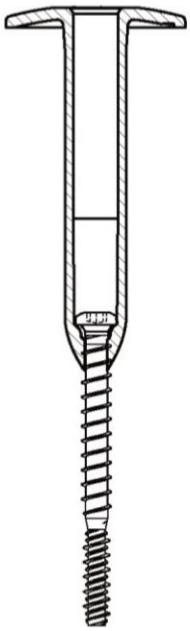
SFS intec flat roof fasteners	Annex 27

Deutsches Institut für Bautechnik DIBt

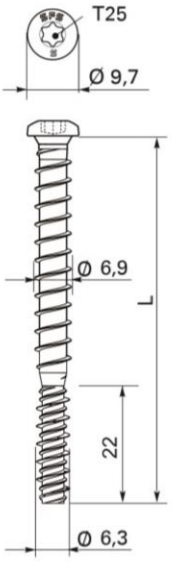
Combination 28A TIA-T25-6,3 / R45	Combination 28B BS-4,8 / Sarnafast Tube SFT-50

R45

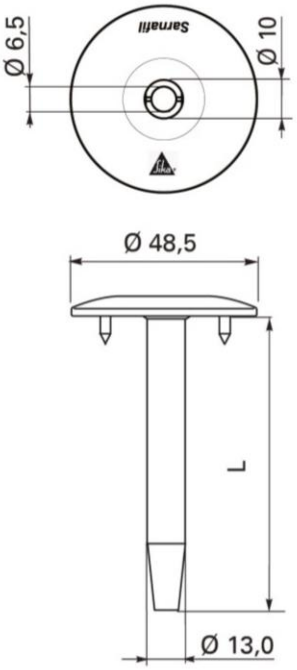


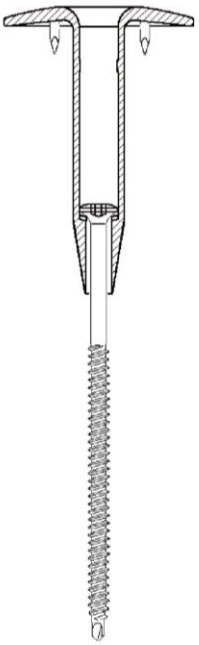


TIA-T25-6,3

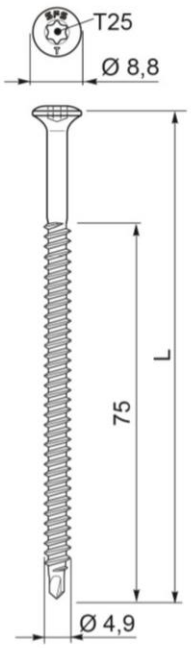


Sarnafast Tube SFT-50





BS-4,8

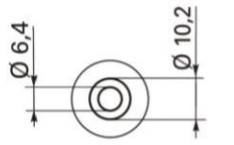


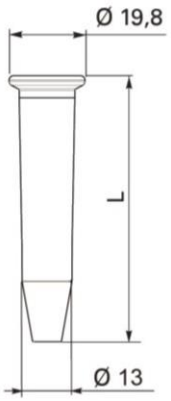
SFS intec flat roof fasteners	**Annex 28**

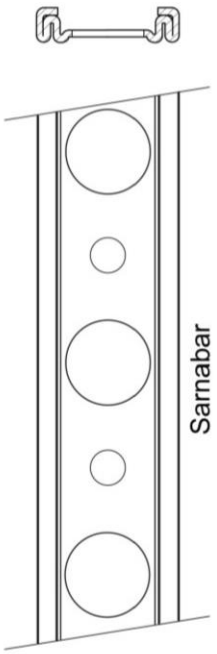
Deutsches Institut für Bautechnik DIBt

Combination 29A BS-4,8 / Sarnabar Tube SBT-20 / Sarnabar	Combination 29B BS-S-4,8 / Sarnafast Tube SFT-50

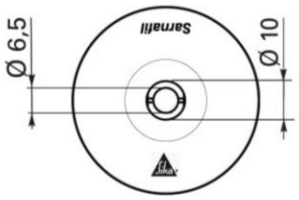
Sarnabar Tube SBT-20

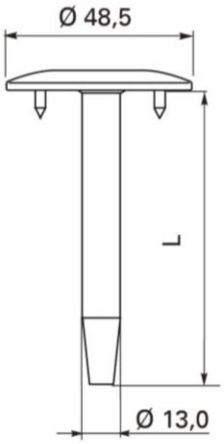


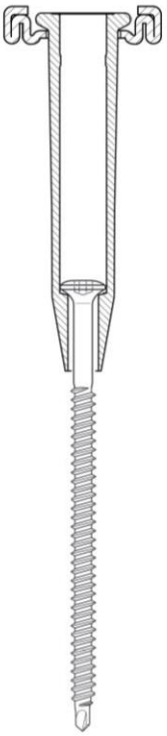




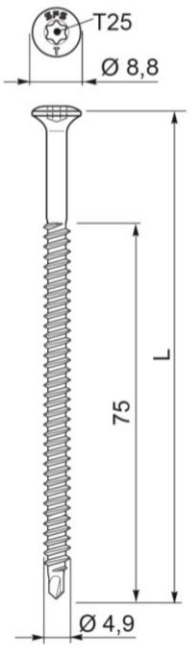
Sarnafast Tube SFT-50

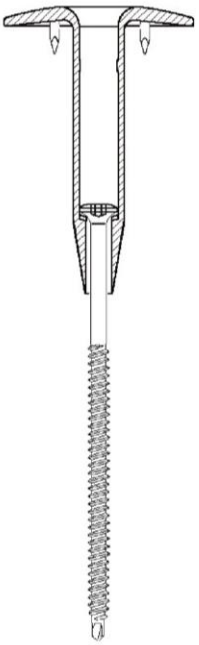




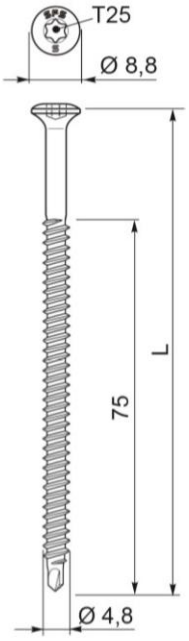


BS-4,8





BS-S-4,8

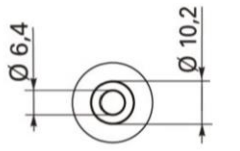


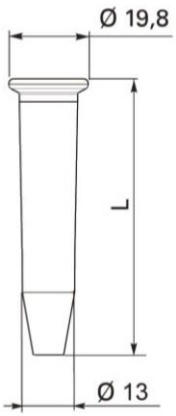
SFS intec flat roof fasteners	**Annex 29**

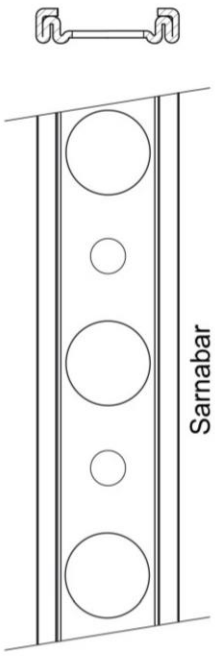
Deutsches Institut für Bautechnik DIBt

Combination 30A BS-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar	Combination 30B Sarnafast SF-4,8 / Sarnafast KT-82x40

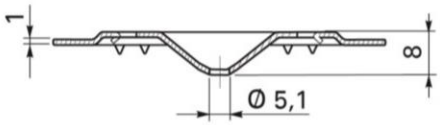
Sarnabar Tube SBT-20

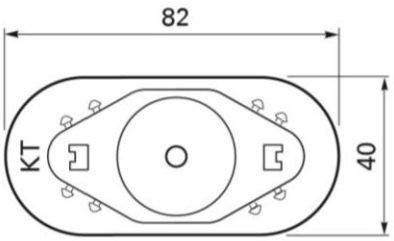


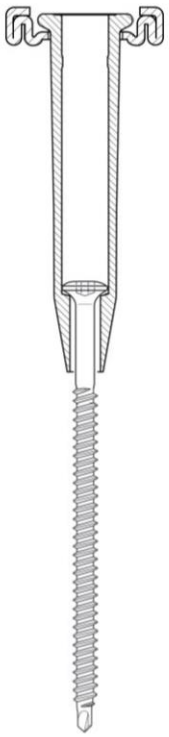




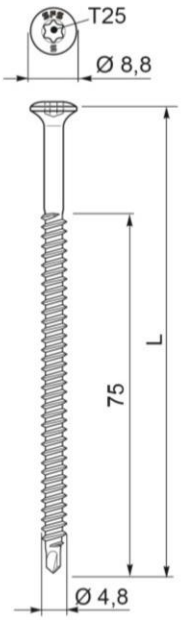
Sarnafast KT-82x40



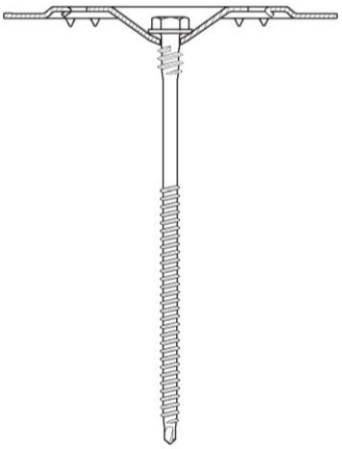


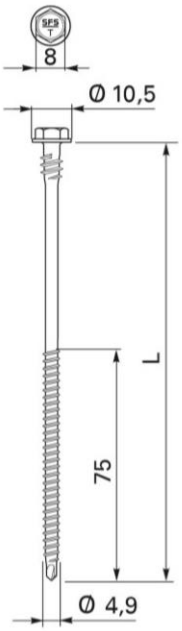


BS-S-4,8



Sarnafast SF-4,8



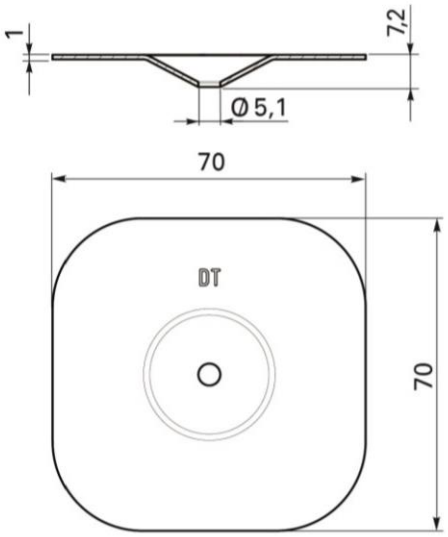


SFS intec flat roof fasteners	Annex 30

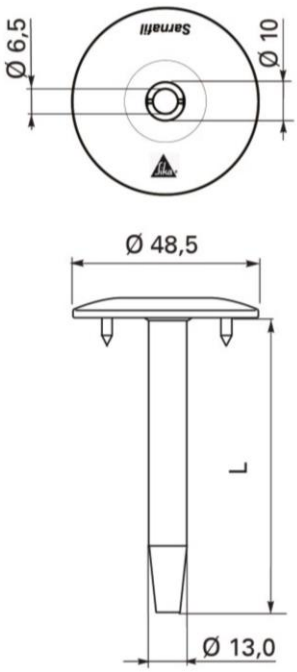
Deutsches Institut für Bautechnik DIBt

Combination 31A Sarnafast SF-4,8 / Sarnafast DT-70x70	Combination 31B Sarnafast SBF-6,0 / Sarnafast Tube SFT-50

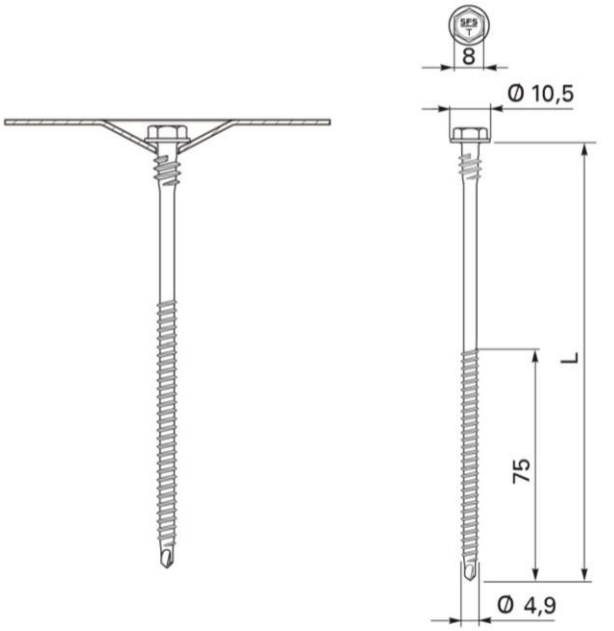
Sarnafast DT-70x70



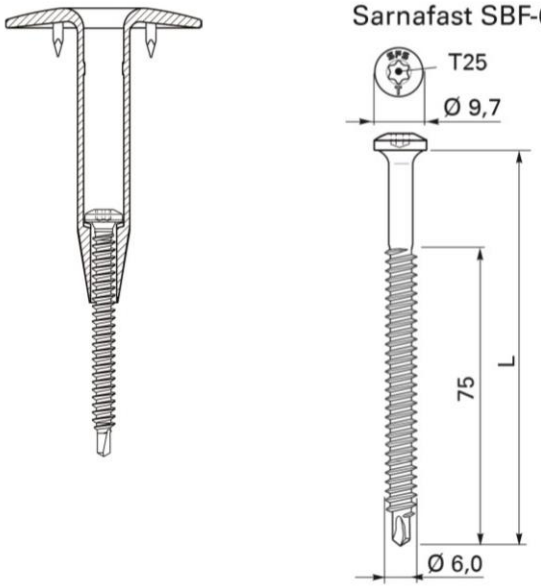
Sarnafast Tube SFT-50



Sarnafast SF-4,8



Sarnafast SBF-6,0

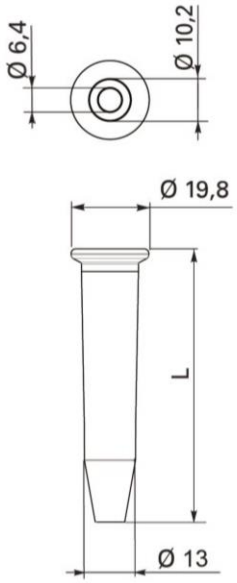


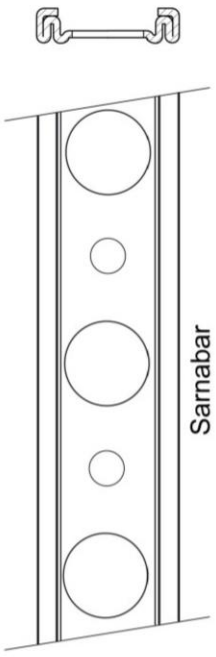
SFS intec flat roof fasteners	Annex 31

Deutsches Institut für Bautechnik DIBt

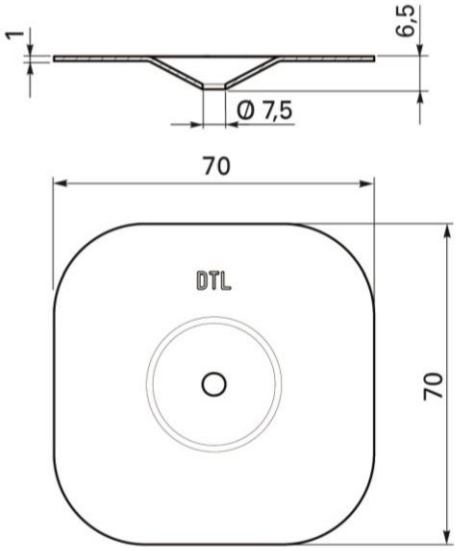
Combination 32A Sarnafast SBF-6,0 / Sarnabar Tube SBT-20 / Sarnabar	Combination 32B TI-6,3 / Sarnafast DTL-70x70

Sarnabar Tube SBT-20

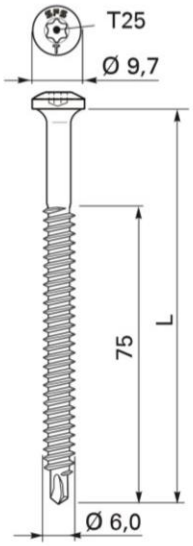




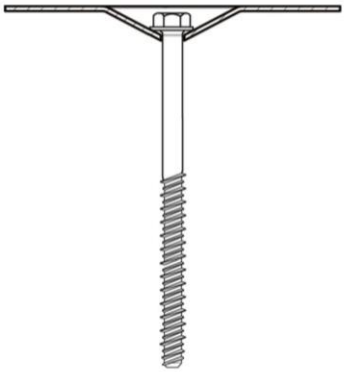
Sarnafast DTL-70x70

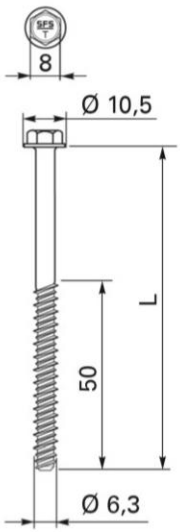


Sarnafast SBF-6,0



TI-6,3xL



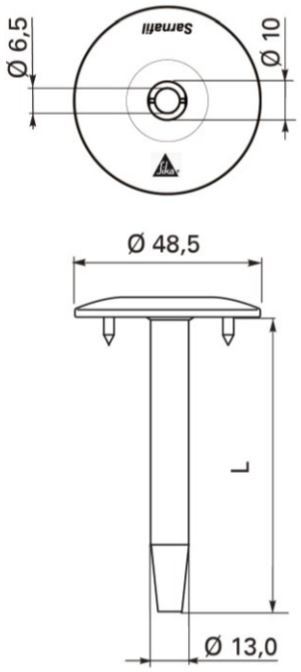


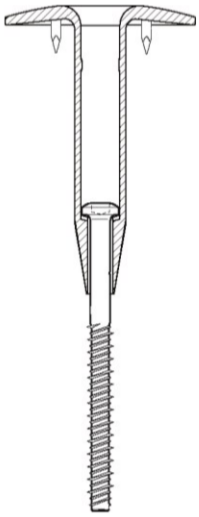
SFS intec flat roof fasteners	**Annex 32**

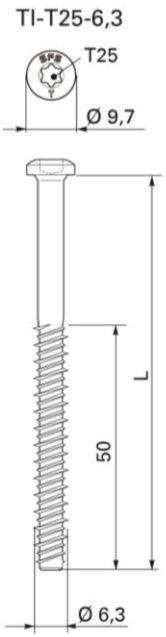
Deutsches Institut für Bautechnik DIBt

Combination 33A TI-T25-6,3 / Sarnafast Tube SFT-50	Combination 33B TI-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar

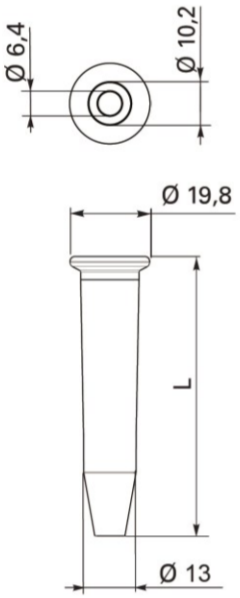
Sarnafast Tube SFT-50

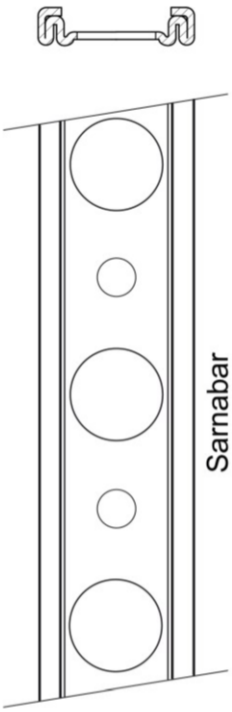


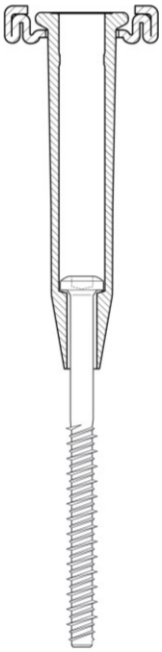


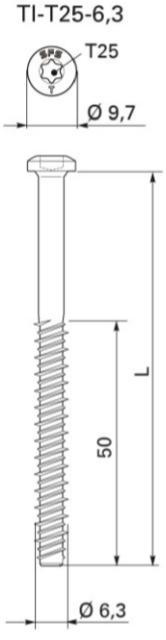


Sarnabar Tube SBT-20









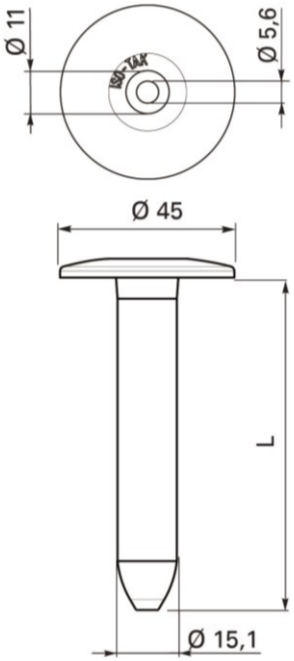
SFS intec flat roof fasteners	Annex 33

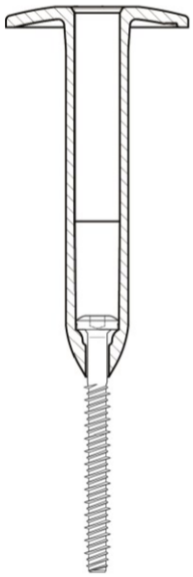
Deutsches Institut für Bautechnik

DIBt

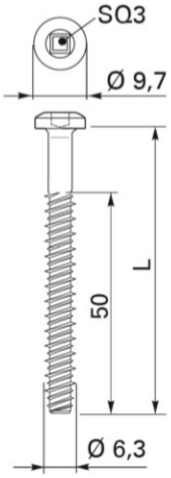
Combination 34A TI-S-Z10-6,3 / R45	Combination 34B TI-S-Z10-6,3 / R75

R45

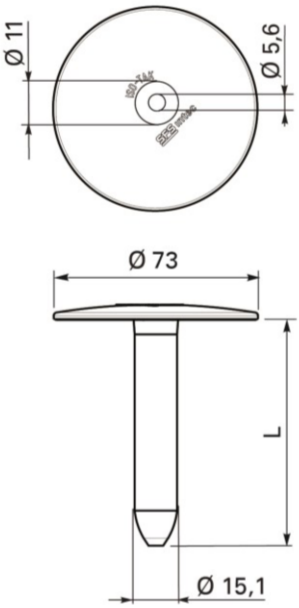


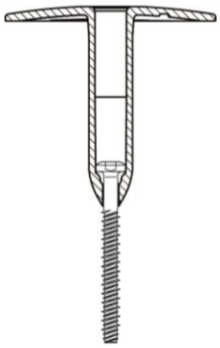


TI-S-Z10-6,3

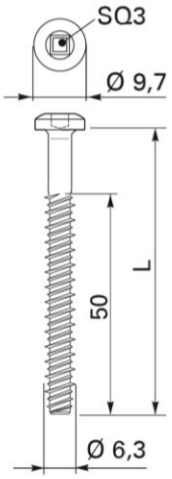


R75





TI-S-Z10-6,3

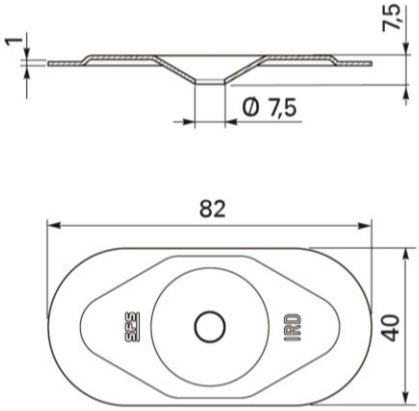


SFS intec flat roof fasteners	**Annex 34**

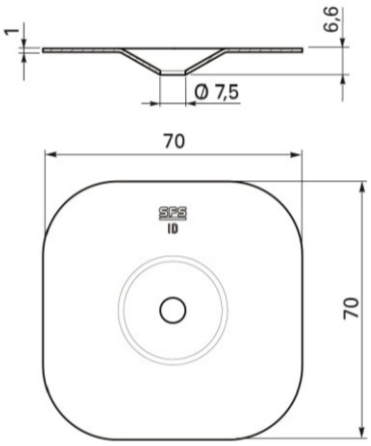
Deutsches Institut für Bautechnik DIBt

Combination 35A IF2-6,1 / IRD-82x40	Combination 35B IF2-6,1 / ID-70x70

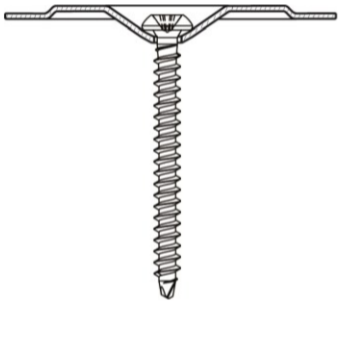
IRD-82x40

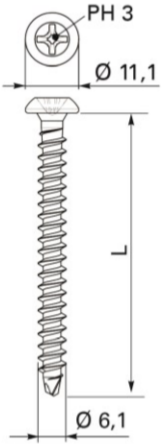


ID-70x70

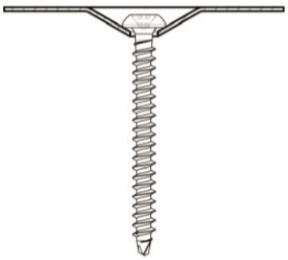


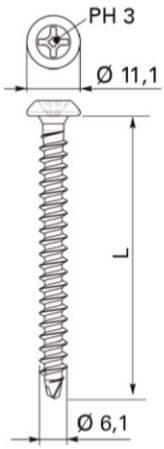
IF2-6,1





IF2-6,1



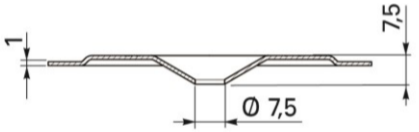


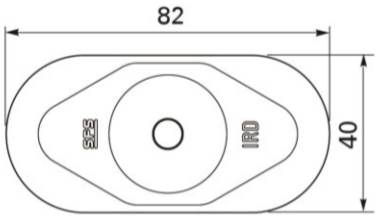
SFS intec flat roof fasteners	**Annex 35**

Deutsches Institut für Bautechnik DIBt

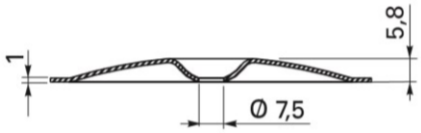
Combination 36A FB-S-T25-7,5 / IRD-82x40	Combination 36B FB-S-T25-7,5 / IF/IG-C-82x40

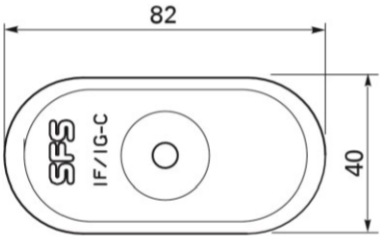
IRD-82x40

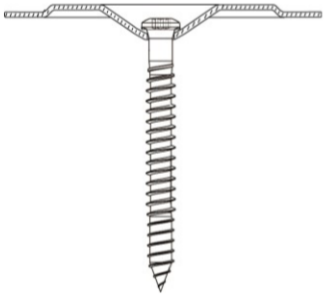




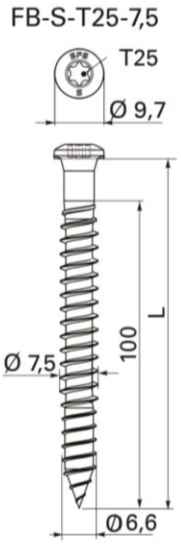
IF/IG-C-82x40



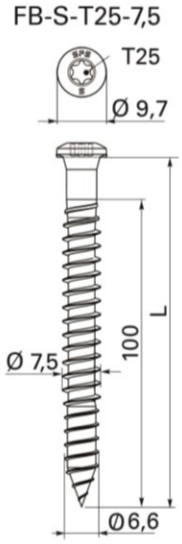




FB-S-T25-7,5



FB-S-T25-7,5

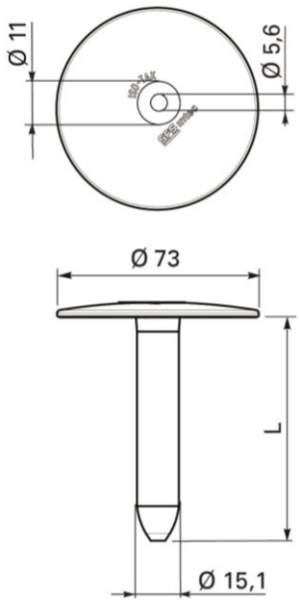


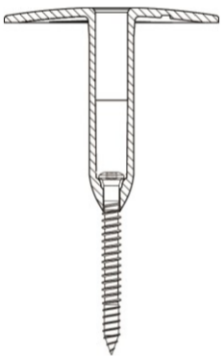
SFS intec flat roof fasteners	Annex 36

Deutsches Institut für Bautechnik DIBt

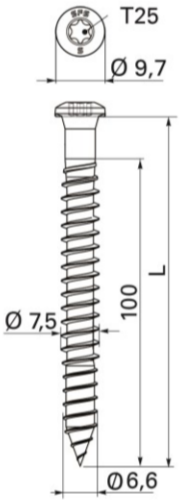
Combination 37A FB-S-T25-7,5 / R75	Combination 37B IW-S-5,0 / IW-82x40

R75

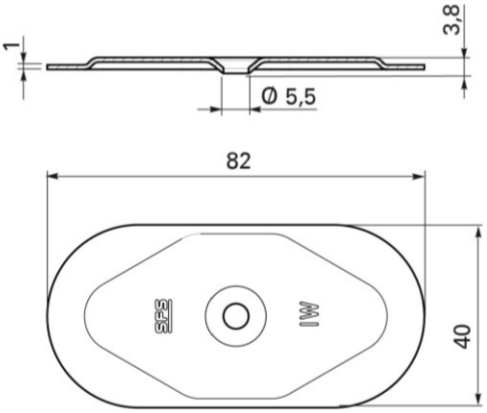




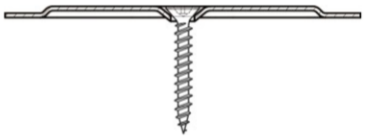
FB-S-T25-7,5

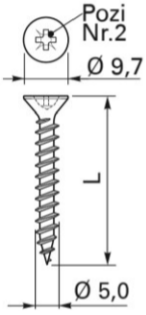


IW-82x40



IW-S-5,0

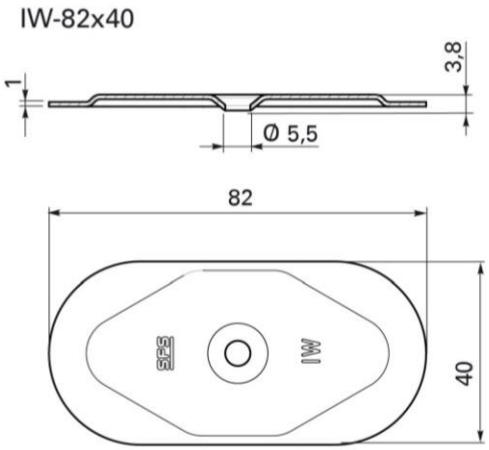


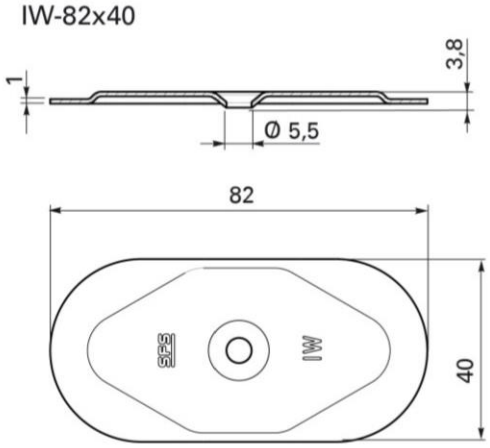


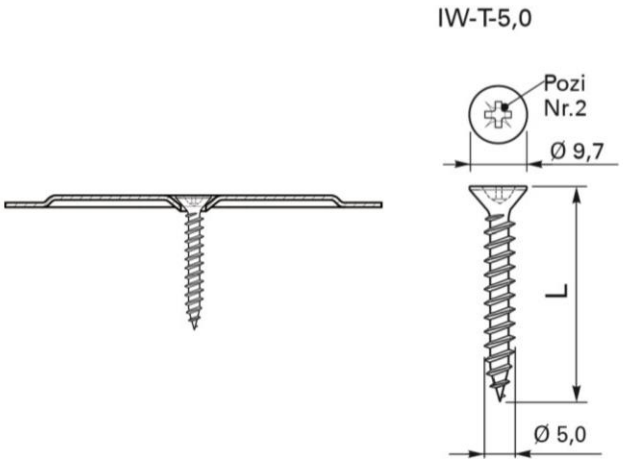
SFS intec flat roof fasteners	Annex 37

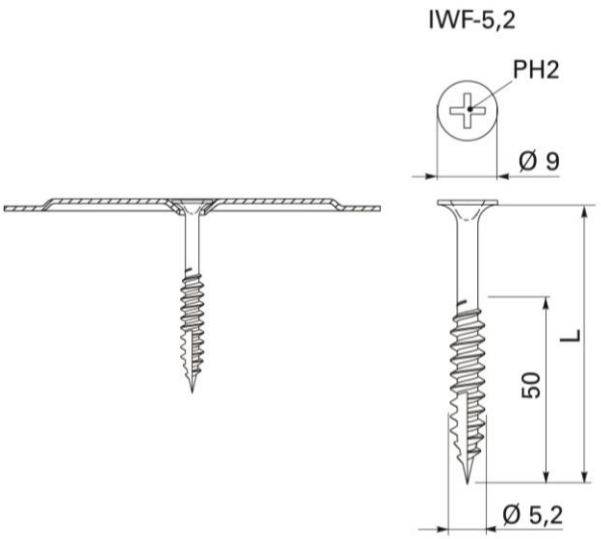
Deutsches Institut für Bautechnik DIBt

Combination 38A IW-T-5,0 / IW-82x40	Combination 38B IWF-5,2 / IW-82x40







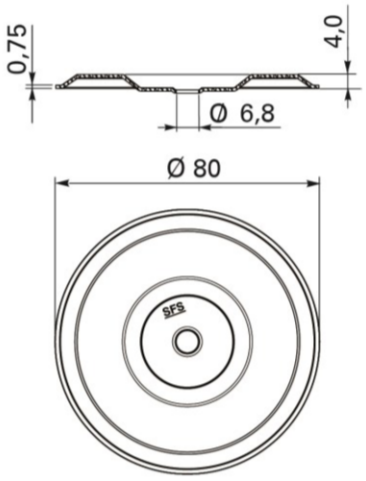


SFS intec flat roof fasteners	Annex 38

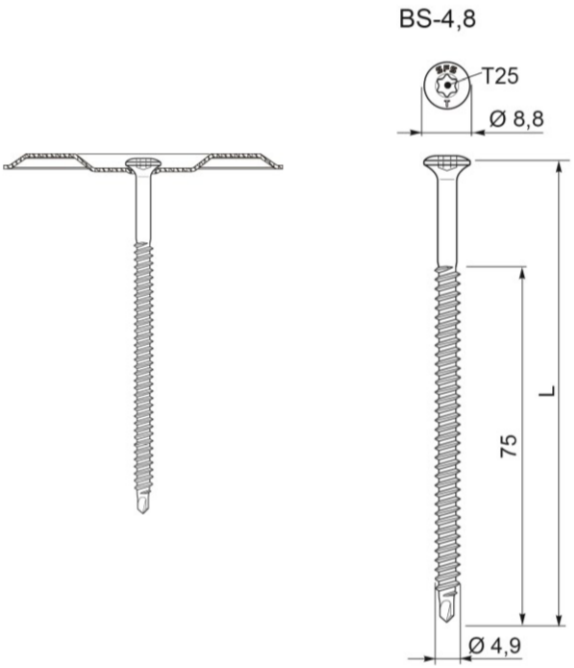
Deutsches Institut für Bautechnik DIBt

Combination 39A BS-4,8 / FI-P-6,8	Combination 39B BS-S-4,8 / FI-P-6,8

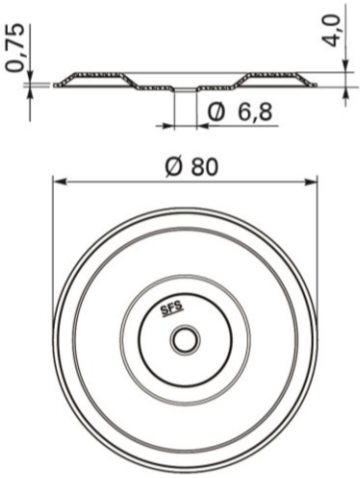
FI-P-6,8



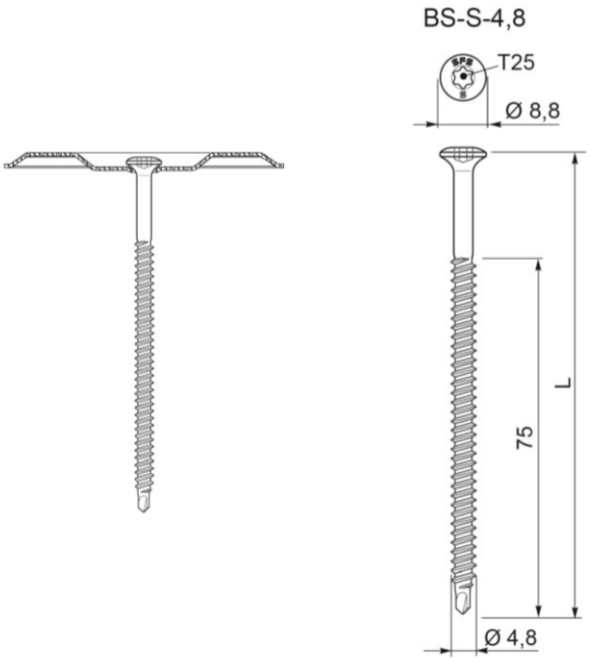
BS-4,8



FI-P-6,8



BS-S-4,8

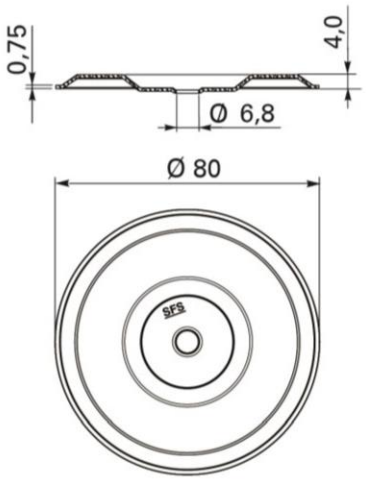


SFS intec flat roof fasteners	**Annex 39**

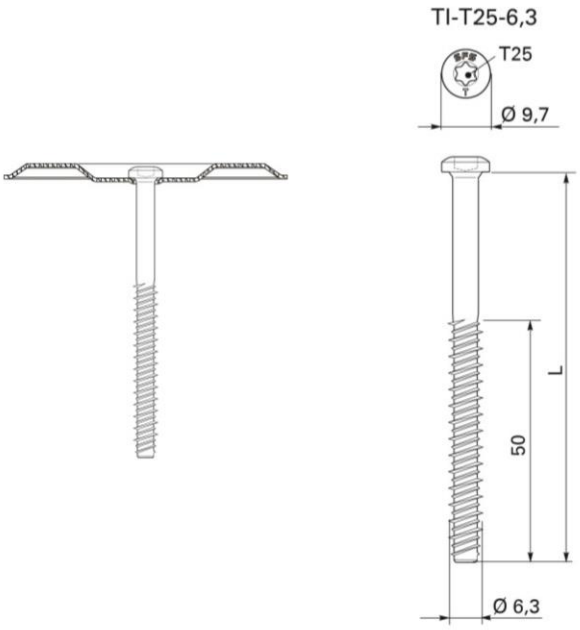
Deutsches Institut für Bautechnik DIBt

Combination 40A TI-T25-6,3 / FI-P-6,8	Combination 40B BS-6,1 / FI-P-6,8

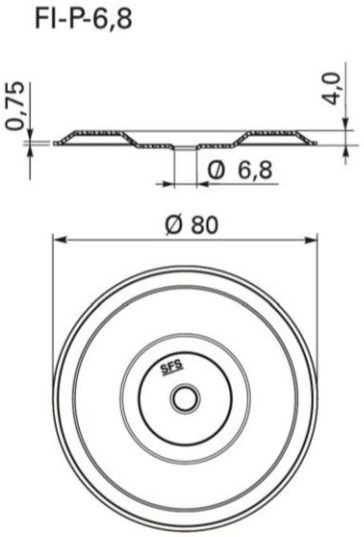
FI-P-6,8



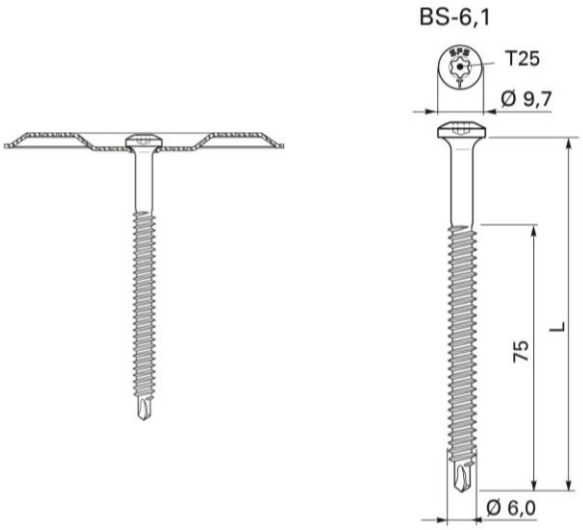
TI-T25-6,3



FI-P-6,8



BS-6,1



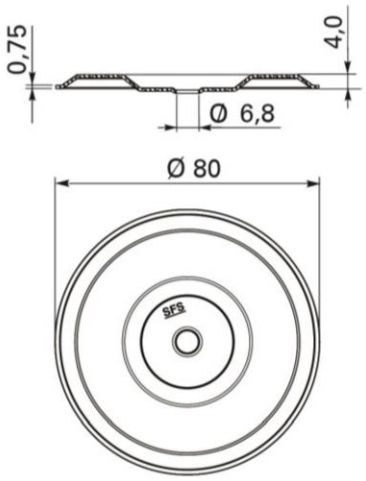
SFS intec flat roof fasteners	Annex 40

Deutsches Institut für Bautechnik

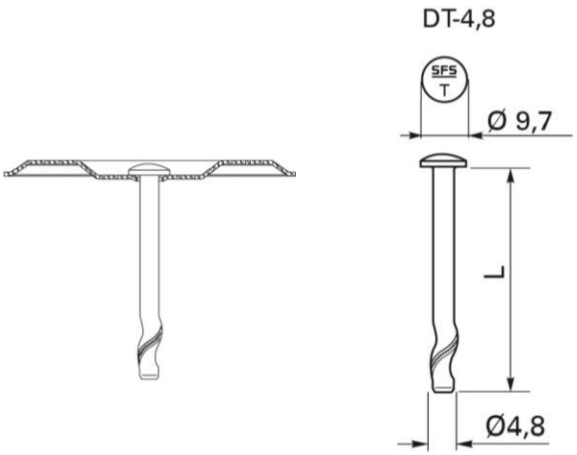
DIBt

Combination 41A DT-4,8 / FI-P-6,8	Combination 41B DT-S-4,8 / FI-P-6,8

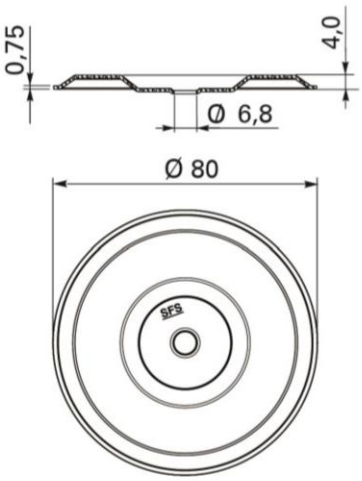
FI-P-6,8



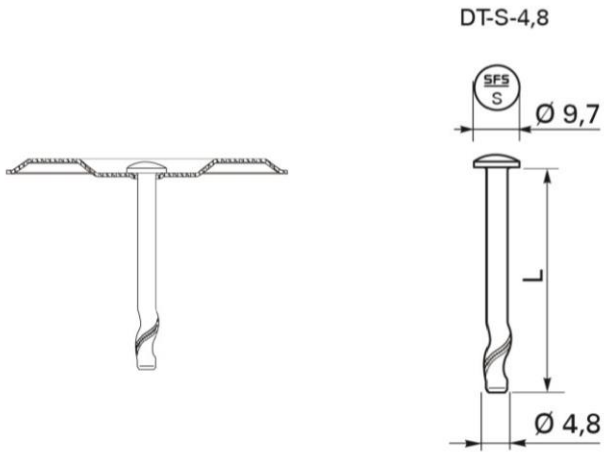
DT-4,8



FI-P-6,8



DT-S-4,8

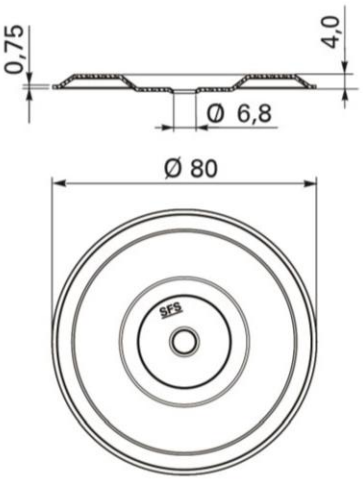


SFS intec flat roof fasteners	Annex 41

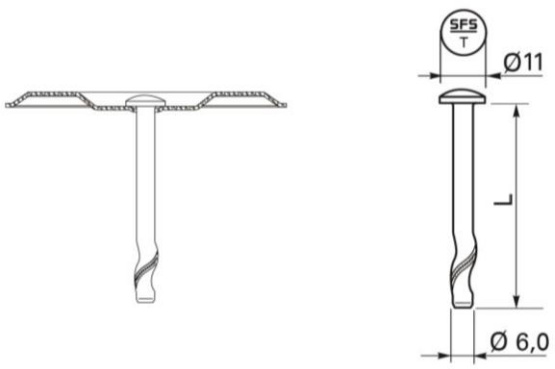
Deutsches Institut für Bautechnik DIBt

Combination 42A DT-6,3 / FI-P-6,8	Combination 42B DT-S-6,3 / FI-P-6,8

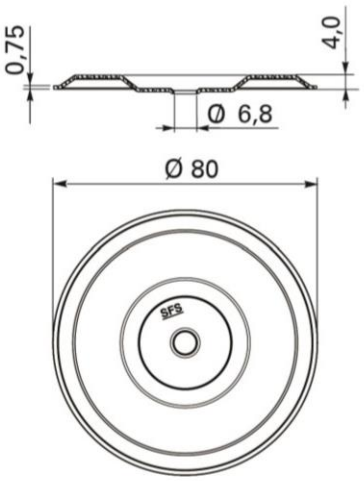
FI-P-6,8



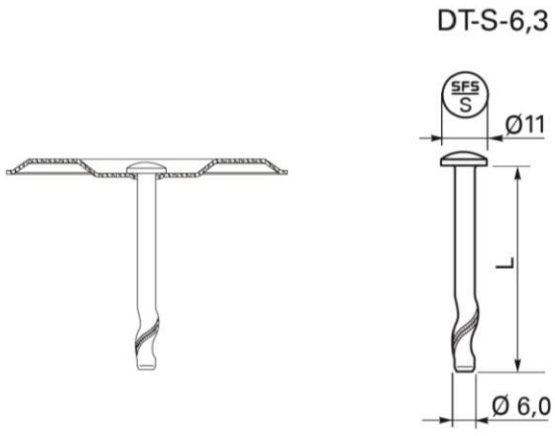
DT-6,3



FI-P-6,8



DT-S-6,3

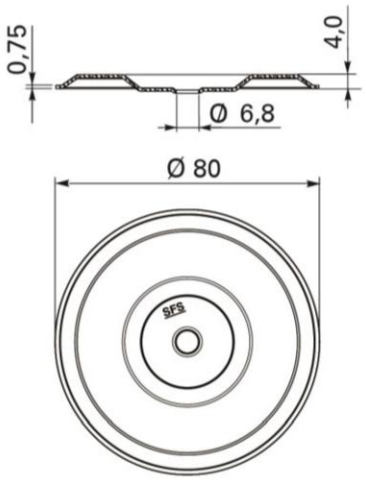


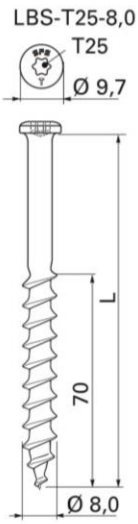
SFS intec flat roof fasteners	**Annex 42**

Deutsches Institut für Bautechnik DIBt

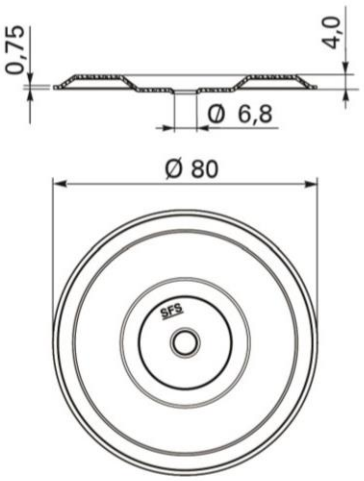
Combination 43A LBS-T25-8,0 / FI-P-6,8	Combination 43B LBS-S-T25-8,0 / FI-P-6,8

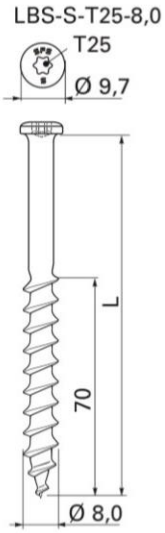
FI-P-6,8





FI-P-6,8



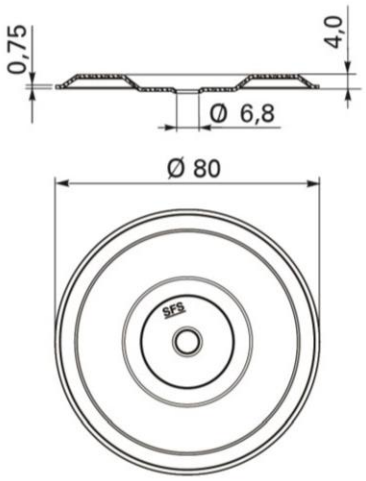


SFS intec flat roof fasteners	**Annex 43**

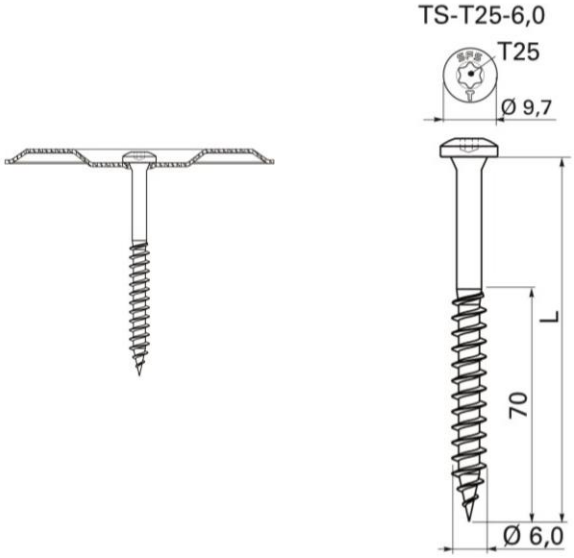
Deutsches Institut für Bautechnik DIBt

Combination 44A TS-T25-6,0 / FI-P-6,8	Combination 44B Sarnafast SBF-6,0 / FI-P-6,8

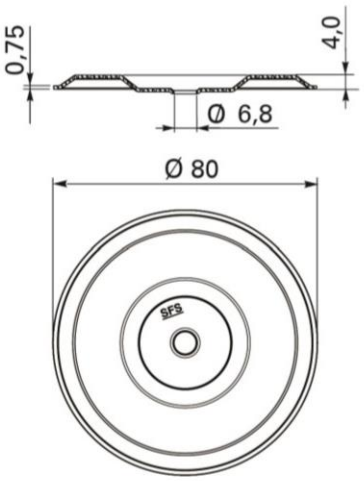
FI-P-6,8



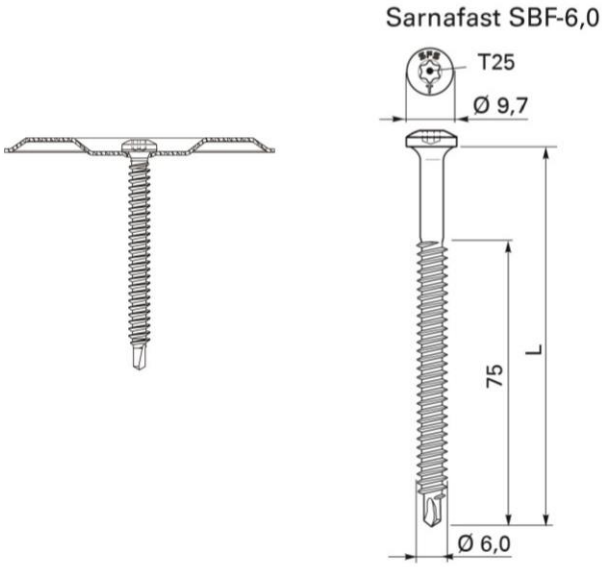
TS-T25-6,0



FI-P-6,8



Sarnafast SBF-6,0

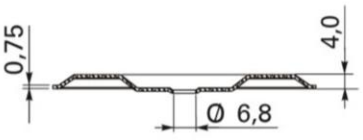


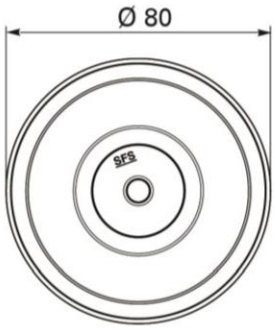
SFS intec flat roof fasteners	Annex 44

Deutsches Institut für Bautechnik DIBt

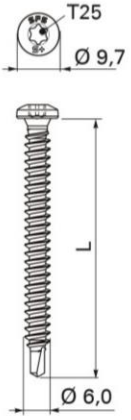
Combination 45A Sarnafast SBF-S-6,0 / FI-P-6,8	Combination 45B FB-S-T25-7,5 / FI-P-6,8

FI-P-6,8

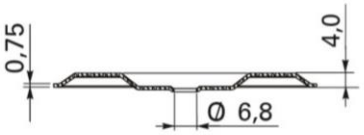


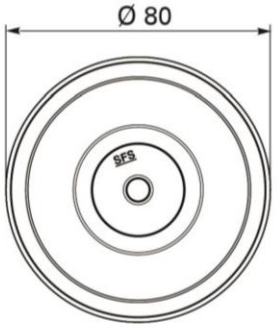


Sarnafast SBF-S-6,0

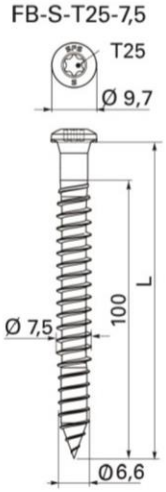


FI-P-6,8





FB-S-T25-7,5

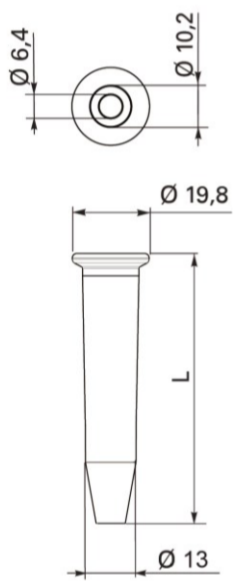


SFS intec flat roof fasteners	Annex 45

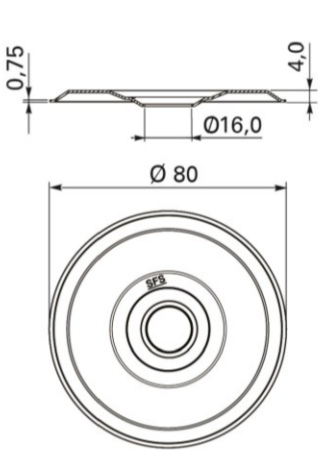
Deutsches Institut für Bautechnik DIBt

Combination 46A BS-4,8 / FI-P-16,0 / FI-R-20	Combination 46B BS-S-4,8 / FI-P-16,0 / FI-R-20

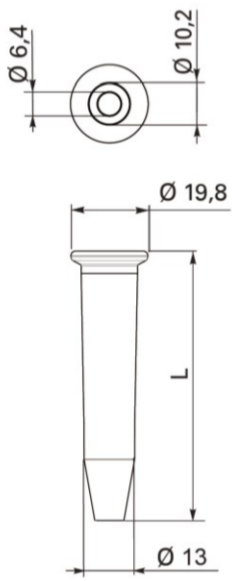
FI-R-20



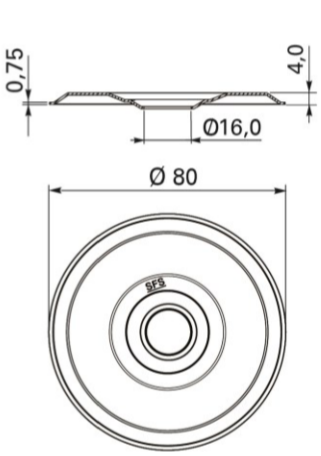
FI-P-16,0

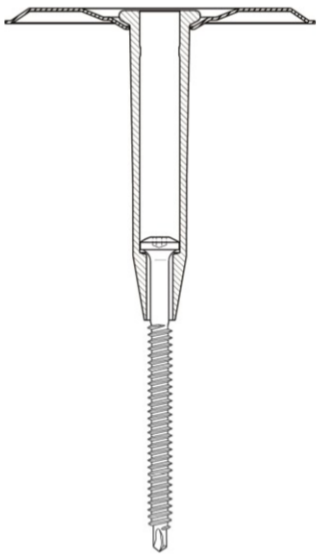


FI-R-20

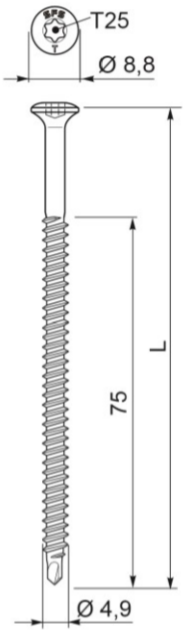


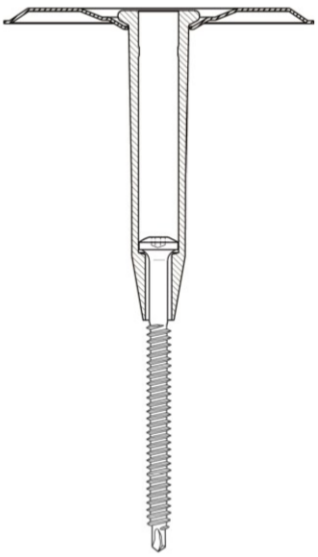
FI-P-16,0



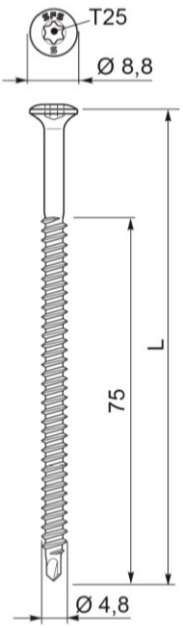


BS-4,8





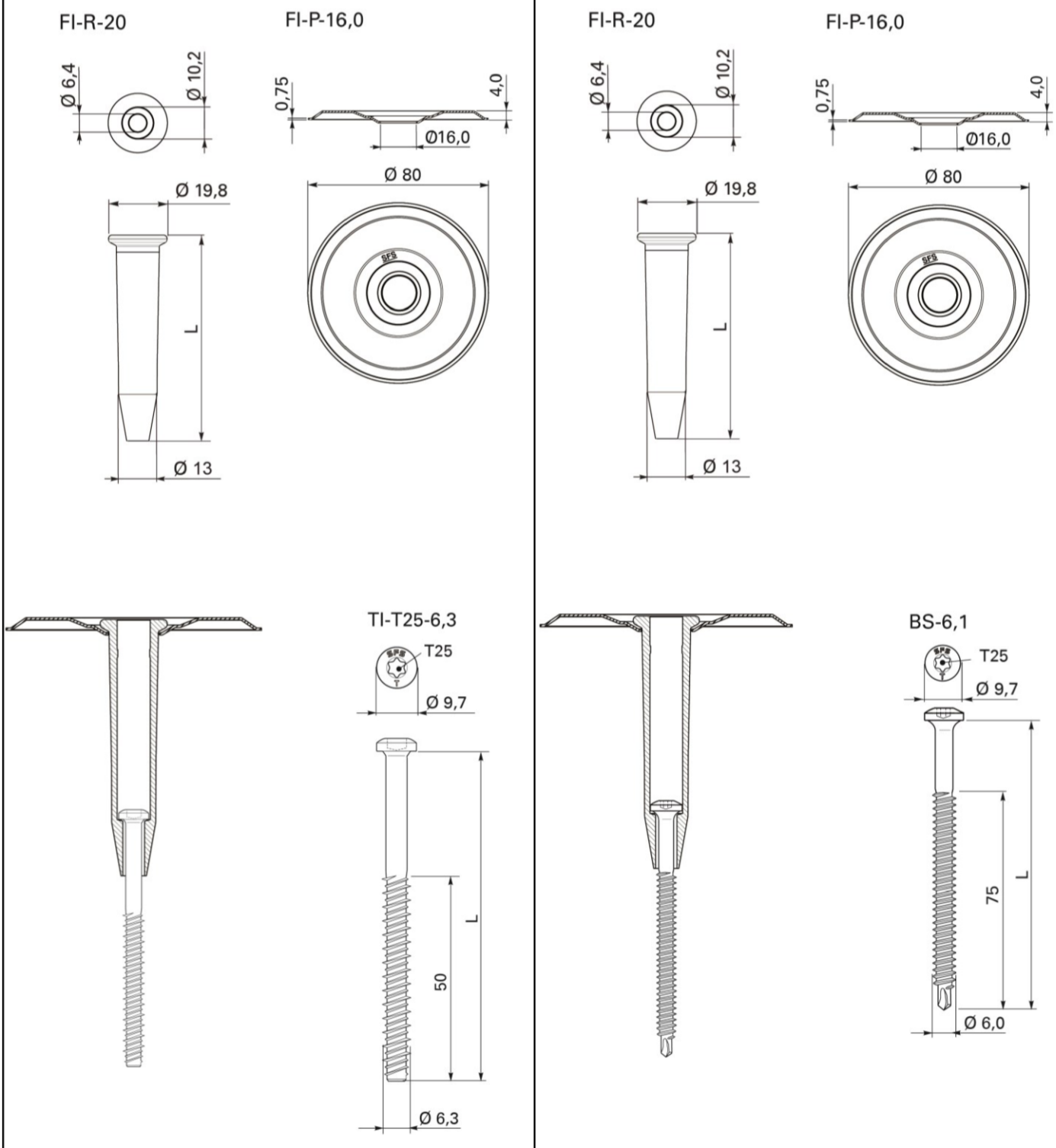
BS-S-4,8



SFS intec flat roof fasteners	**Annex 46**

Deutsches Institut für Bautechnik DIBt

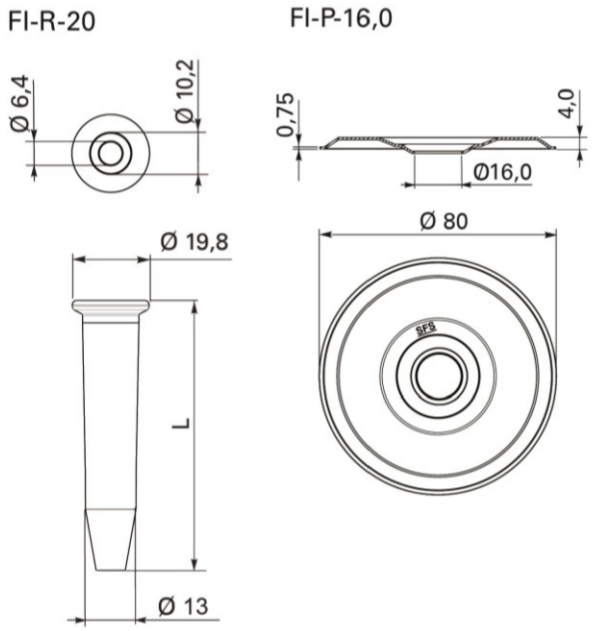
Combination 47A TI-T25-6,3 / FI-P-16,0 / FI-R-20	Combination 47B BS-6,1 / FI-P-16,0 / FI-R-20

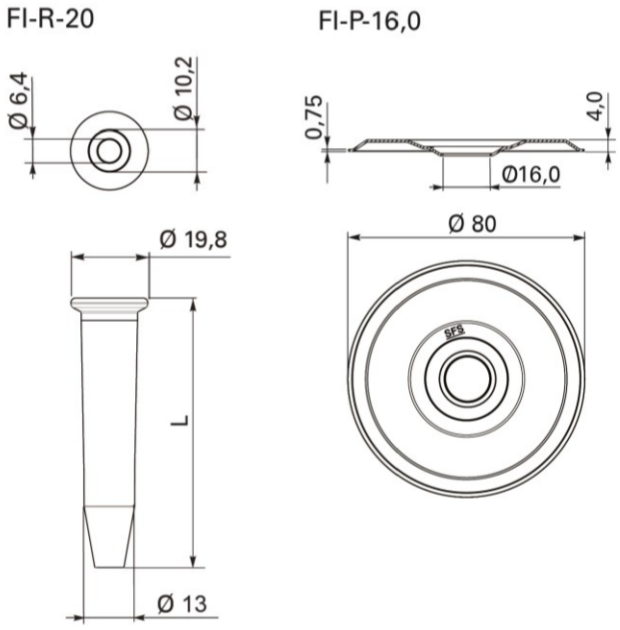


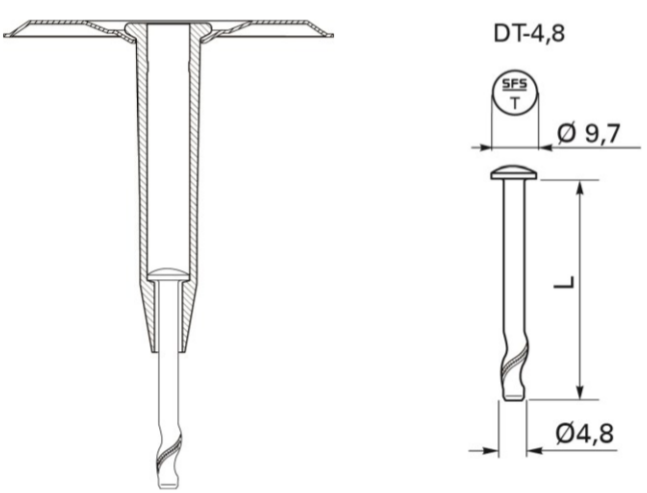
SFS intec flat roof fasteners | **Annex 47**

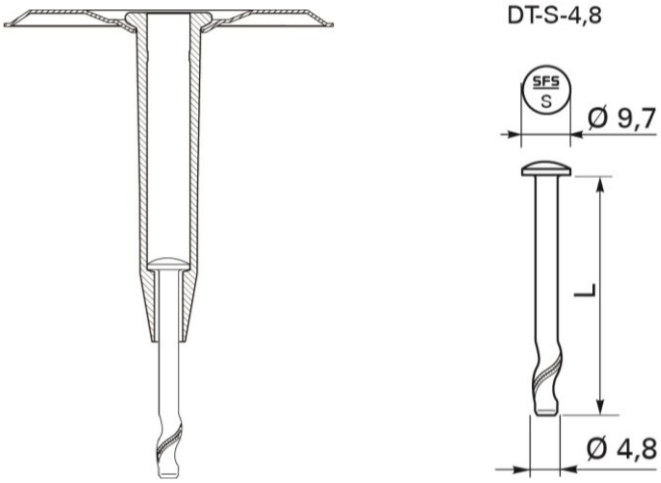
Deutsches Institut für Bautechnik DIBt

Combination 48A DT-4,8 / FI-P-16,0 / FI-R-20	Combination 48B DT-S-4,8 / FI-P-16,0 / FI-R-20







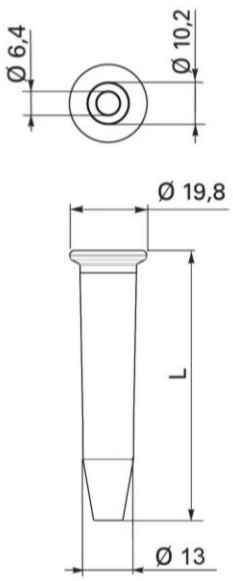


SFS intec flat roof fasteners	**Annex 48**

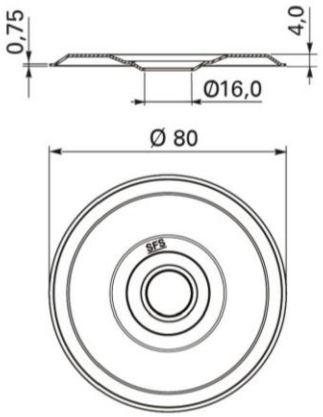
Deutsches Institut für Bautechnik DIBt

Combination 49A TS-T25-6,0 / FI-P-16,0 / FI-R-20	Combination 49B Sarnafast SBF-6,0 / FI-P-16,0 / FI-R-20

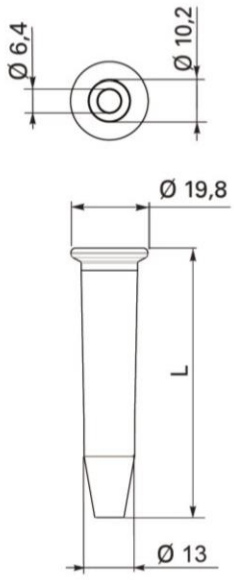
FI-R-20



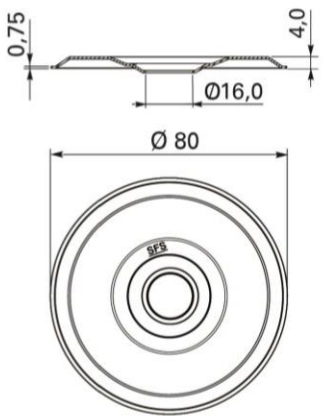
FI-P-16,0

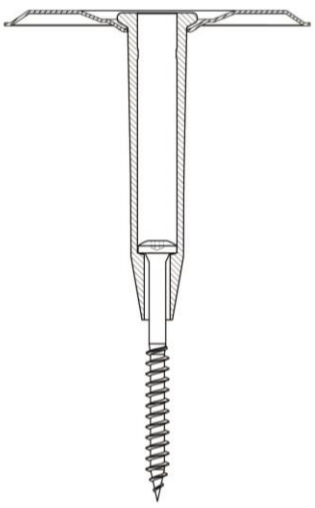


FI-R-20

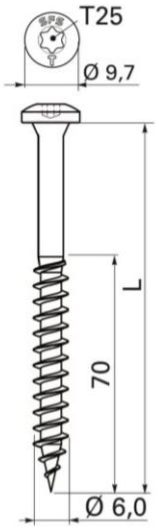


FI-P-16,0

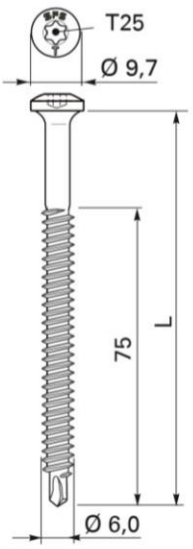




TS-T25-6,0



Sarnafast SBF-6,0

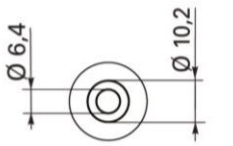


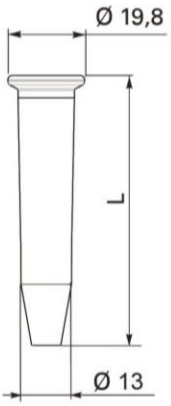
SFS intec flat roof fasteners	Annex 49

Deutsches Institut für Bautechnik DIBt

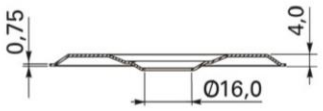
Combination 50A Sarnafast SBF-S-6,0 / FI-P-16,0 / FI-R-20	Combination 50B TIA-T25-6,3 / FI-P-16,0 / FI-R-20

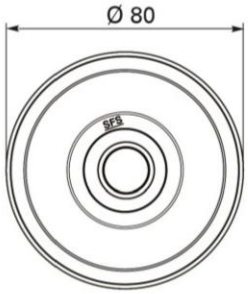
FI-R-20



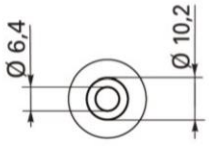


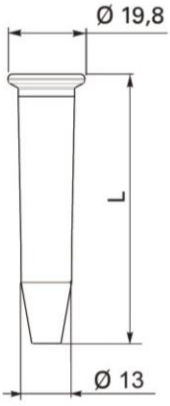
FI-P-16,0



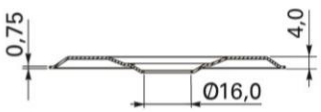


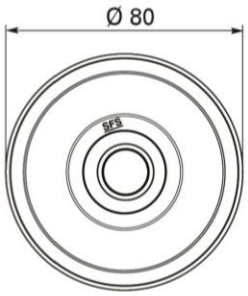
FI-R-20



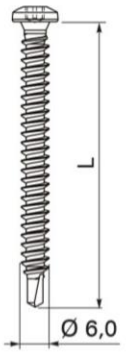


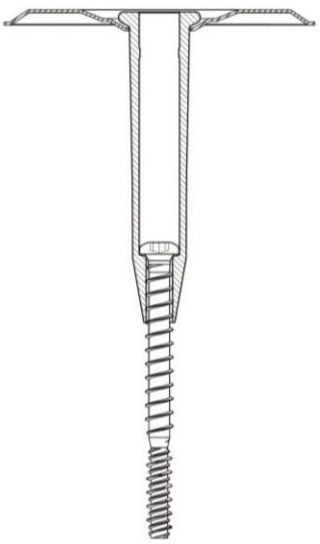
FI-P-16,0



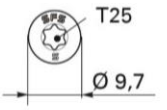


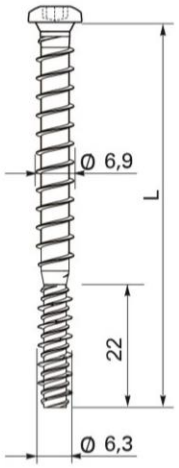
Sarnafast SBF-S-6,0





TIA-T25-6,3



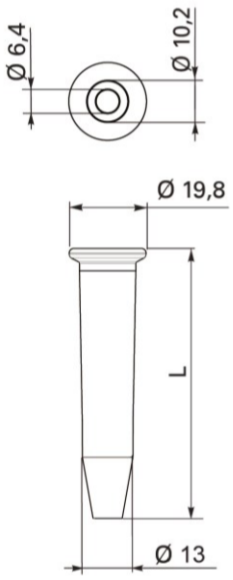


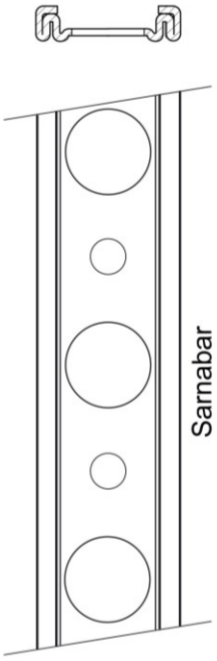
SFS intec flat roof fasteners	**Annex 50**

Deutsches Institut für Bautechnik DIBt

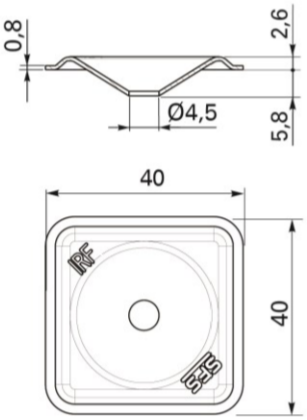
Combination 51A TIA-T25-6,3 / FI-R-20 / Sarnabar	Combination 51B IRF-4,8 / IRF-40x40

FI-R-20

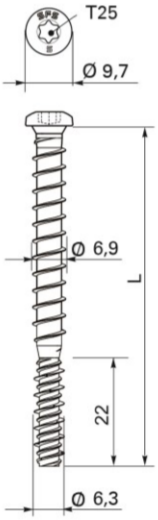




IRF-40x40



TIA-T25-6,3



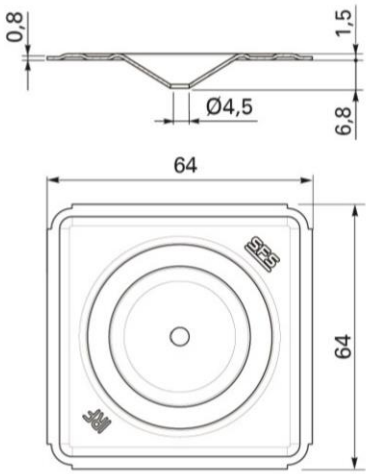
IRF-4,8

SFS intec flat roof fasteners	Annex 51

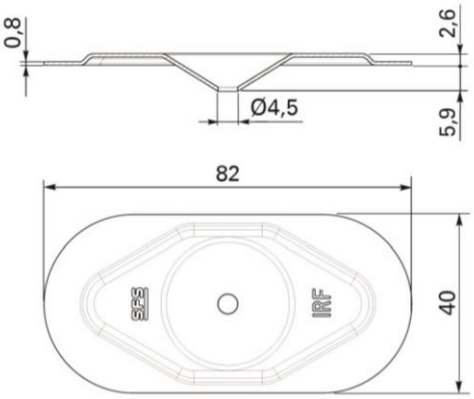
Deutsches Institut für Bautechnik DIBt

Combination 52A IRF-4,8 / IRF-64x64	Combination 52B IRF-4,8 / IRF-82x40

IRF-64x64

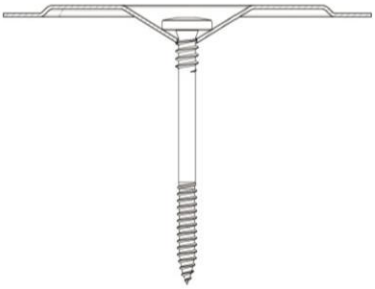


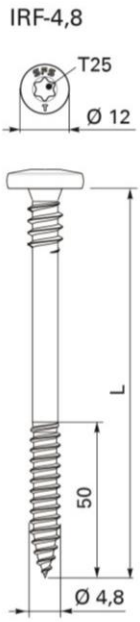
IRF-82x40



IRF-4,8

IRF-4,8



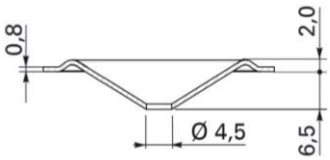


SFS intec flat roof fasteners	Annex 52

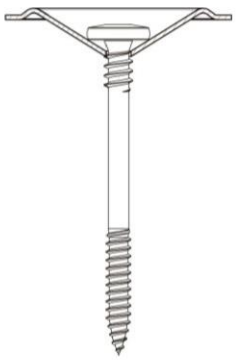
Deutsches Institut für Bautechnik DIBt

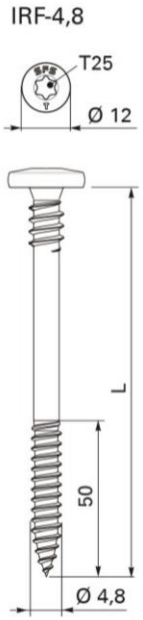
Combination 53A IRF-4,8 / IRF-40	Combination 53B IRFP-6,3 / IRFP-40x40

IRF-40

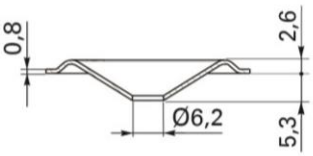


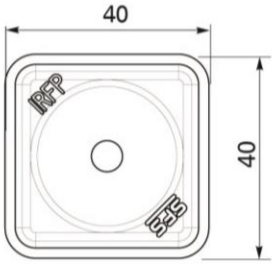
IRF-4,8



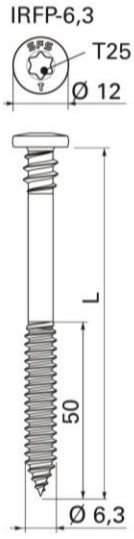


IRFP-40x40





IRFP-6,3

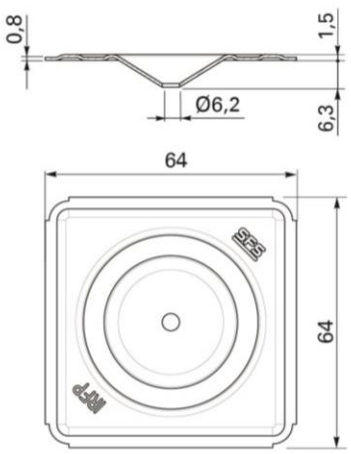


SFS intec flat roof fasteners	Annex 53

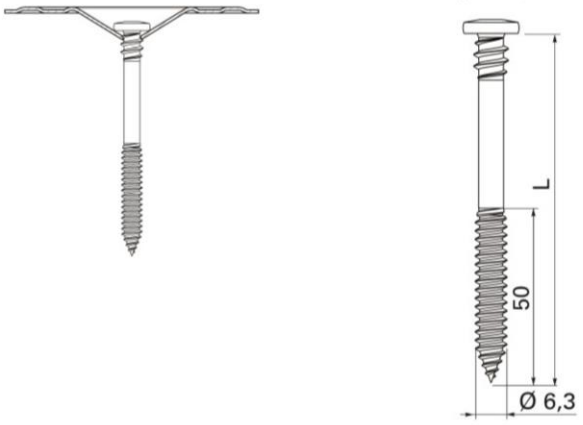
Deutsches Institut für Bautechnik DIBt

Combination 54A IRFP-6,3 / IRFP-64x64	Combination 54B IRFP-6,3 / IRFP-82x40

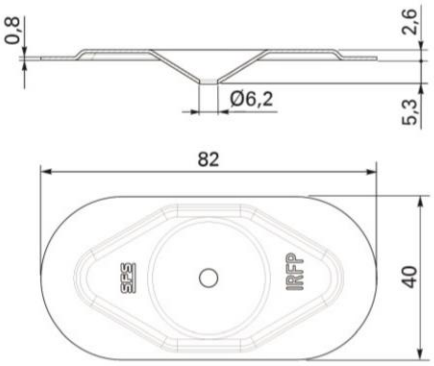
IRFP-64x64



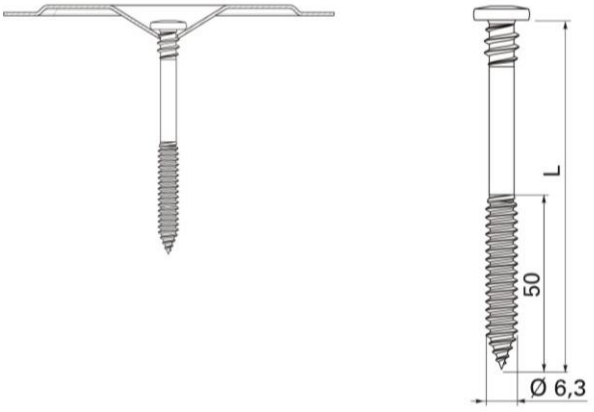
IRFP-6,3



IRFP-82x40



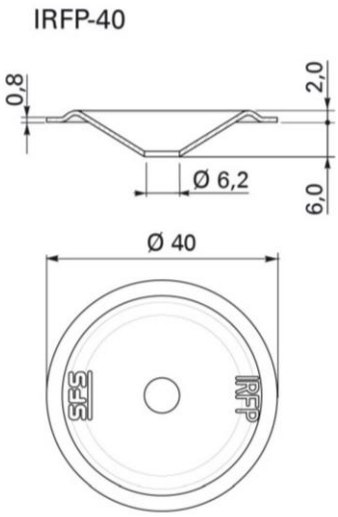
IRFP-6,3

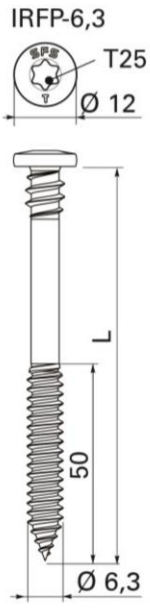


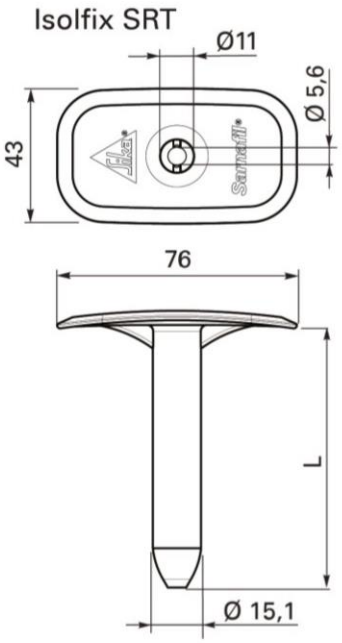
SFS intec flat roof fasteners | **Annex 54**

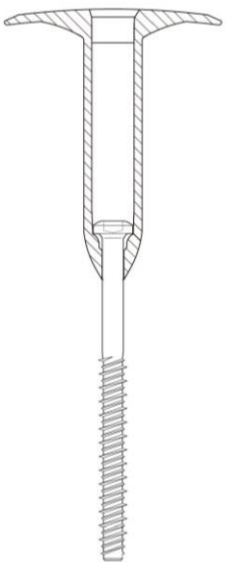
Deutsches Institut für Bautechnik DIBt

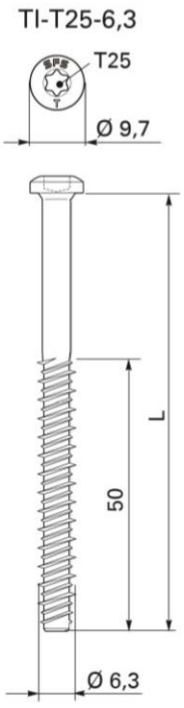
Combination 55A IRFP-6,3 / IRFP-40	Combination 55B TI-T25-6,3 / Isolfix SRT







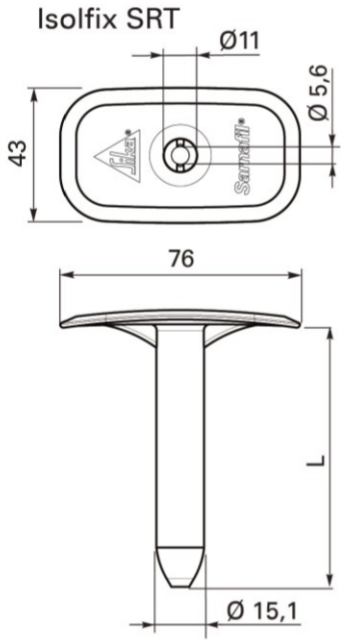


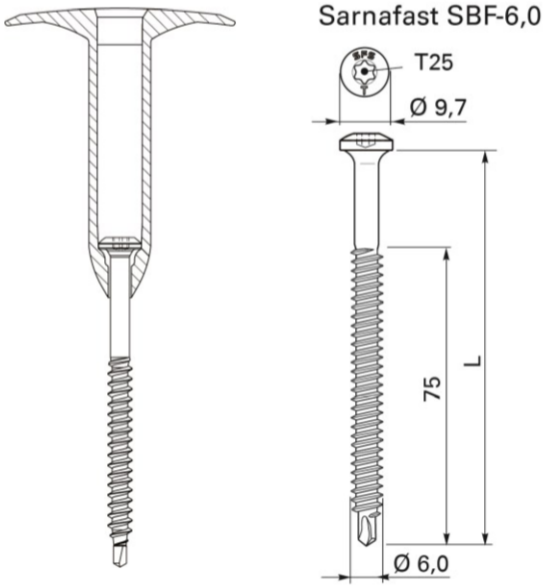


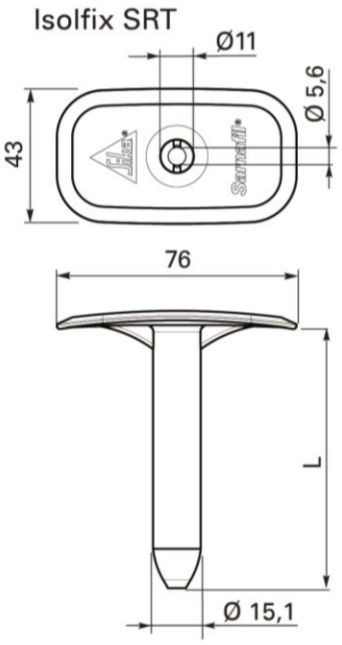
SFS intec flat roof fasteners	Annex 55

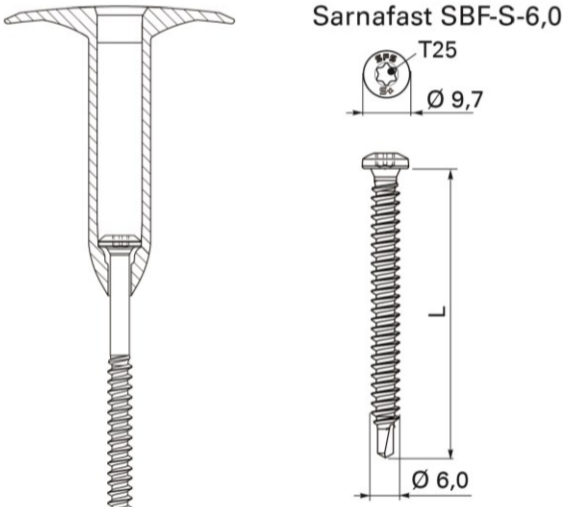
Deutsches Institut für Bautechnik DIBt

Combination 56A Sarnafast SBF-6,0 / Isolfix SRT	Combination 56B Sarnafast SBF-S-6,0 / Isolfix SRT







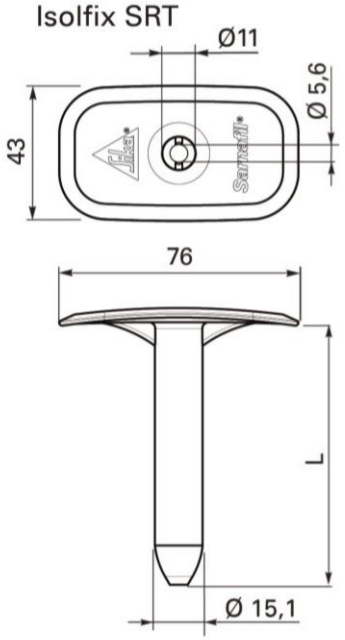


SFS intec flat roof fasteners	**Annex 56**

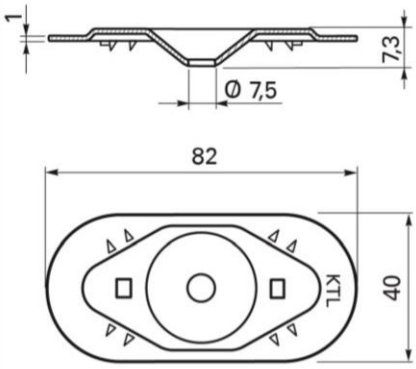
Deutsches Institut für Bautechnik DIBt

Combination 57A BS-6,7 / Isolfix SRT	Combination 57B Sarnafast SBF-6,0 / Sarnafast KTL-82x40

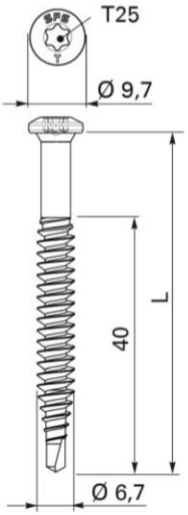
Isolfix SRT

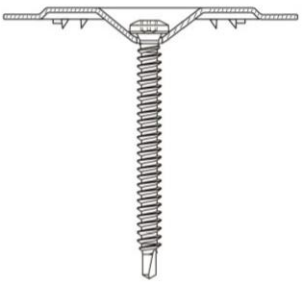


Sarnafast KTL-82x40

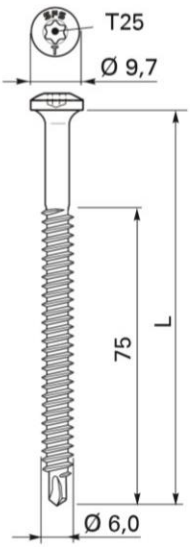


BS-6,7





Sarnafast SBF-6,0

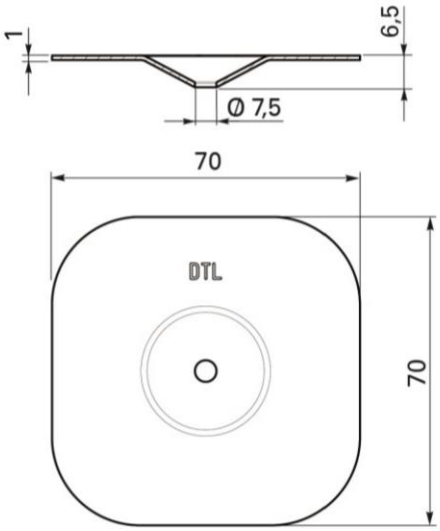


SFS intec flat roof fasteners	Annex 57

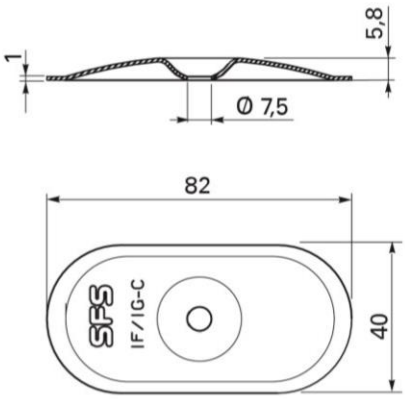
Deutsches Institut für Bautechnik DIBt

Combination 58A Sarnafast SBF-6,0 / Sarnafast DTL-70x70	Combination 58B Sarnafast SBF-6,0 / IF/IG-C-82x40

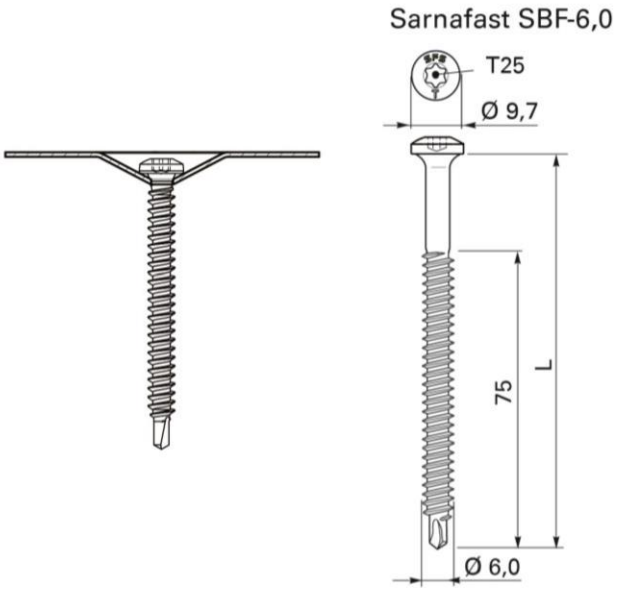
Sarnafast DTL-70x70



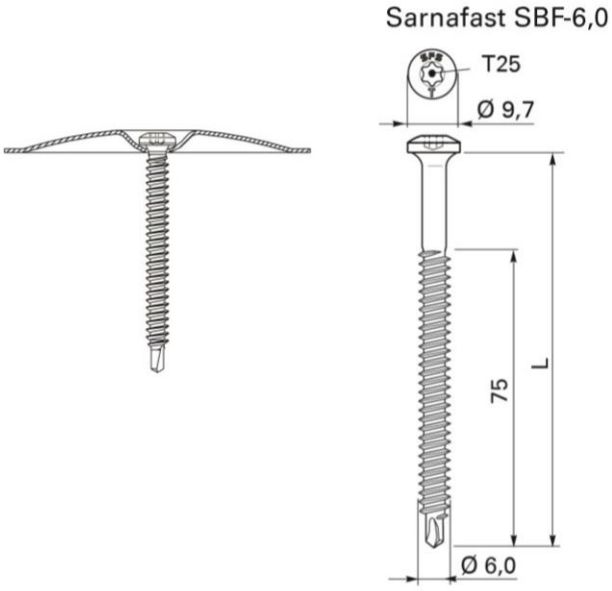
IF/IG-C-82x40



Sarnafast SBF-6,0



Sarnafast SBF-6,0

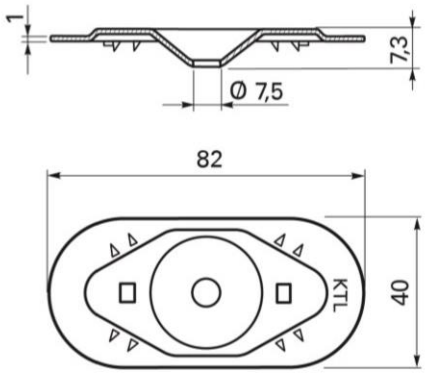


SFS intec flat roof fasteners	**Annex 58**

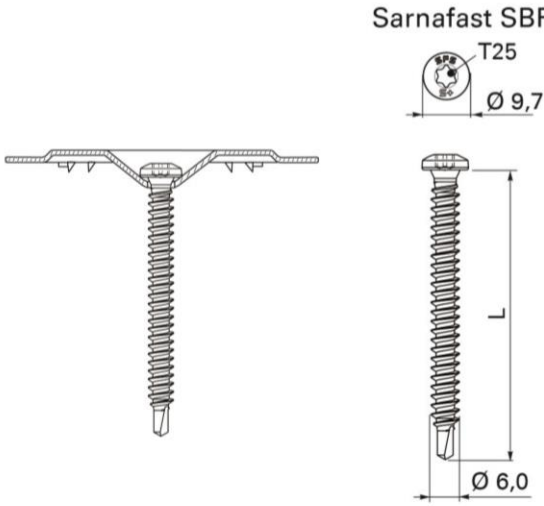
Deutsches Institut für Bautechnik DIBt

Combination 59A Sarnafast SBF-S-6,0 / Sarnafast KTL-82x40	Combination 59B Sarnafast SBF-S-6,0 / Sarnafast DTL-70x70

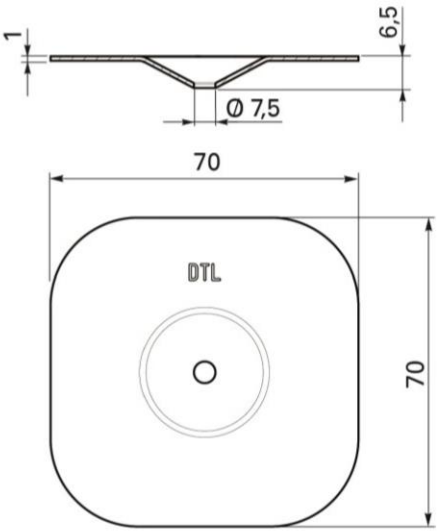
Sarnafast KTL-82x40



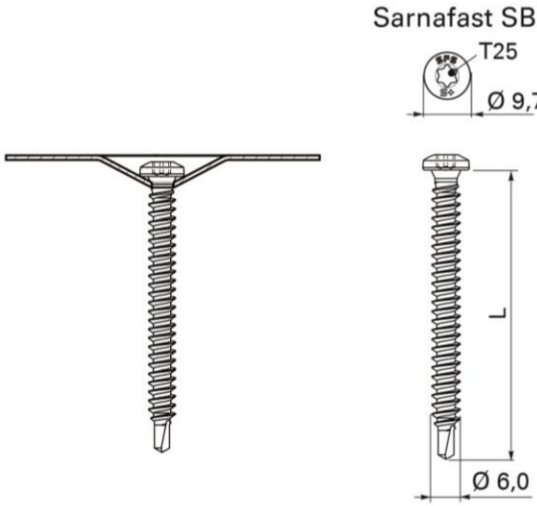
Sarnafast SBF-S-6,0



Sarnafast DTL-70x70



Sarnafast SBF-S-6,0

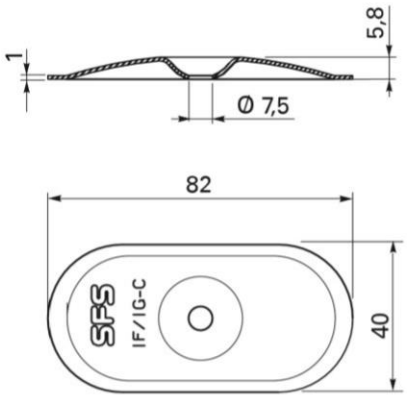


SFS intec flat roof fasteners	**Annex 59**

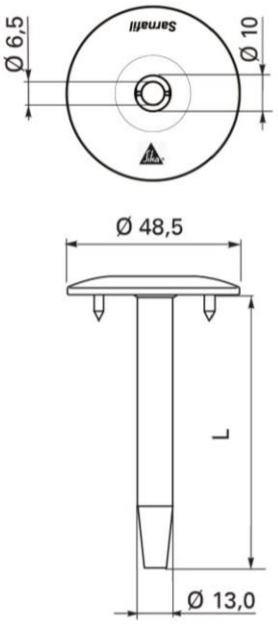
Deutsches Institut für Bautechnik DIBt

Combination 60A Sarnafast SBF-S-6,0 / IF/IG-C-82x40	Combination 60B Sarnafast SBF-S-6,0 / Sarnabar Tube SFT-50

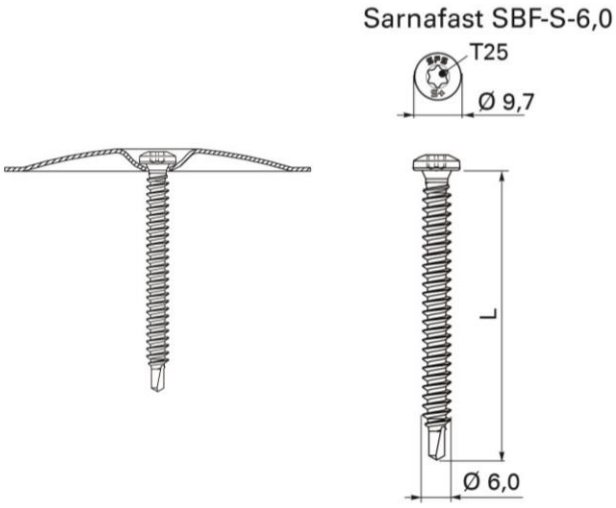
IF/IG-C-82x40



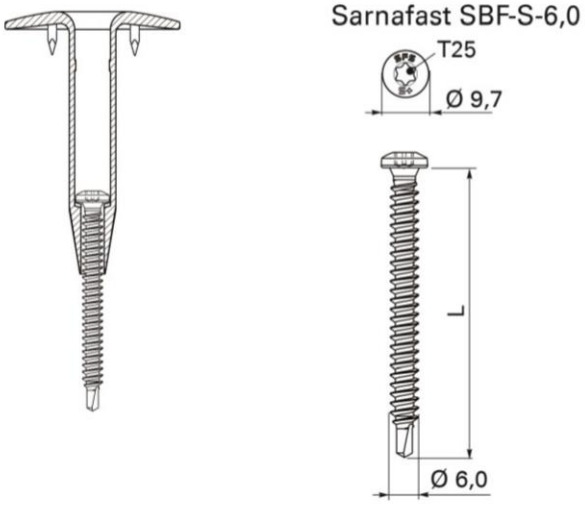
Sarnafast Tube SFT-50



Sarnafast SBF-S-6,0



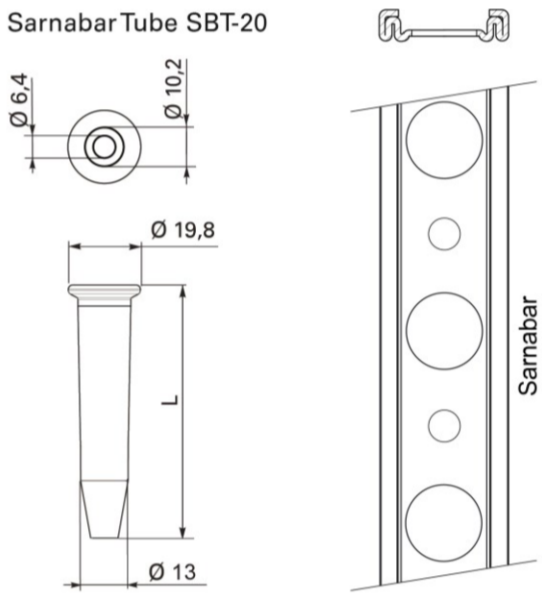
Sarnafast SBF-S-6,0

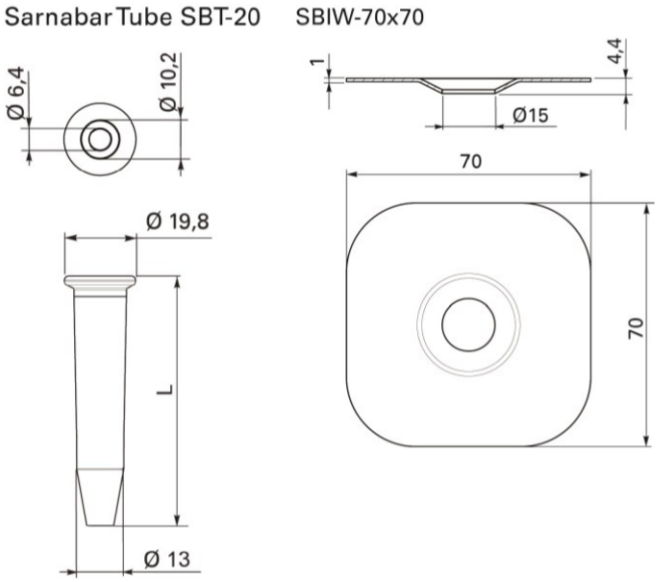


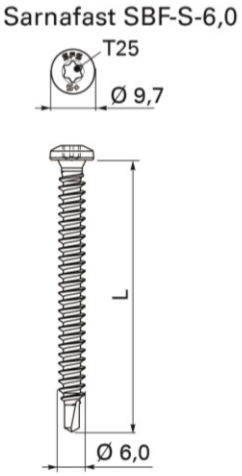
SFS intec flat roof fasteners	Annex 60

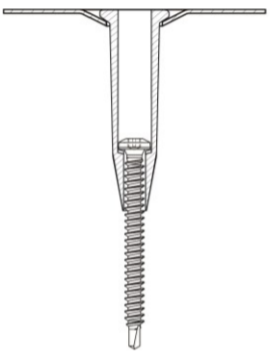
Deutsches Institut für Bautechnik DIBt

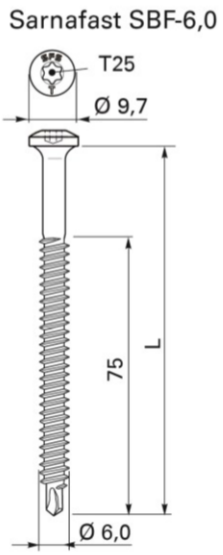
Combination 61A Sarnafast SBF-S-6,0 / Sarnabar Tube SBT-20 / Sarnabar	Combination 61B Sarnafast SBF-6,0 / SBIW-70x70 / Sarnabar Tube SBT-20









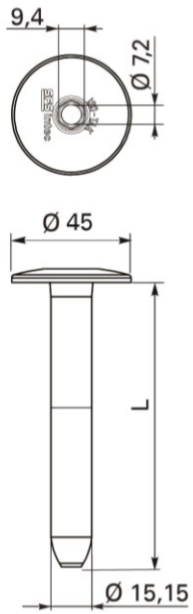


SFS intec flat roof fasteners	Annex 61

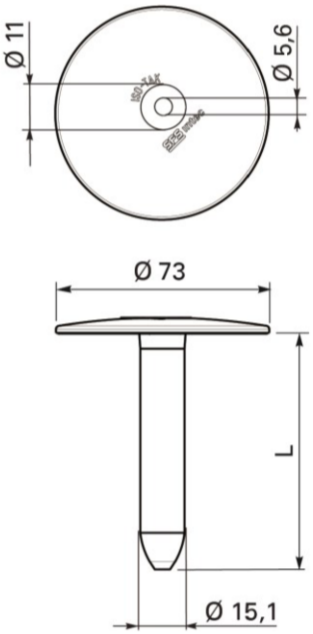
Deutsches Institut für Bautechnik DIBt

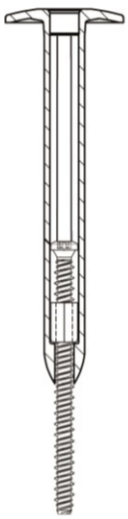
Combination 62A TIF-N-6,3 / RH45	Combination 62B TIA-T25-6,3 / R75

RH45

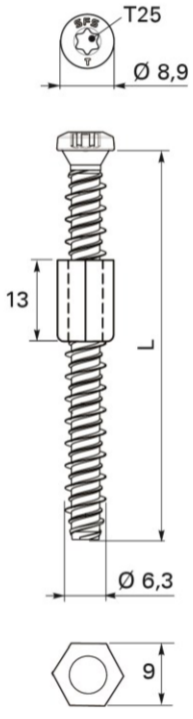


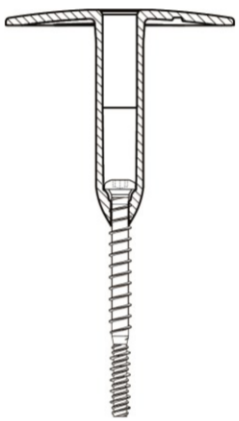
R75



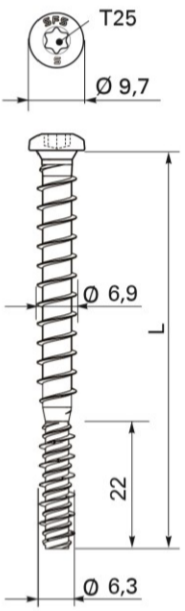


TIF-N-6,3





TIA-T25-6,3

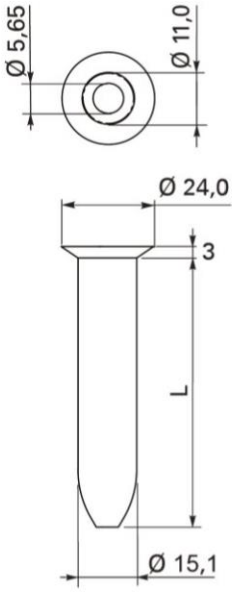


SFS intec flat roof fasteners	Annex 62

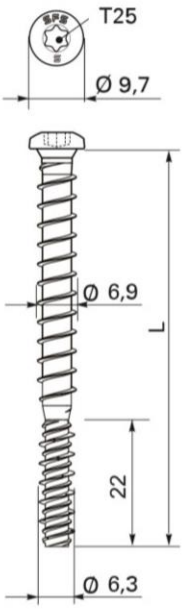
Deutsches Institut für Bautechnik DIBt

Combination 63A TIA-T25-6,3 / ST-25	Combination 63B BS-4,8 / ST-25

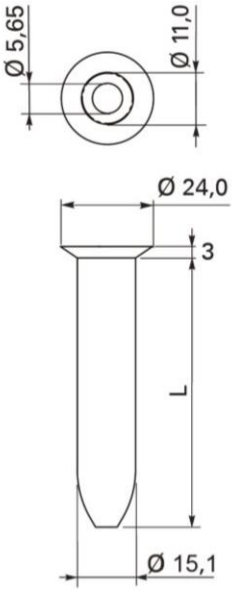
ST-25

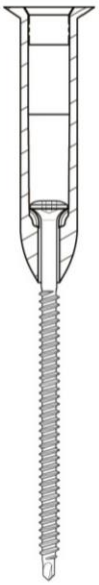


TIA-T25-6,3

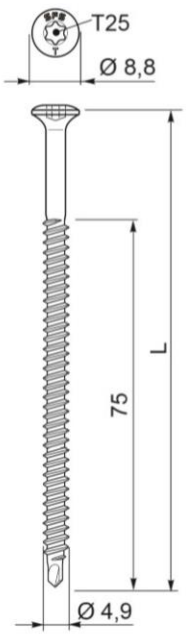


ST-25





BS-4,8

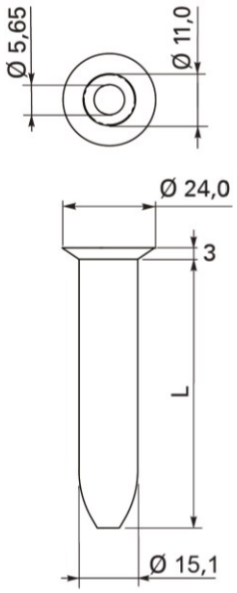


SFS intec flat roof fasteners	Annex 63

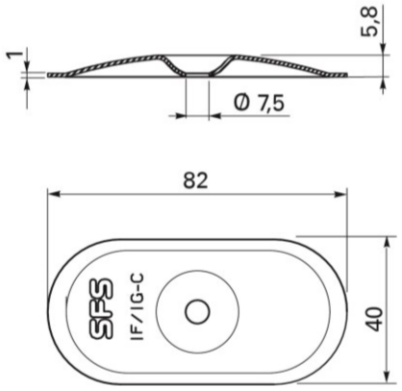
Deutsches Institut für Bautechnik DIBt

Combination 64A TI-T25-6,3 / ST-25	Combination 64B TPR-L-6,3 / IF/IG-C-82x40

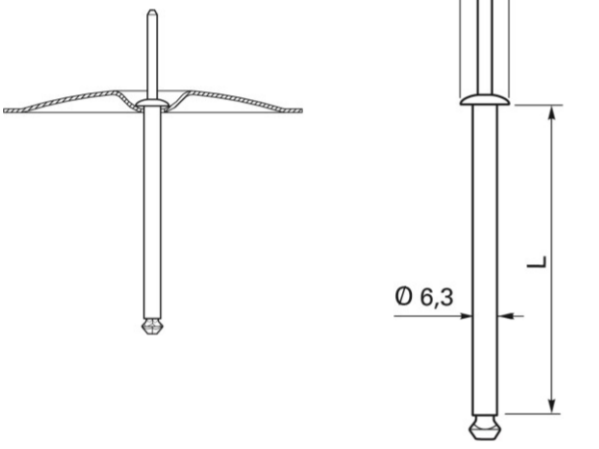
ST-25

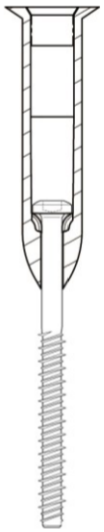


IF/IG-C-82x40

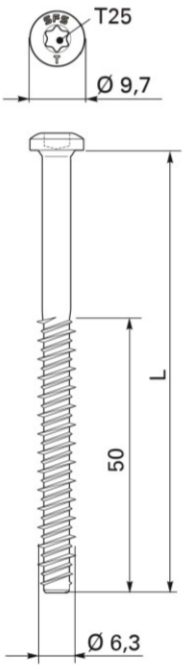


TPR-L-6,3





TI-T25-6,3

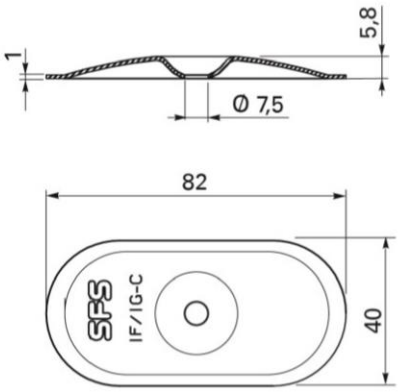


SFS intec flat roof fasteners	Annex 64

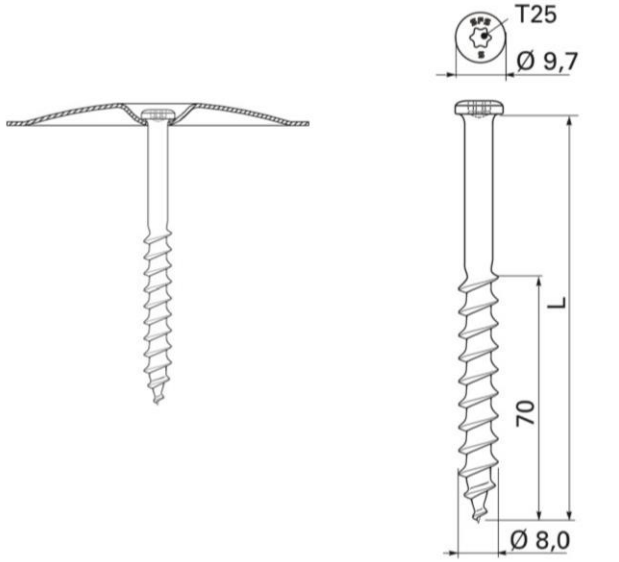
Deutsches Institut für Bautechnik DIBt

Combination 65A LBS-S-T25-8,0 / IF/IG-C-82x40	Combination 65B BS-4,8 / NPP

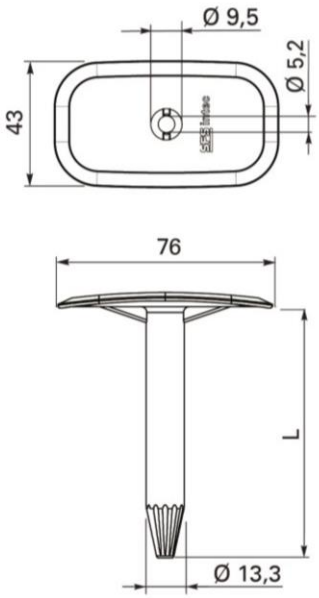
IF/IG-C-82x40



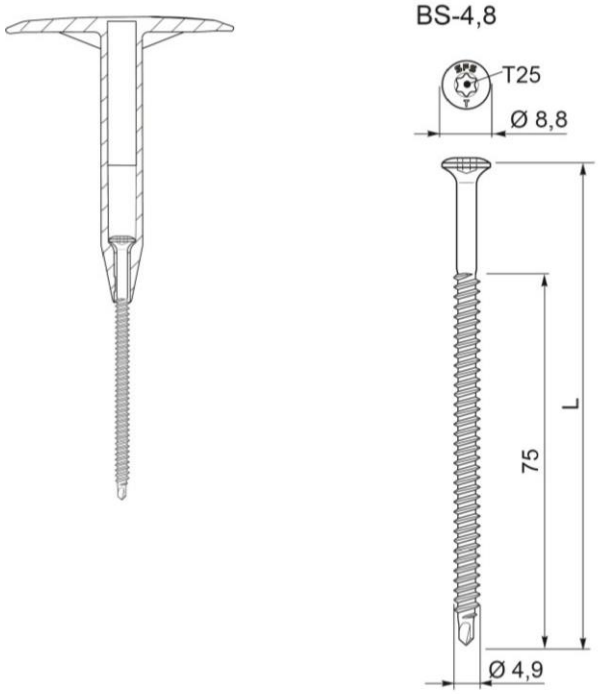
LBS-S-T25-8,0



NPP



BS-4,8

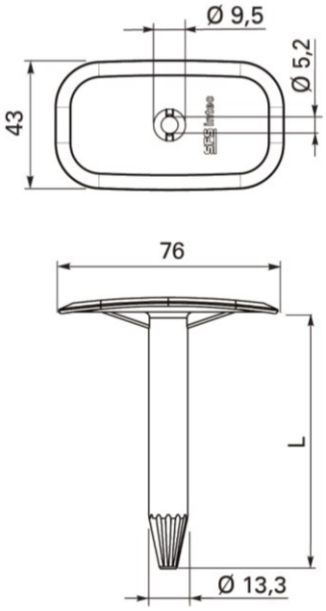


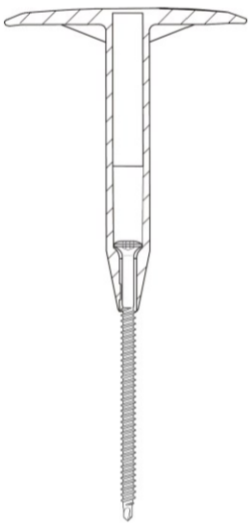
SFS intec flat roof fasteners	Annex 65

Deutsches Institut für Bautechnik DIBt

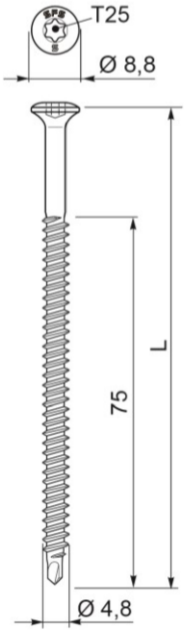
Combination 66A BS-S-4,8 / NPP	Combination 66B BS-4,8 / NPS

NPP

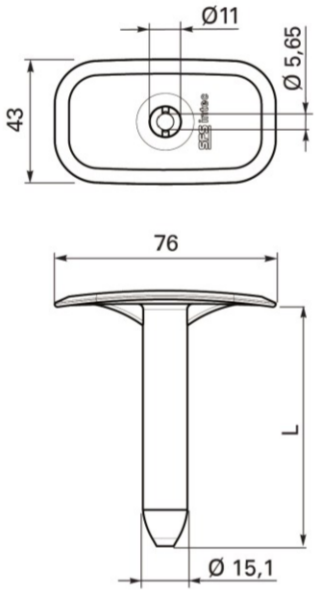


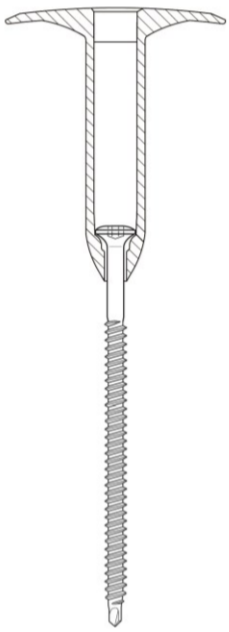


BS-S-4,8

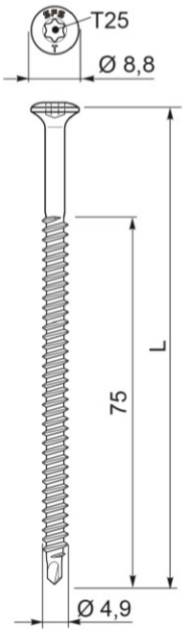


NPS





BS-4,8

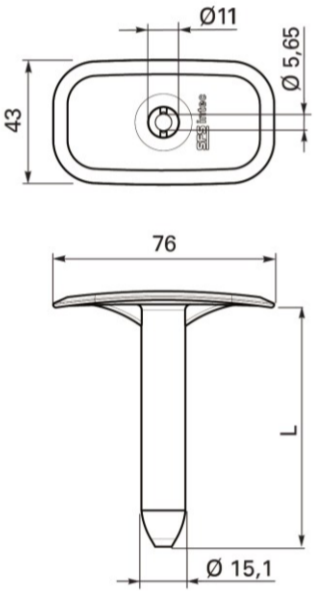


SFS intec flat roof fasteners	Annex 66

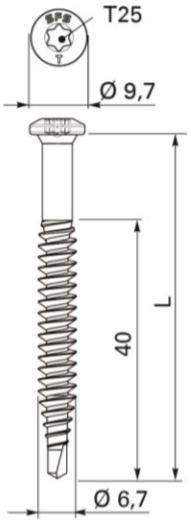
Deutsches Institut für Bautechnik DIBt

Combination 67A BS-6,7 / NPS	Combination 67B BS-S-6,7 / NPS

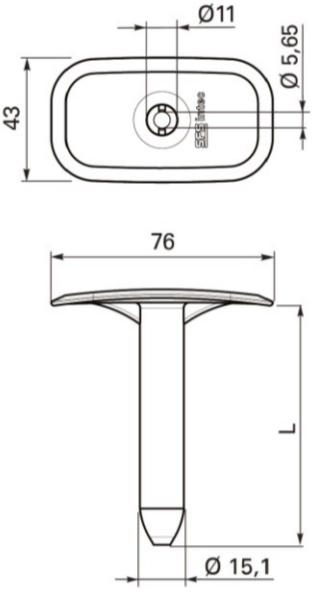
NPS



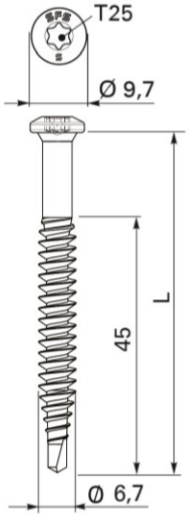
BS-6,7



NPS



BS-S-6,7

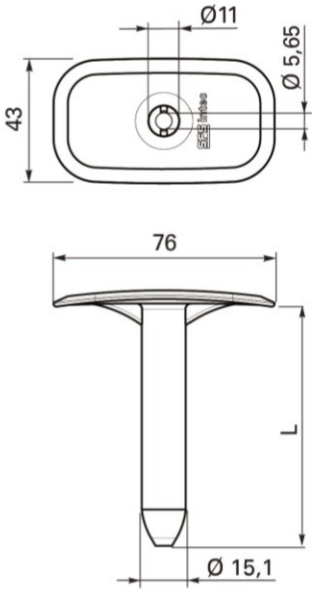


SFS intec flat roof fasteners	**Annex 67**

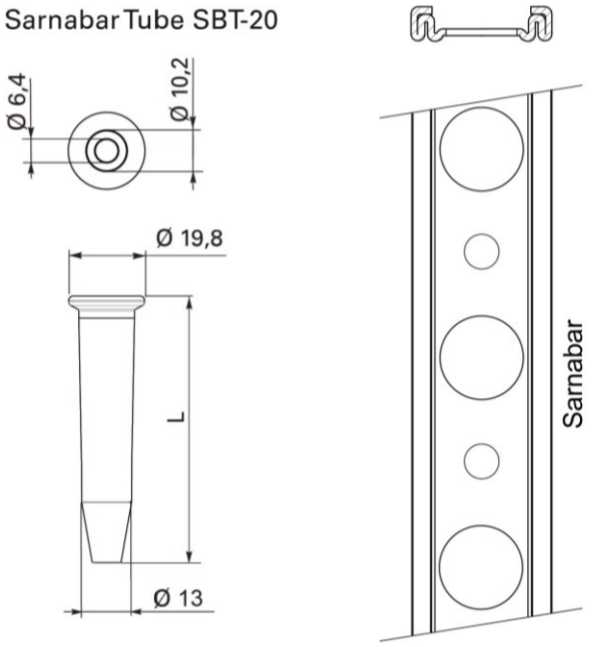
Deutsches Institut für Bautechnik DIBt

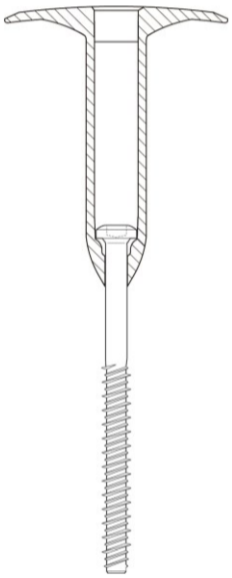
Combination 68A TI-T25-6,3 / NPS	Combination 68B TIA-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar

NPS

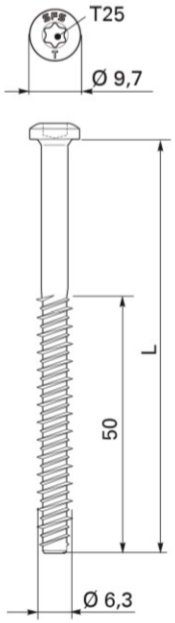


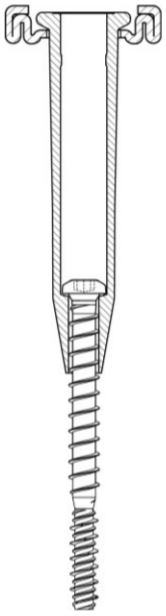
Sarnabar Tube SBT-20



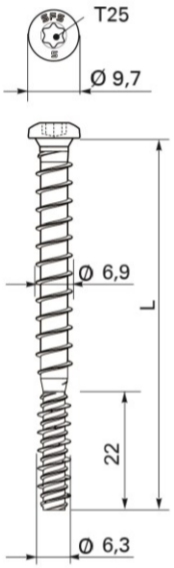


TI-T25-6,3





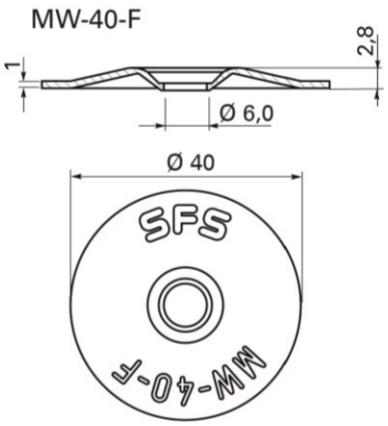
TIA-T25-6,3

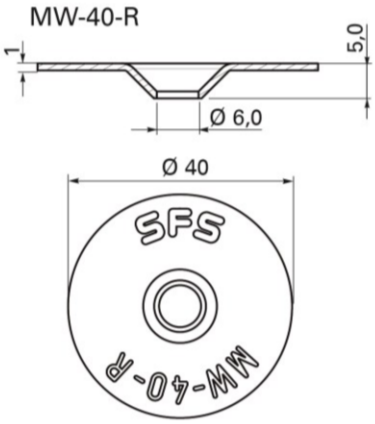


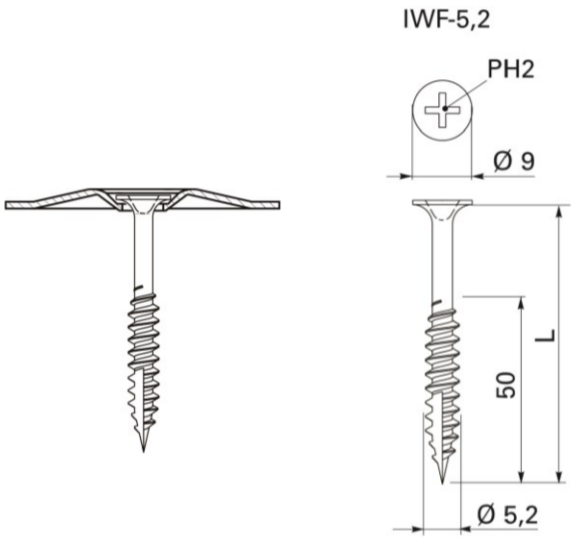
SFS intec flat roof fasteners	Annex 68

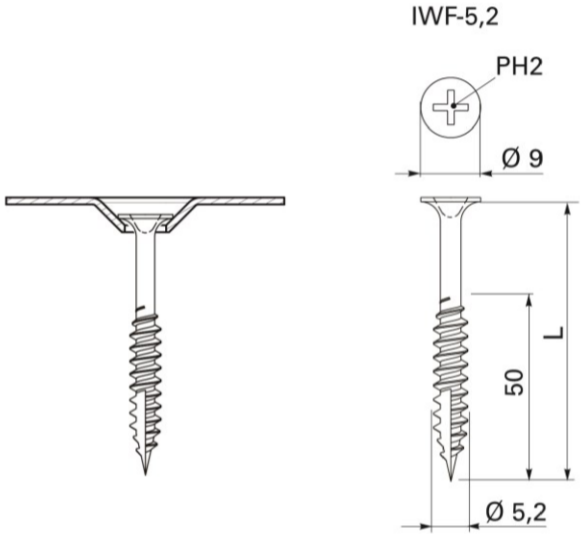
Deutsches Institut für Bautechnik DIBt

Combination 69A IWF-5,2 / MW-40-F	Combination 69B IWF-5,2 / MW-40-R







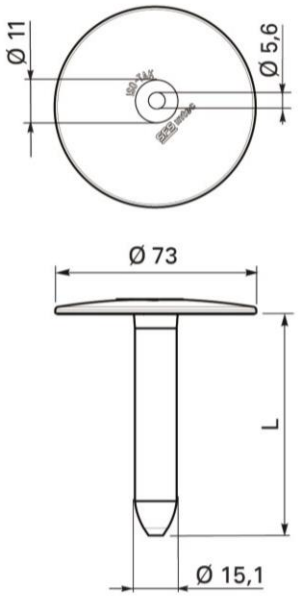


SFS intec flat roof fasteners	Annex 69

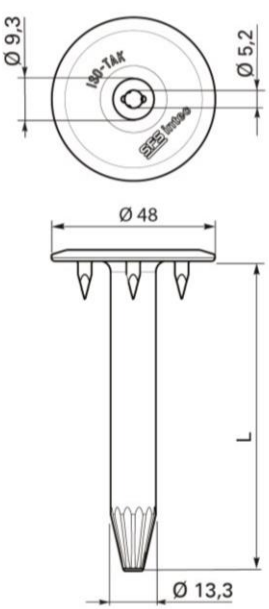
Deutsches Institut für Bautechnik DIBt

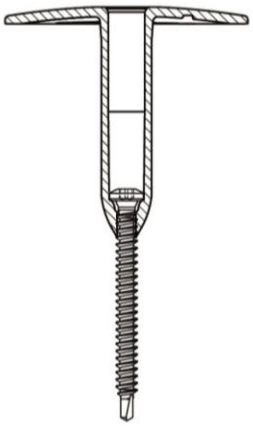
Combination 70A Sarnafast SBF-6,0 / R75	Combination 70B BS3-4,8 / RP48-3N

R75

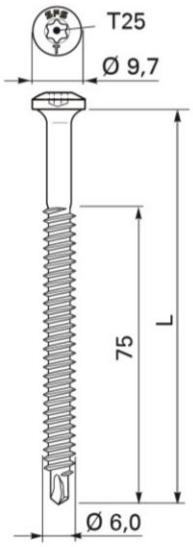


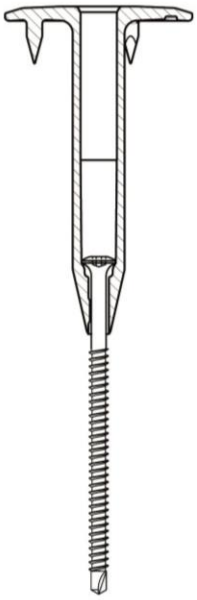
RP48-3N



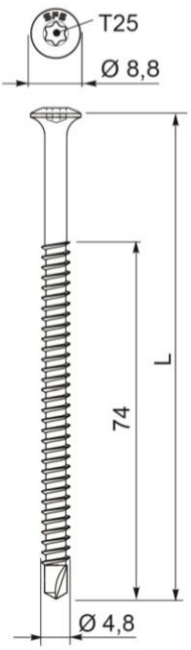


Sarnafast SBF-6,0





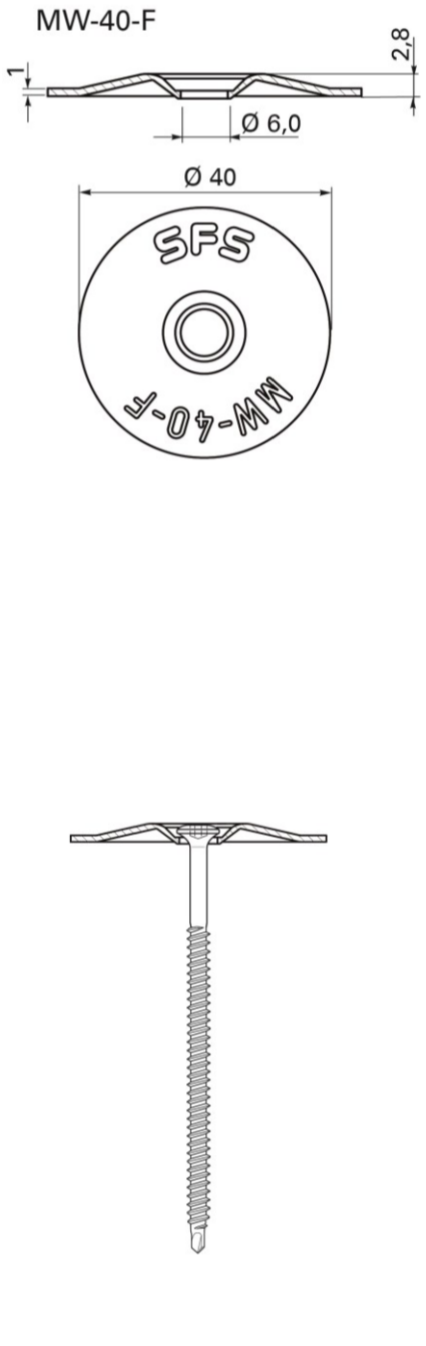
BS3-4,8

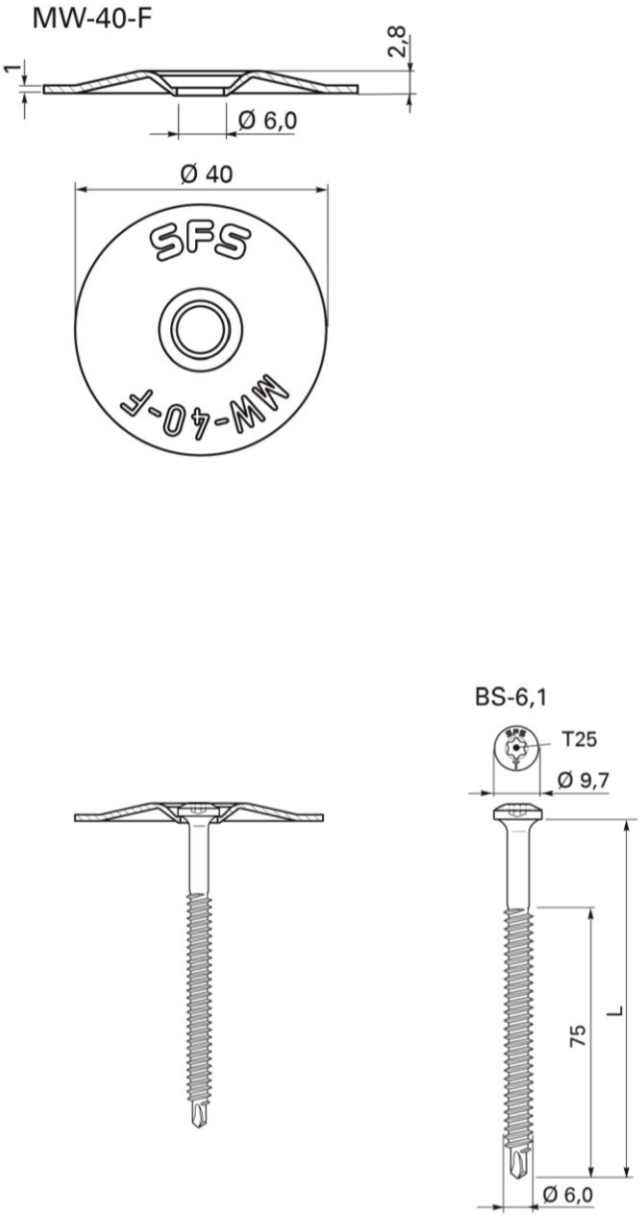


SFS intec flat roof fasteners	**Annex 70**

Deutsches Institut für Bautechnik DIBt

Combination 71A BS-4,8 / MW-40-F	Combination 71B BS-6,1 / MW-40-F



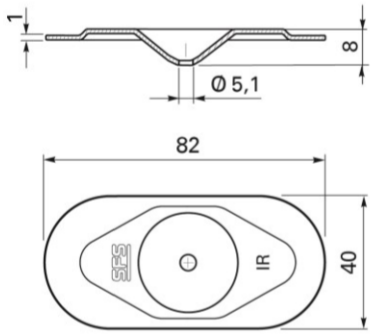


SFS intec flat roof fasteners | **Annex 71**

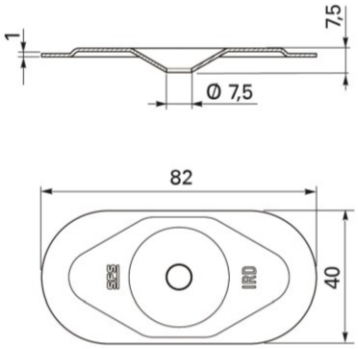
Deutsches Institut für Bautechnik DIBt

Combination 72A BS-4,8 / IR-82x40	Combination 72B BS-6,1 / IRD-82x40

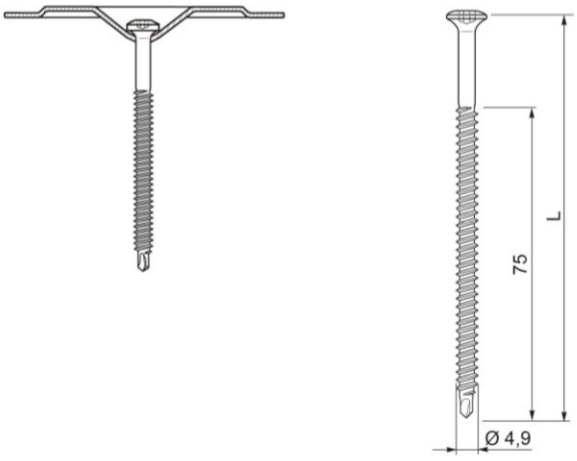
IR-82x40



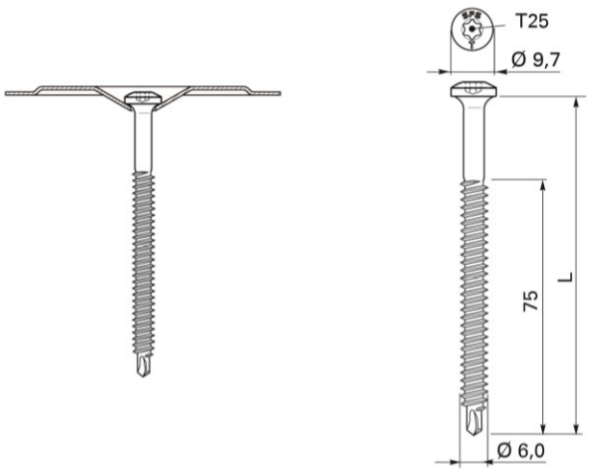
IRD-82x40



BS-4,8



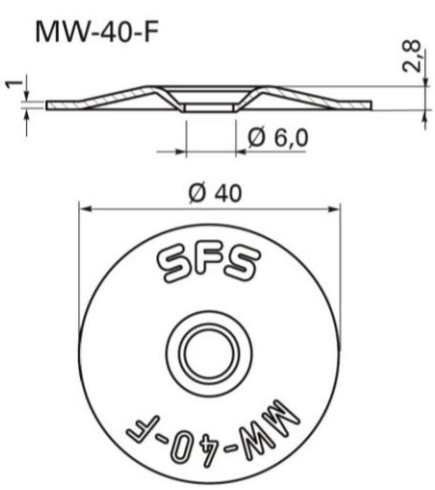
BS-6,1

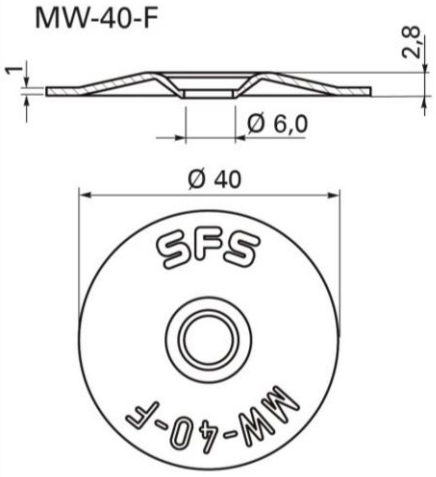


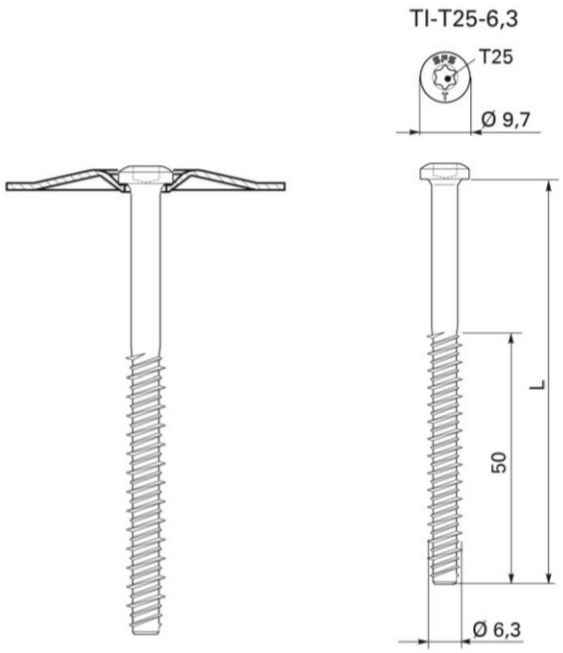
SFS intec flat roof fasteners	**Annex 72**

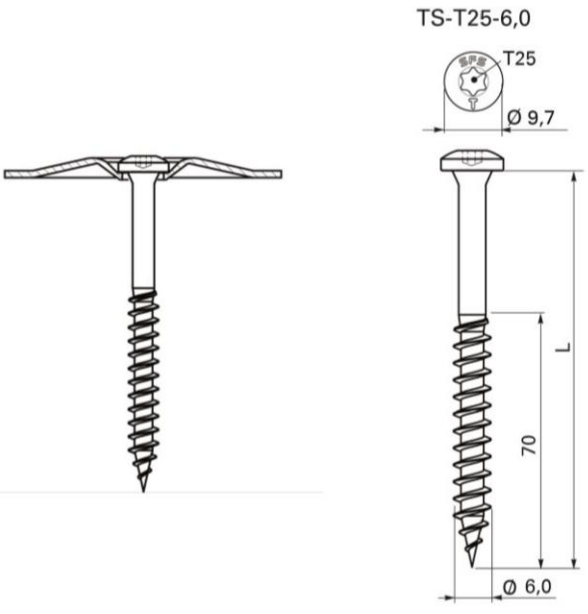
Deutsches Institut für Bautechnik DIBt

Combination 73A TI-T25-6,3 / MW-40-F	Combination 73B TS-T25-6,0 / MW-40-F







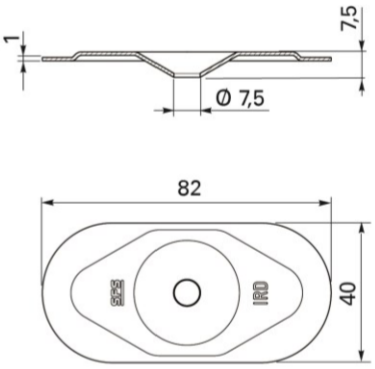


SFS intec flat roof fasteners	**Annex 73**

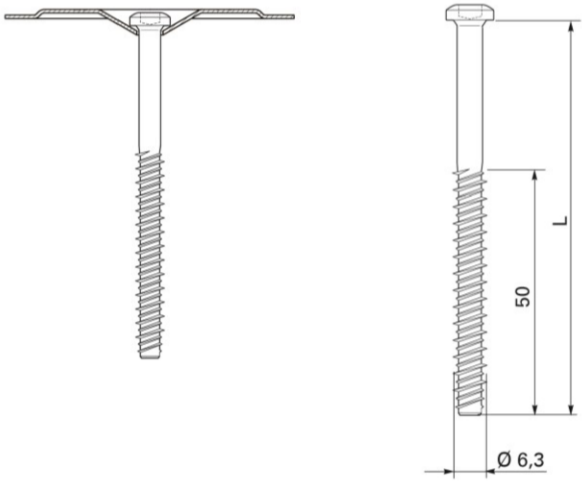
Deutsches Institut für Bautechnik DIBt

Combination 74A TI-T25-6,3 / IRD-82x40	Combination 74B IWF-5,2 / IR-82x40

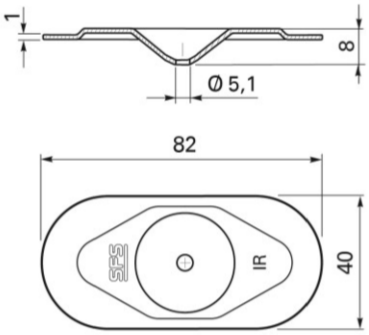
IRD-82x40



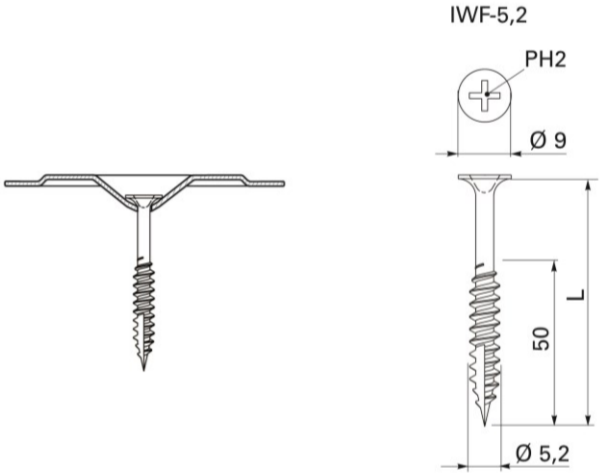
TI-T25-6,3



IR-82x40



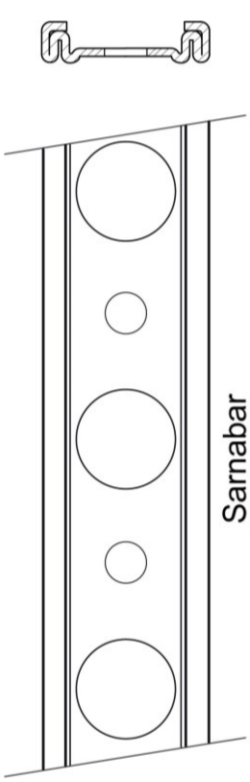
IWF-5,2

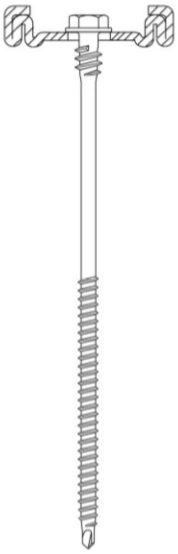


SFS intec flat roof fasteners	Annex 74

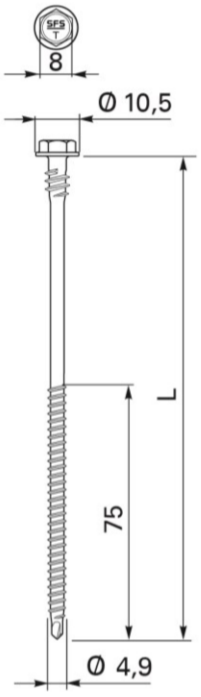
Deutsches Institut für Bautechnik DIBt

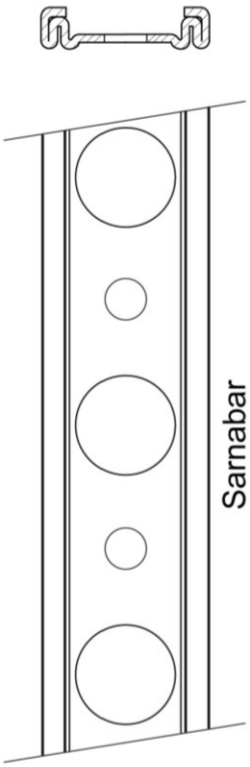
Combination 75A Sarnafast SF-4,8 / Sarnabar	Combination 75B Sarnafast SBF-6,0 / Sarnabar



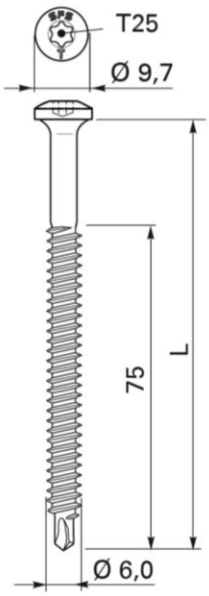


Sarnafast SF-4,8





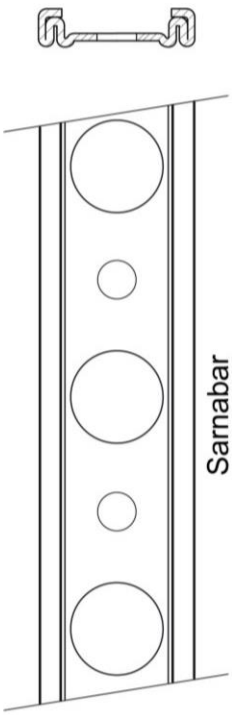
Sarnafast SBF-6,0



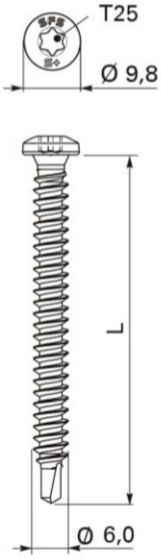
SFS intec flat roof fasteners	**Annex 75**

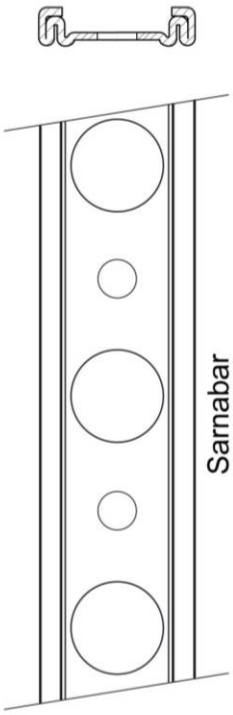
Deutsches Institut für Bautechnik DIBt

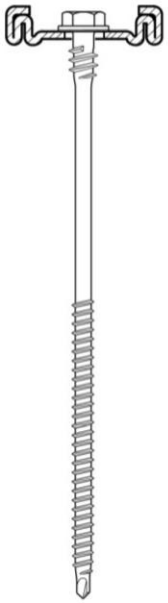
Combination 76A Sarnafast SBF-S-6,0 / Sarnabar	Combination 76B IR2-4,8 / Sarnabar



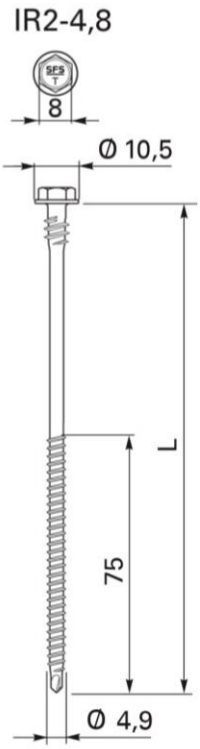
Sarnafast SBF-S-6,0







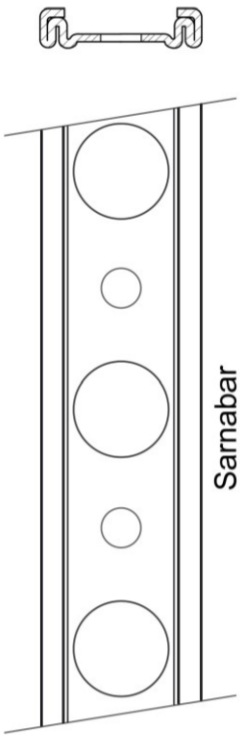
IR2-4,8

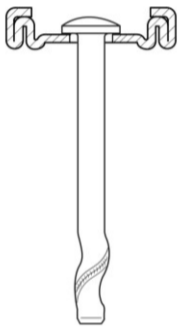


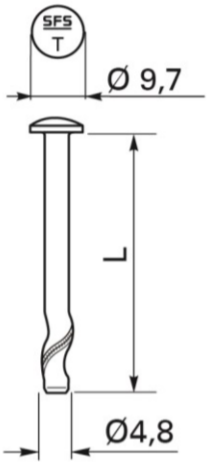
SFS intec flat roof fasteners	**Annex 76**

Deutsches Institut für Bautechnik DIBt

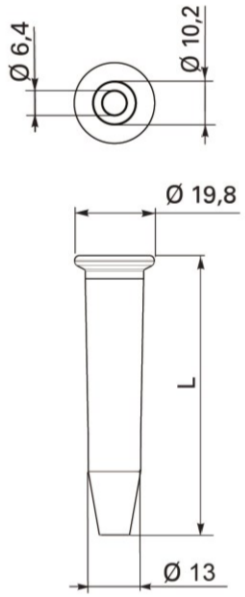
Combination 77A DT-4,8 / Sarnabar	Combination 77B DT-4,8 / Sarnabar Tube SBT-20 / Sarnabar

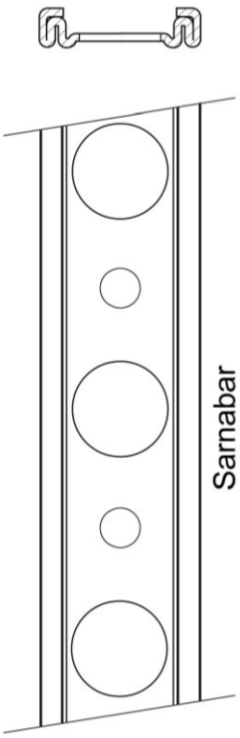


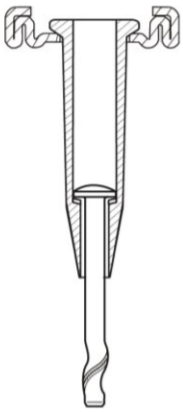


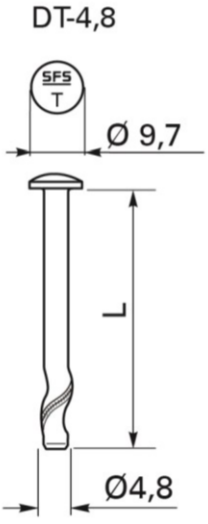


Sarnabar Tube SBT-20





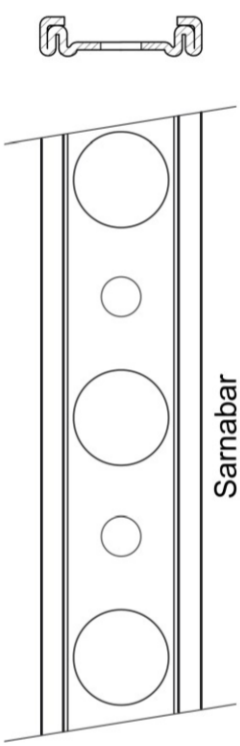


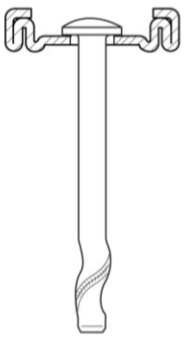


SFS intec flat roof fasteners	Annex 77

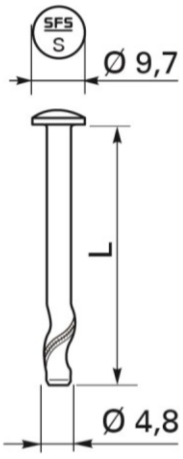
Deutsches Institut für Bautechnik DIBt

Combination 78A DT-S-4,8 / Sarnabar	Combination 78B DT-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar

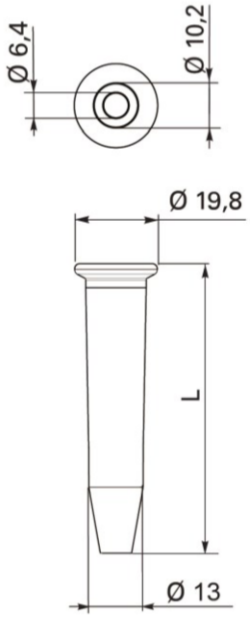


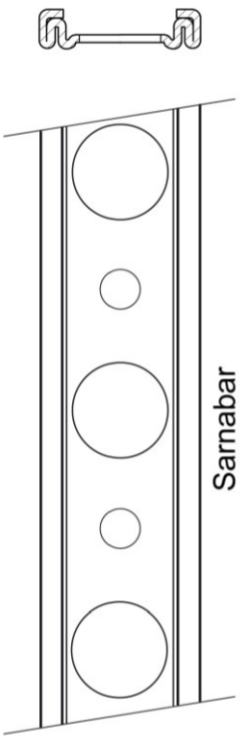


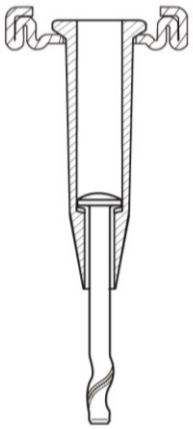
DT-S-4,8



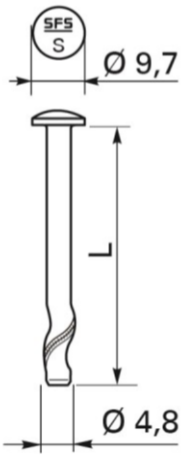
Sarnabar Tube SBT-20







DT-S-4,8

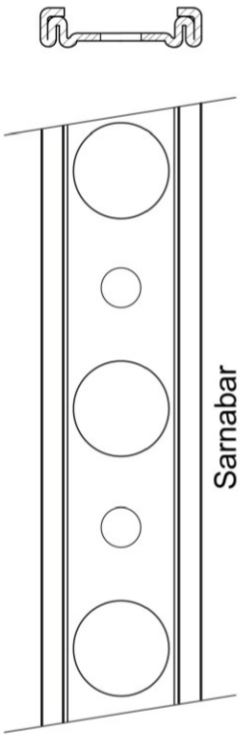


SFS intec flat roof fasteners	Annex 78

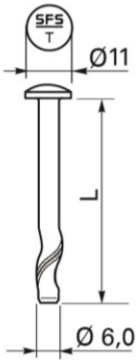
Deutsches Institut für Bautechnik

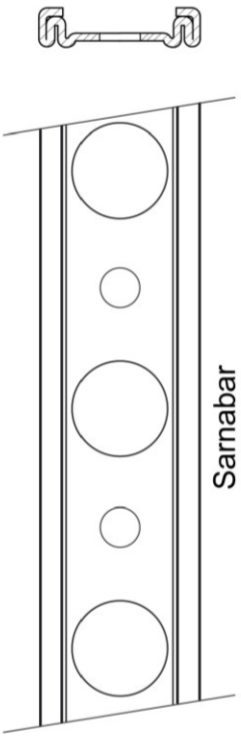
DIBt

Combination 79A DT-6,3 / Sarnabar	Combination 79B DT-S-6,3 / Sarnabar

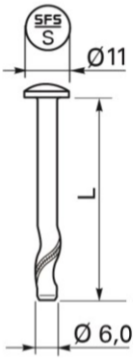


DT-6,3





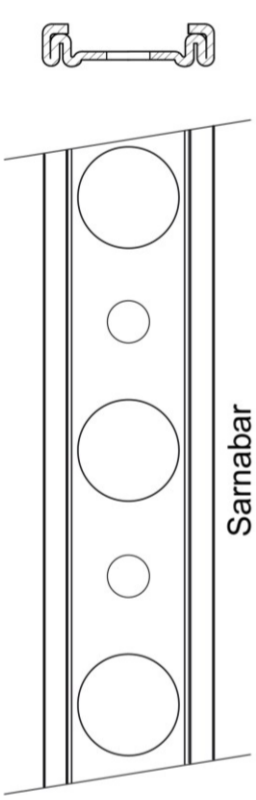
DT-S-6,3

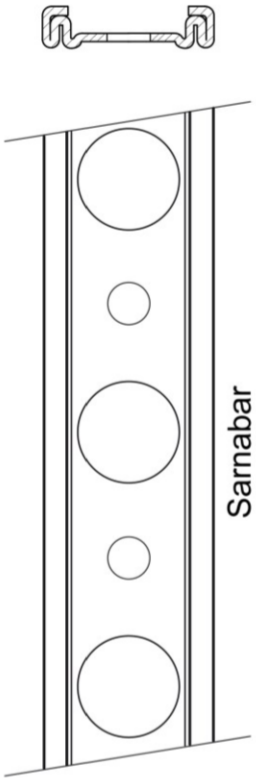


SFS intec flat roof fasteners	**Annex 79**

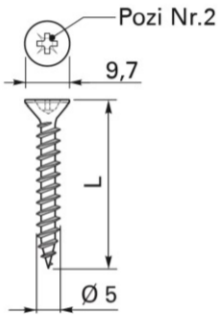
Deutsches Institut für Bautechnik DIBt

Combination 80A IW-S-5,0 / Sarnabar	Combination 80B IW-T-5,0 / Sarnabar

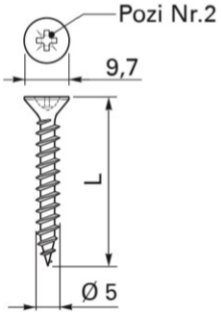




IW-S-5,0



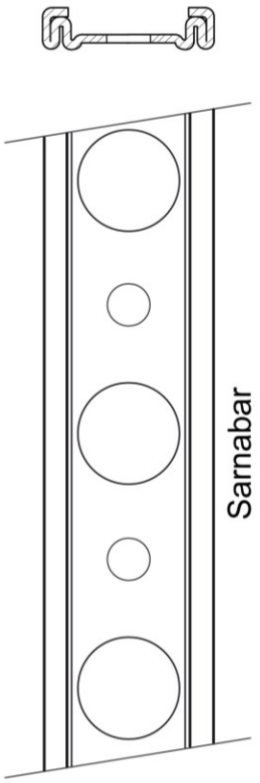
IW-T-5,0

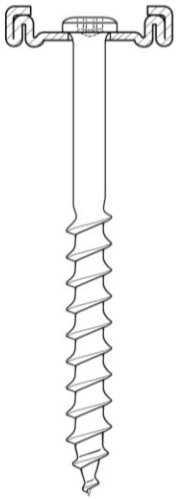


SFS intec flat roof fasteners	**Annex 80**

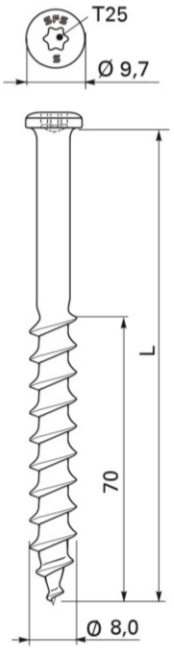
Deutsches Institut für Bautechnik DIBt

Combination 81A LBS-S-T25-8,0 / Sarnabar	Combination 81B BS-S-6,1 / FI-P-6,8

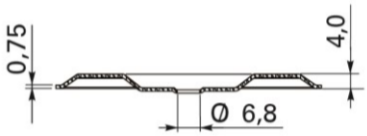


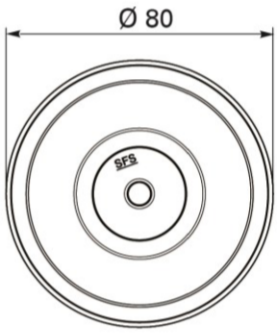


LBS-S-T25-8,0

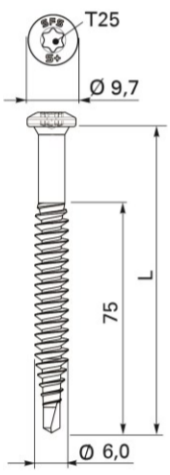


FI-P-6,8





BS-S-6,1

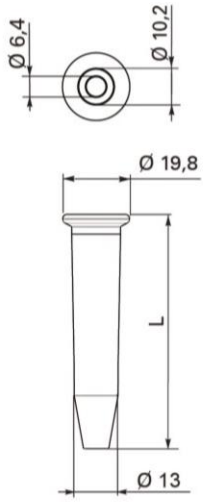


SFS intec flat roof fasteners	**Annex 81**

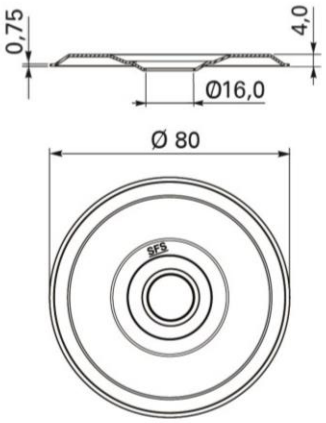
Deutsches Institut für Bautechnik DIBt

Combination 82A BS-S-6,1 / FI-P-16,0 / FI-R-20	Combination 82B LBS-S-T25-8,0 / IRD-82x40

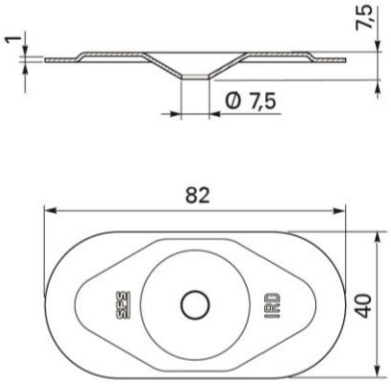
FI-R-20

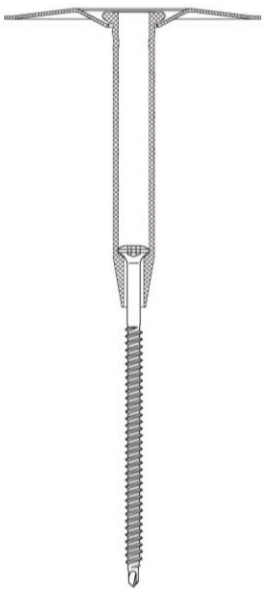


FI-P-16,0

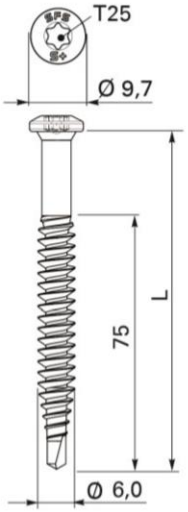


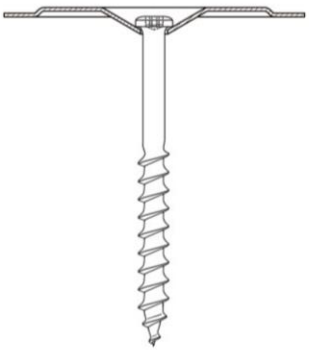
IRD-82x40



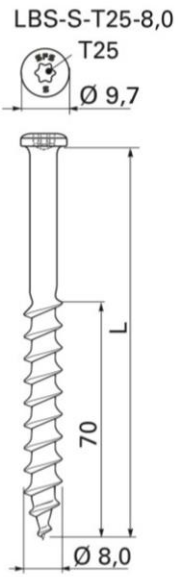


BS-S-6,1





LBS-S-T25-8,0

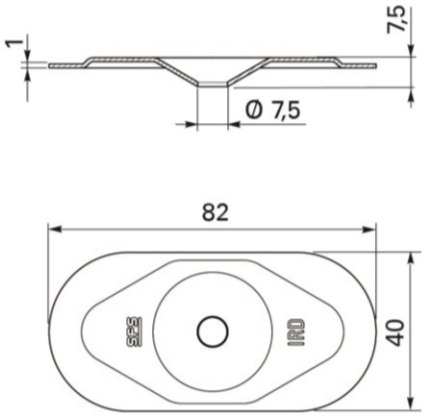


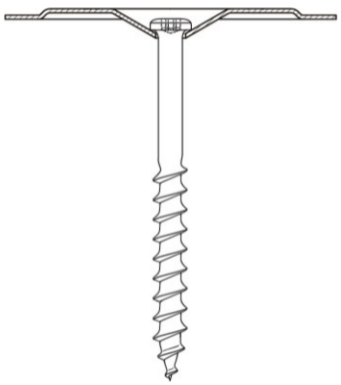
SFS intec flat roof fasteners	Annex 82

Deutsches Institut für Bautechnik DIBt

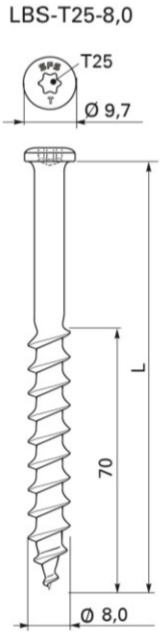
Combination 83A LBS-T25-8,0 / IRD-82x40	Combination 83B LBS-T25-8,0 / IF/IG-C-82x40

IRD-82x40

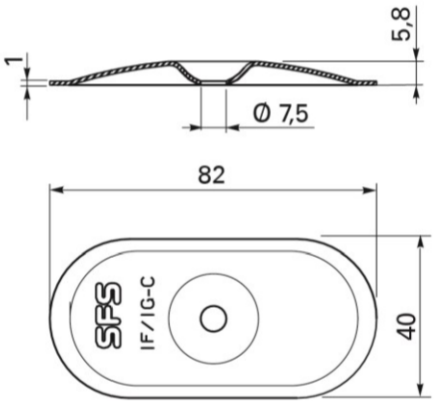




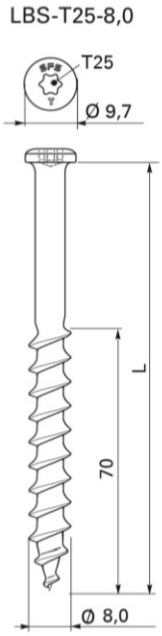
LBS-T25-8,0



IF/IG-C-82x40



LBS-T25-8,0

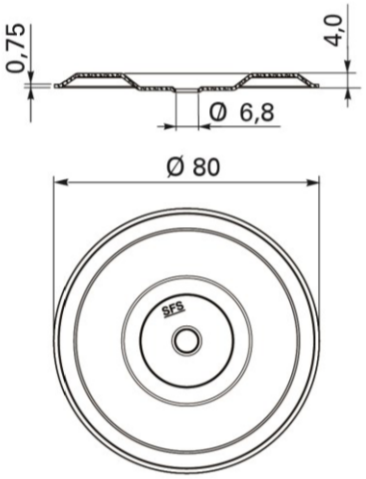


SFS intec flat roof fasteners	Annex 83

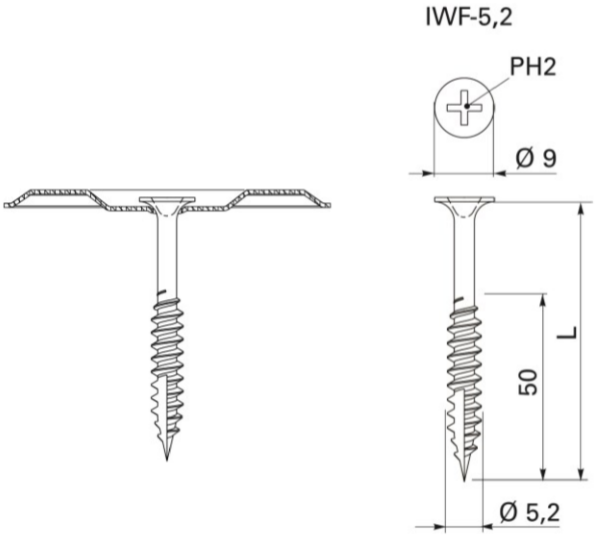
Deutsches Institut für Bautechnik DIBt

Combination 84A IWF-5,2 / FI-P-6,8	Combination 84B IW-S-5,0 / FI-P-6,8

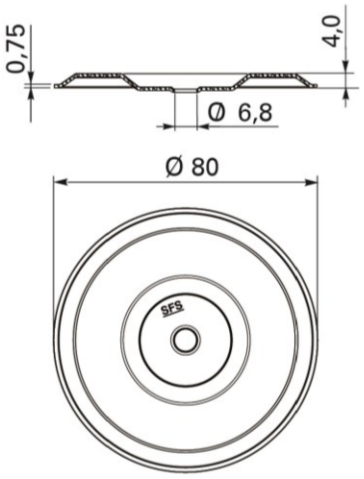
FI-P-6,8



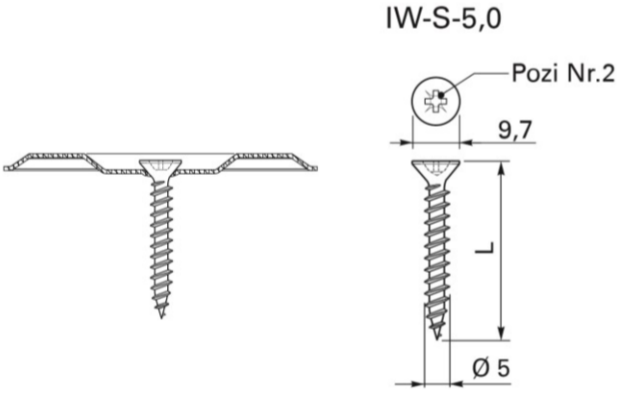
IWF-5,2



FI-P-6,8



IW-S-5,0

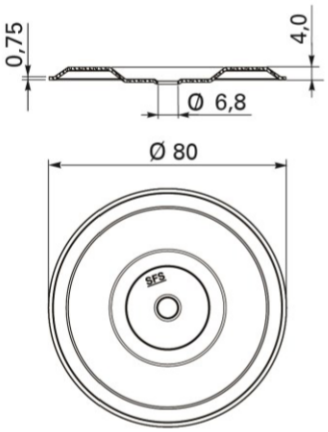


SFS intec flat roof fasteners | **Annex 84**

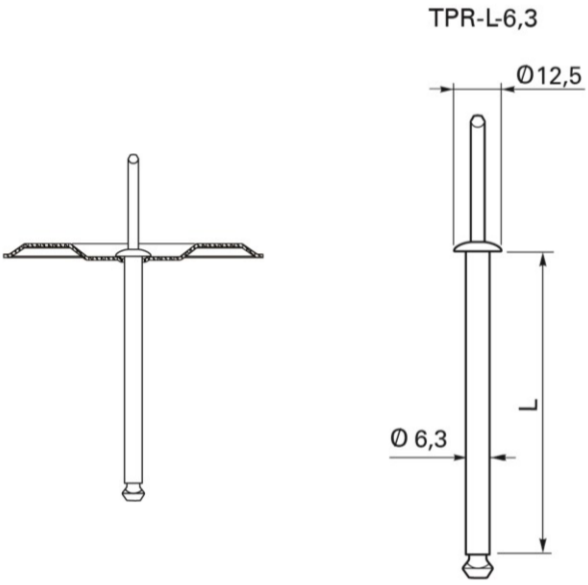
Deutsches Institut für Bautechnik DIBt

Combination 85A TPR-L-6,3 / FI-P-6,8	Combination 85B DT-4,8 / ID-70x70

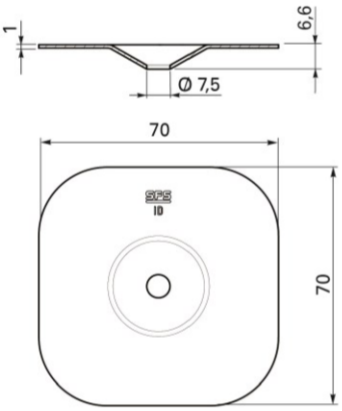
FI-P-6,8



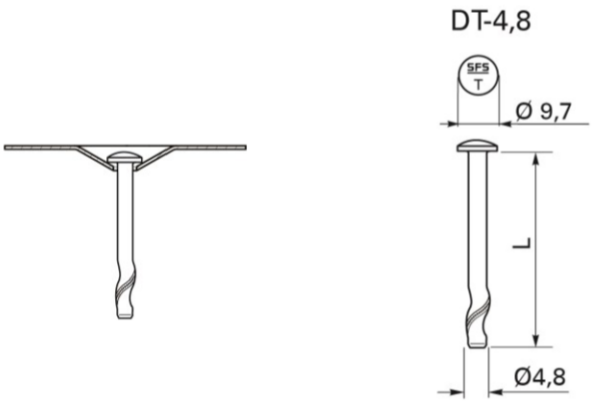
TPR-L-6,3



ID-70x70



DT-4,8

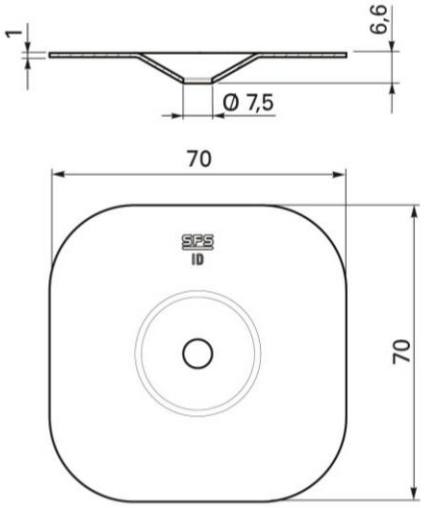


SFS intec flat roof fasteners	Annex 85

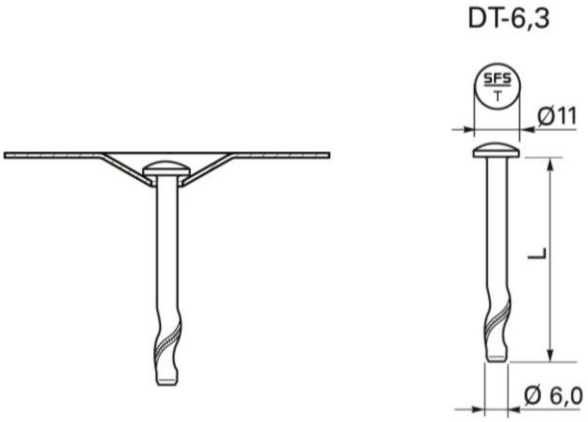
Deutsches Institut für Bautechnik DIBt

Combination 86A DT-6,3 / ID-70x70	Combination 86B DT-4,8 / R75

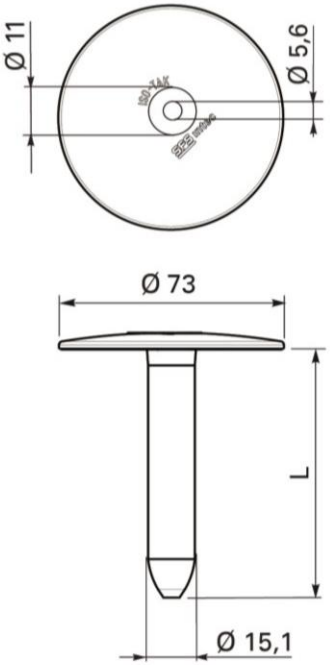
ID-70x70



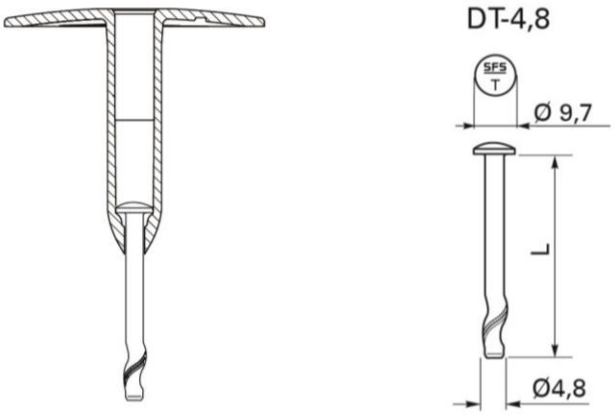
DT-6,3



R75



DT-4,8

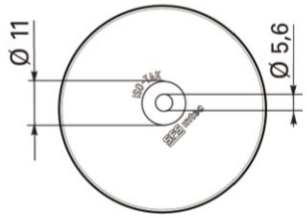


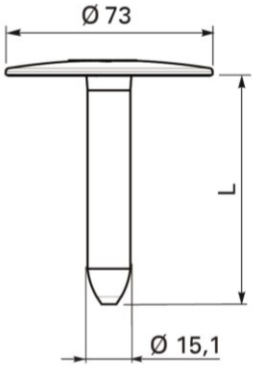
SFS intec flat roof fasteners	Annex 86

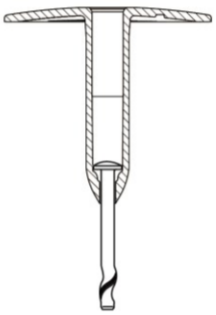
Deutsches Institut für Bautechnik DIBt

Combination 87A DT-S-4,8 / R75	Combination 87B TPR-L-6,3 / IL-C-82x40

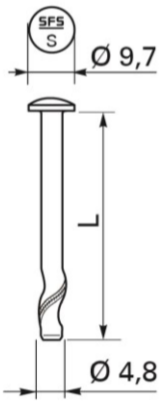
R75



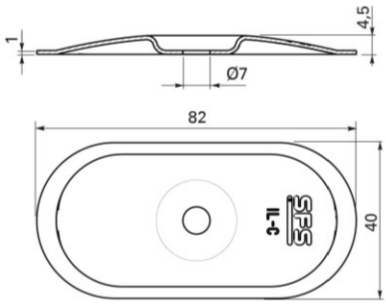


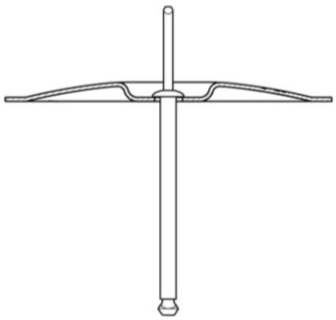


DT-S-4,8

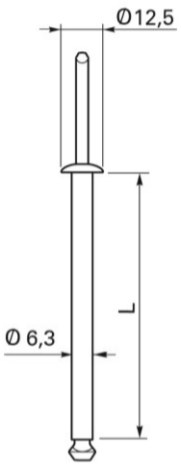


IL-C-82x40





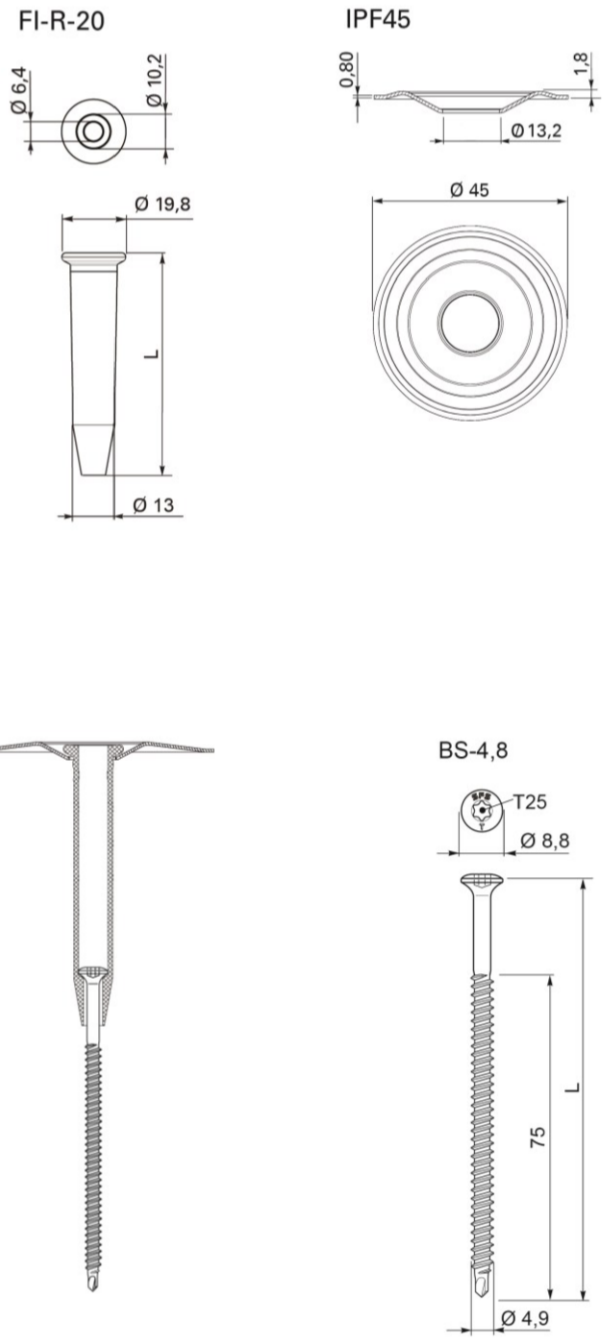
TPR-L-6,3



SFS intec flat roof fasteners	Annex 87

Deutsches Institut für Bautechnik DIBt

Combination 88A BS-4,8 / IPF45 / FI-R-20	Combination 88B BS-4,8 / IPF70 / FI-R-20

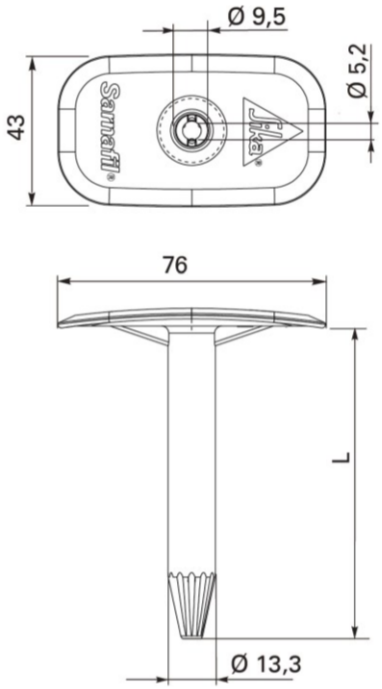


SFS intec flat roof fasteners	**Annex 88**

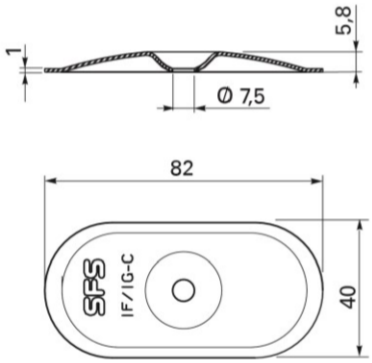
Deutsches Institut für Bautechnik DIBt

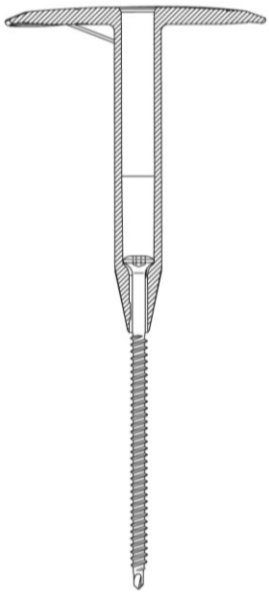
Combination 89A BS-4,8 / Isolfast SQT	Combination 89B Sarnafast SF-4,8 / IF/IG-C-82x40

Isolfast SQT

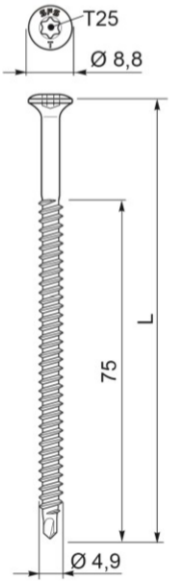


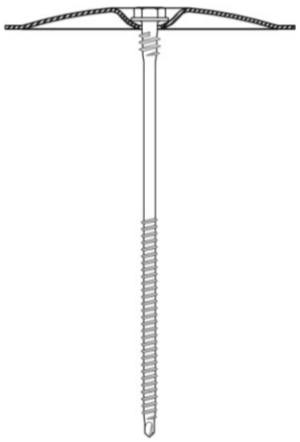
IF/IG-C-82x40



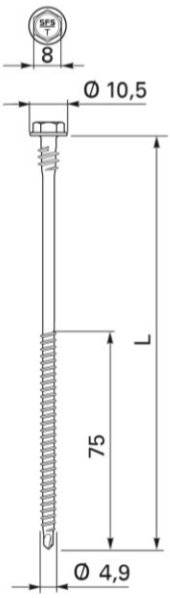


BS-4,8





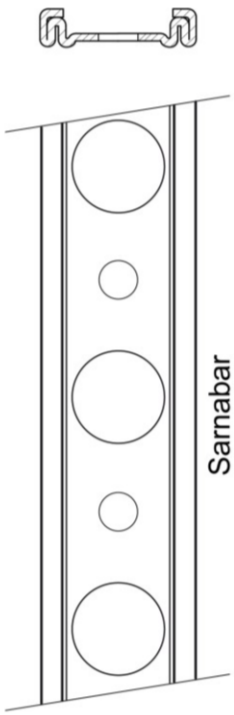
Sarnafast SF-4,8



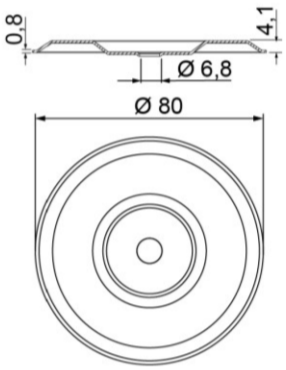
SFS intec flat roof fasteners	**Annex 89**

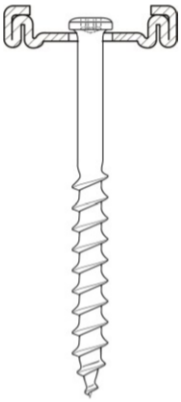
Deutsches Institut für Bautechnik DIBt

Combination 90A LBS-T25-8,0 / Sarnabar	Combination 90B Sarnafast SBF-6,0 / Sarnaweld disc 6,8

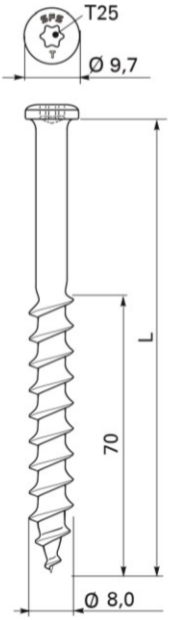


Sarnaweld disc 6,8

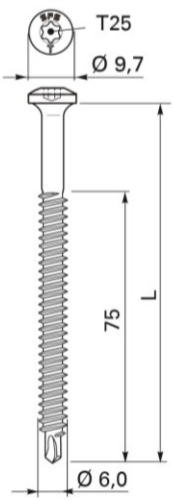




LBS-T25-8,0



Sarnafast SBF-6,0

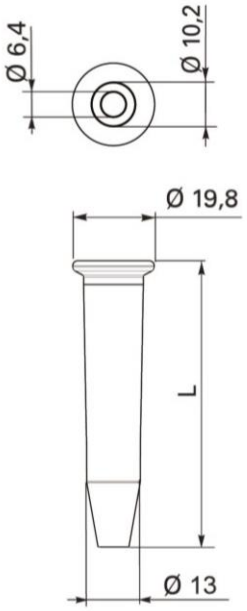


SFS intec flat roof fasteners	**Annex 90**

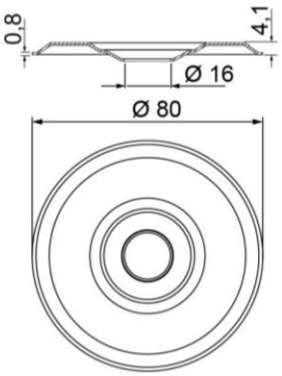
Deutsches Institut für Bautechnik DIBt

Combination 91A Sarnafast SBF-6,0 / Sarnaweld disc 16 / Sarnabar Tube SBT-20	Combination 91B Sarnafast SBF-S-6,0 / Sarnaweld disc 6,8

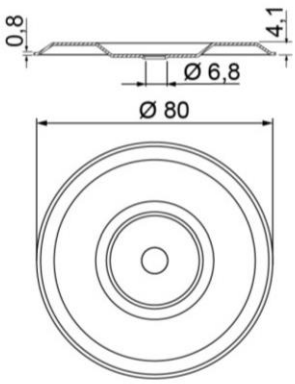
Sarnabar Tube SBT-20



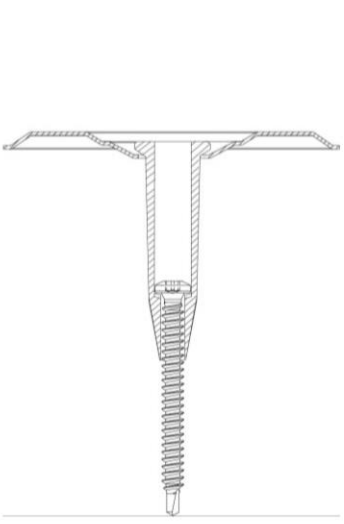
Sarnaweld disc 16

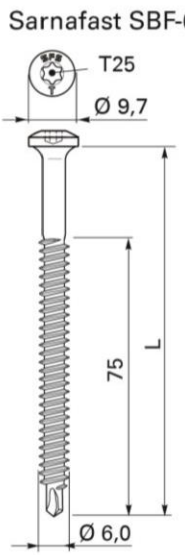


Sarnaweld disc 6,8

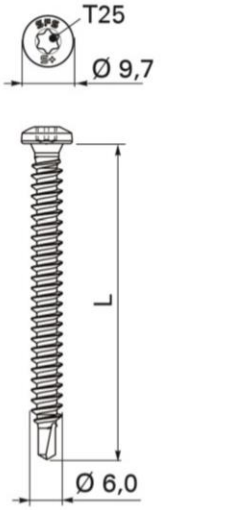


Sarnafast SBF-6,0





Sarnafast SBF-S-6,0

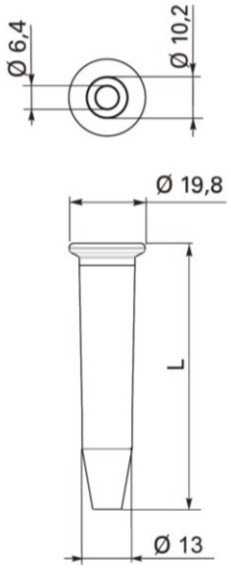


SFS intec flat roof fasteners	**Annex 91**

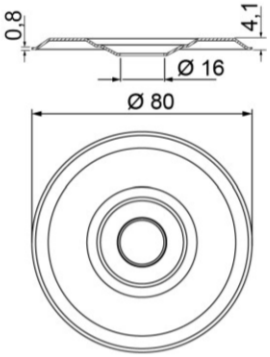
Deutsches Institut für Bautechnik DIBt

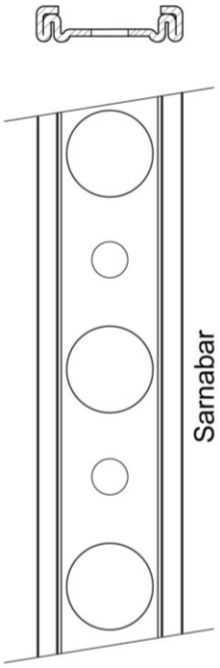
Combination 92A Sarnafast SBF-S-6,0 / Sarnaweld disc 16 / Sarnabar Tube SBT-20	Combination 92B IR2-S-4,8 / Sarnabar

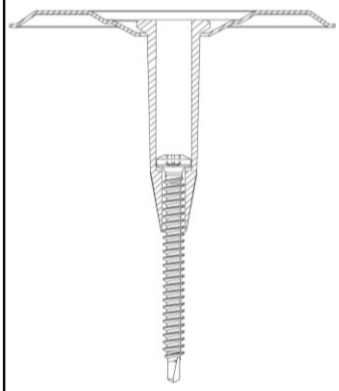
Sarnabar Tube SBT-20



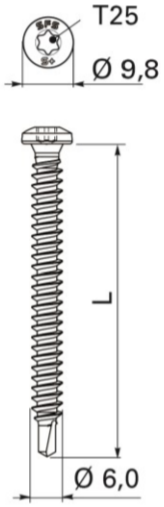
Sarnaweld disc 16

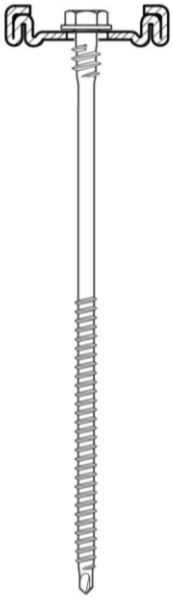




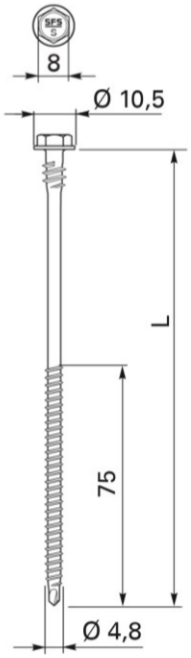


Sarnafast SBF-S-6,0





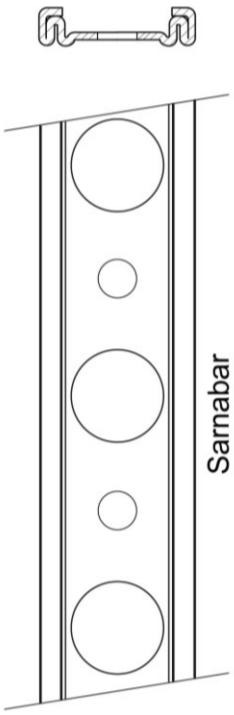
IR2-S-4,8

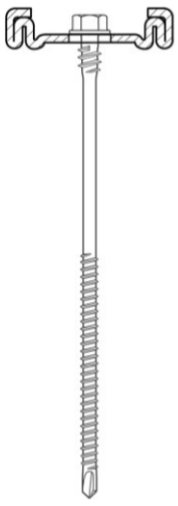


SFS intec flat roof fasteners	**Annex 92**

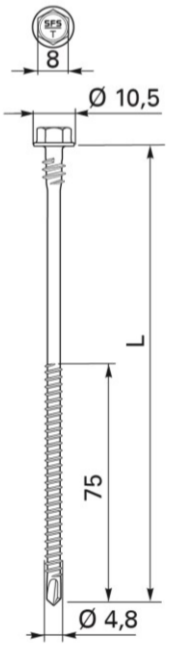
Deutsches Institut für Bautechnik DIBt

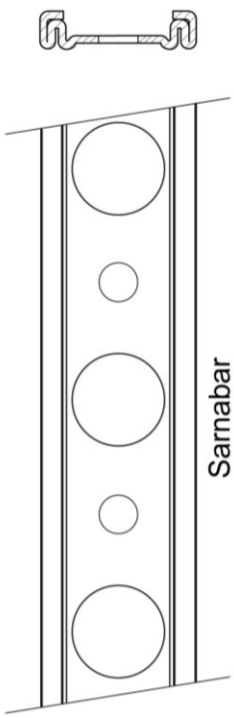
Combination 93A IR3-4,8 / Sarnabar	Combination 93B TI-6,3 / Sarnabar

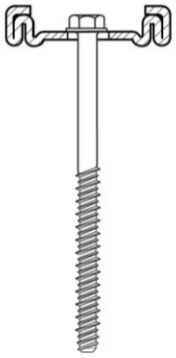




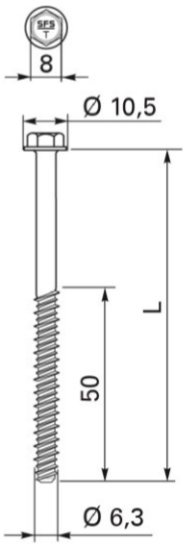
IR3-4,8







TI-6,3

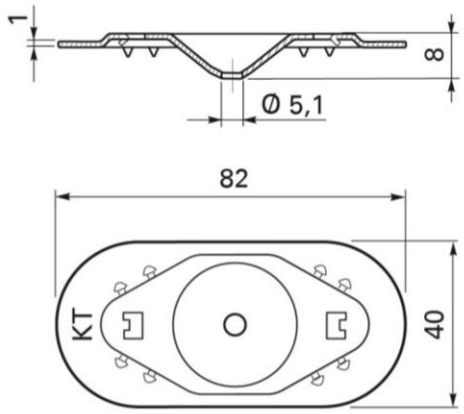


SFS intec flat roof fasteners	**Annex 93**

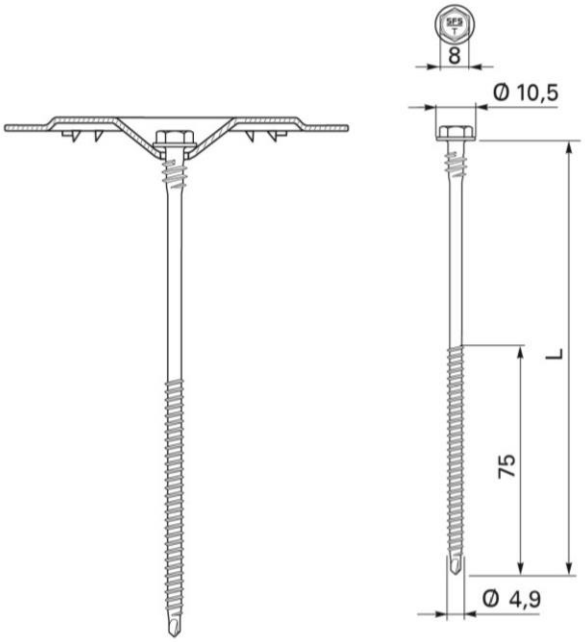
Deutsches Institut für Bautechnik DIBt

Combination 94A IR2-4,8 / Sarnafast KT-82x40	Combination 94B BSF-N-6,1 / RH45

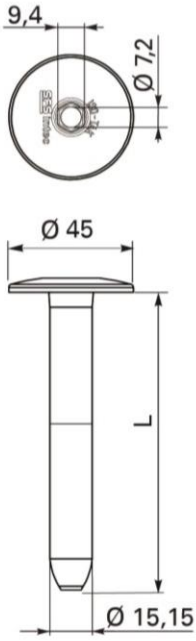
Sarnafast KT-82x40



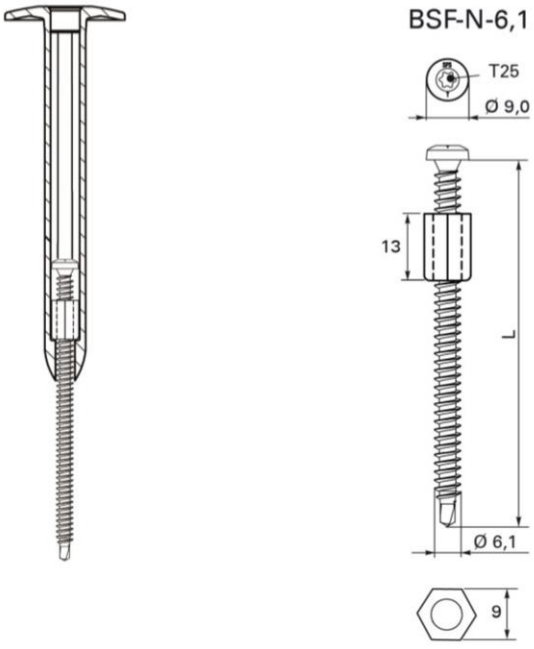
IR2-4,8



RH45



BSF-N-6,1



SFS intec flat roof fasteners	Annex 94

SFS intec flat roof fasteners

Annex 95

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures														
			Steel sheets S320GD [1] EN 10346 t ≥ [mm]									Steel sheets S350GD EN 10346 t ≥ [mm]		Steel sheets S420GD EN 10346 t ≥ [mm]		Perforated Steel sheets S320GD EN 10346	Aluminium sheets $R_m \geq 195$ N/mm²
	Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	0,70	1,00	0,65	0,75	t ≥ 0,75 mm	t ≥ 0,60 mm
1A	IR2-4,8	IR-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
1B	IR2-4,8	IF-70x70	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
2A	IR2-S-4,8	IR-82x40	-	0,90	1,13	1,29	1,43	1,62	1,97	-	-	-	-	-	-	-	-
2B	IR3-4,8	IR-82x40	-	-	-	-	-	-	1,26	2,00	2,63	-	-	-	-	-	-
3A	IR2-C-4,8	IRC/W-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	2,83	-	1,44	2,27	1,39	1,74	-	-
3B	BS-4,8	RP45	-	1,09	1,23	1,23	1,23	1,23	1,23	1,23	-	1,23	1,23	1,23	1,23	-	-
4A	BS-4,8	R45	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
4B	BS-4,8	R75	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
5A	BS-4,8	RP75	-	1,09	1,23	1,23	1,23	1,23	1,23	1,23	-	1,23	1,23	1,23	1,23	-	-
5B	BS-4,8	TPS	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
6A	BS-4,8	TPP	-	1,09	1,34	1,52	1,67	1,91	2,19	2,19	-	1,44	2,19	1,39	1,74	-	-
6B	BS-4,8	R48-3N	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
7A	BS-4,8	RP48-3N	-	1,09	1,16	1,16	1,16	1,16	1,16	1,16	-	1,16	1,16	1,16	1,16	-	-
7B	BS-4,8	SH-18/65 / Protan steelbar	-	1,03	1,03	1,03	1,03	1,03	1,03	1,03	-	1,03	1,03	1,03	1,03	-	-
8A	BS-S-4,8	RP45	-	0,87	1,09	1,23	1,23	1,23	1,23	-	-	-	-	-	-	-	-
8B	BS-S-4,8	TPP	-	0,87	1,09	1,24	1,38	1,61	1,96	-	-	-	-	-	-	-	-
9A	BS3-4,8	RP45	-	-	-	-	-	-	1,23	1,23	1,23	-	-	-	-	-	-
9B	BS-6,1	R45	-	1,17	1,38	1,42	1,42	1,42	1,42	1,42	-	1,42	1,42	1,42	1,42	-	-
10A	IFP2-6,7	IRP-82x40	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
10B	BS-6,7	R45	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-

[1] for steel sheets S280GD the values have to be reduced to 92%

SFS intec flat roof fasteners

Annex 96

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures														
			Steel sheets S320GD [1] EN 10346 t ≥ [mm]									Steel sheets S350GD EN 10346 t ≥ [mm]		Steel sheets S420GD EN 10346 t ≥ [mm]		Perforated Steel sheets S320GD EN 10346	Aluminium sheets $R_m \geq 195$ N/mm²
	Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	0,70	1,00	0,65	0,75	t ≥ 0,75 mm	t ≥ 0,60 mm
11A	BS-6,7	R75	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
11B	BS-6,7	TPS	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
12A	BS-S-6,7	R45	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
12B	BS-S-6,7	R75	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
13A	BS-S-6,7	TPS	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87	-
13B	TPR-L-6,3	IRD-82x40	0,99 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	0,69 [2]
28B	BS-4,8	Sarnafast Tube SFT-50	-	1,09	1,34	1,52	1,66	1,66	1,66	1,66	-	1,44	1,66	1,39	1,66	-	-
29A	BS-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	1,09	1,34	1,52	1,67	1,91	2,09	2,09	-	1,44	2,09	1,39	1,74	-	-
29B	BS-S-4,8	Sarnafast Tube SFT-50	-	0,87	1,09	1,24	1,38	1,61	1,66	-	-	-	-	-	-	-	-
30A	BS-S-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	0,87	1,09	1,24	1,38	1,61	1,96	-	-	-	-	-	-	-	-
30B	Sarnafast SF-4,8	Sarnafast KT-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
31A	Sarnafast SF-4,8	Sarnafast DT-70x70	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
31B	Sarnafast SBF-6,0	Sarnafast Tube SFT-50	-	1,17	1,38	1,53	1,63	1,66	1,66	1,66	-	1,58	1,66	1,57	1,66	-	-
32A	Sarnafast SBF-6,0	Sarnabar Tube SBT-20 / Sarnabar	-	1,17	1,38	1,53	1,63	1,80	2,04	2,10	-	1,58	2,10	1,57	1,92	-	-
35A	IF2-6,1	IRD-82x40	-	1,11	-	-	-	-	1,16	-	-	-	-	-	-	-	-
35B	IF2-6,1	ID-70x70	-	1,11	-	-	-	-	1,16	-	-	-	-	-	-	-	-
39A	BS-4,8	FI-P-6,8	-	1,09	1,34	1,52	1,67	1,91	2,27	2,29	-	1,44	2,27	1,39	1,74	-	-
39B	BS-S-4,8	FI-P-6,8	-	0,87	1,09	1,24	1,38	1,61	1,96	-	-	-	-	-	-	-	-
40B	BS-6,1	FI-P-6,8	-	1,17	1,38	1,53	1,63	1,80	2,04	2,83	-	1,58	2,19	1,57	1,92	-	-
44B	Sarnafast SBF-6,0	FI-P-6,8	-	1,17	1,38	1,53	1,63	1,80	2,04	2,83	-	1,58	2,19	1,57	1,92	-	-

[1] for steel sheets S280GD the values have to be reduced to 92%

[2] predrill-diameter = 7,0 mm

SFS intec flat roof fasteners

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures														
			Steel sheets S320GD [1] EN 10346 t ≥ [mm]									Steel sheets S350GD EN 10346 t ≥ [mm]		Steel sheets S420GD EN 10346 t ≥ [mm]		Perforated Steel sheets S320GD EN 10346	Aluminium sheets $R_m \geq 195$ N/mm²
	Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	0,70	1,00	0,65	0,75	t ≥ 0,75 mm	t ≥ 0,60 mm
45A	Sarnafast SBF-S-6,0	FI-P-6,8	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
46A	BS-4,8	FI-P-16,0 / FI-R-20	-	1,09	1,34	1,52	1,67	1,91	2,21	2,21	-	1,44	2,21	1,39	1,74	-	-
46B	BS-S-4,8	FI-P-16,0 / FI-R-20	-	0,87	1,09	1,24	1,38	1,61	1,96	-	-	-	-	-	-	-	-
47B	BS-6,1	FI-P-16,0 / FI-R-20	-	1,17	1,38	1,53	1,63	1,80	2,04	2,17	-	1,58	2,17	1,57	1,92	-	-
49B	Sarnafast SBF-6,0	FI-P-16,0 / FI-R-20	-	1,17	1,38	1,53	1,63	1,80	2,04	2,17	-	1,58	2,17	1,57	1,92	-	-
50A	Sarnafast SBF-S-6,0	FI-P-16,0 / FI-R-20	-	1,21	1,47	1,66	1,81	2,04	2,17	-	-	-	-	-	-	-	-
51B	IRF-4,8	IRF-40x40	-	-	-	1,30	1,31	1,33	1,35	-	-	-	-	-	-	-	-
52A	IRF-4,8	IRF-64x64	-	-	-	1,30	1,31	1,33	1,35	-	-	-	-	-	-	-	-
52B	IRF-4,8	IRF-82x40	-	-	-	1,30	1,31	1,33	1,35	-	-	-	-	-	-	-	-
53A	IRF-4,8	IRF-40	-	-	-	1,30	1,31	1,33	1,35	-	-	-	-	-	-	-	-
53B	IRFP-6,3	IRFP-40x40	-	-	-	-	-	-	-	-	-	-	-	-	-	0,91 [2]	-
54A	IRFP-6,3	IRFP-64x64	-	-	-	-	-	-	-	-	-	-	-	-	-	0,91 [2]	-
54B	IRFP-6,3	IRFP-82x40	-	-	-	-	-	-	-	-	-	-	-	-	-	0,91 [2]	-
55A	IRFP-6,3	IRFP-40	-	-	-	-	-	-	-	-	-	-	-	-	-	0,91 [2]	-
56A	Sarnafast SBF-6,0	Isolfix SRT	-	1,17	1,38	1,42	1,42	1,42	1,42	1,42	-	1,42	1,42	1,42	1,42	-	-
56B	Sarnafast SBF-S-6,0	Isolfix SRT	-	1,21	1,42	1,42	1,42	1,42	1,42	-	-	-	-	-	-	-	-
57A	BS-6,7	Isolfix SRT	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87 [2]	-
57B	Sarnafast SBF-6,0	Sarnafast KTL-82x40	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	-	1,58	2,19	1,57	1,92	-	-
58A	Sarnafast SBF-6,0	Sarnafast DTL-70x70	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	-	1,58	2,19	1,57	1,92	-	-
58B	Sarnafast SBF-6,0	IF/IG-C-82x40	-	1,17	1,38	1,53	1,63	1,80	2,04	2,68	-	1,58	2,19	1,57	1,92	-	-

[1] for steel sheets S280GD the values have to be reduced to 92%

[2] triangular array of holes, hole diameter 5,0 mm, distance of holes 12,5 mm

Annex 97

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures														
			Steel sheets S320GD [1] EN 10346 t ≥ [mm]									Steel sheets S350GD EN 10346 t ≥ [mm]		Steel sheets S420GD EN 10346 t ≥ [mm]		Perforated Steel sheets S320GD EN 10346	Aluminium sheets $R_m \geq 195$ N/mm²
	Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	0,70	1,00	0,65	0,75	t ≥ 0,75 mm	t ≥ 0,60 mm
59A	Sarnafast SBF-S-6,0	Sarnafast KTL-82x40	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
59B	Sarnafast SBF-S-6,0	Sarnafast DTL-70x70	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
60A	Sarnafast SBF-S-6,0	IF/IG-C-82x40	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
60B	Sarnafast SBF-S-6,0	Sarnafast Tube SFT-50	-	1,21	1,47	1,66	1,66	1,66	1,66	-	-	-	-	-	-	-	-
61A	Sarnafast SBF-S-6,0	Sarnabar Tube SBT-20 / Sarnabar	-	1,21	1,47	1,66	1,81	2,04	2,10	-	-	-	-	-	-	-	-
61B	Sarnafast SBF-6,0	SBIW-70x70 / Sarnabar Tube SBT-20	-	1,17	1,38	1,53	1,63	1,80	2,04	2,10	-	1,58	2,10	1,57	1,92	-	-
63B	BS-4,8	ST-25	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
64B	TPR-L-6,3	IF/IG-C-82x40	0,99 [3]	-	-	-	-	-	-	-	-	-	-	-	-	-	0,69 [3]
65B	BS-4,8	NPP	-	1,09	1,34	1,45	1,45	1,45	1,45	1,45	-	1,44	1,45	1,39	1,45	-	-
66A	BS-S-4,8	NPP	-	0,87	1,09	1,24	1,38	1,45	1,45	-	-	-	-	-	-	-	-
66B	BS-4,8	NPS	-	1,09	1,34	1,38	1,38	1,38	1,38	1,38	-	1,38	1,38	1,38	1,38	-	-
67A	BS-6,7	NPS	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87 [2]	-
67B	BS-S-6,7	NPS	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87 [2]	-
70A	Sarnafast SBF-6,0	R75	-	1,17	1,38	1,42	1,42	1,42	1,42	1,42	-	1,42	1,42	1,42	1,42	-	-
70B	BS3-4,8	RP48-3N	-	-	-	-	-	-	1,16	1,16	1,16	-	-	-	-	-	-
71A	BS-4,8	MW-40-F	-	1,09	1,34	1,52	1,67	1,91	2,27	2,60	-	1,44	2,27	1,39	1,74	-	-
71B	BS-6,1	MW-40-F	-	1,17	1,38	1,53	1,63	1,80	2,04	2,91	-	1,58	2,19	1,57	1,92	-	-
72A	BS-4,8	IR-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
72B	BS-6,1	IRD-82x40	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	-	1,58	2,19	1,57	1,92	-	-
75A	Sarnafast SF-4,8	Sarnabar	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-

[1] for steel sheets S280GD the values have to be reduced to 92%
[2] triangular array of holes, hole diameter 5,0 mm, distance of holes 12,5 mm
[3] predrill-diameter = 7,0 mm

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures														
			Steel sheets S320GD [1] EN 10346 t ≥ [mm]									Steel sheets S350GD EN 10346 t ≥ [mm]		Steel sheets S420GD EN 10346 t ≥ [mm]		Perforated Steel sheets S320GD EN 10346	Aluminium sheets $R_m \geq 195$ N/mm²
	Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	0,70	1,00	0,65	0,75	t ≥ 0,75 mm	t ≥ 0,60 mm
75B	Sarnafast SBF-6,0	Sarnabar	-	1,17	1,38	1,53	1,63	1,80	2,04	2,91	-	1,58	2,19	1,57	1,92	-	-
76A	Sarnafast SBF-S-6,0	Sarnabar	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
76B	IR2-4,8	Sarnabar	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
81B	BS-S-6,1	FI-P-6,8	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
82A	BS-S-6,1	FI-P-16,0 / FI-R-20	-	1,21	1,47	1,66	1,81	2,04	2,17	-	-	-	-	-	-	-	-
85A	TPR-L-6,3	FI-P-6,8	0,99 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	0,69 [2]
87B	TPR-L-6,3	IL-C-82x40	0,99 [2]	-	-	-	-	-	-	-	-	-	-	-	-	-	0,69 [2]
88A	BS-4,8	IPF45 / FI-R-20	-	1,09	1,34	1,52	1,67	1,91	2,21	2,21	-	1,44	2,21	1,39	1,74	-	-
88B	BS-4,8	IPF45 / FI-R-20	-	1,09	1,34	1,52	1,67	1,91	2,21	2,21	-	1,44	2,21	1,39	1,74	-	-
89A	BS-4,8	Isolfast SQT	-	1,09	1,34	1,45	1,45	1,45	1,45	1,45	-	1,44	1,45	1,39	1,45	-	-
89B	Sarnafast SF-4,8	IF/IG-C-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-
90B	Sarnafast SBF-6,0	Sarnaweld disc 6,8	-	1,17	1,38	1,53	1,63	1,80	2,04	2,83	-	1,58	2,19	1,57	1,92	-	-
91A	Sarnafast SBF-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	-	1,17	1,38	1,53	1,63	1,80	2,04	2,17	-	1,58	2,17	1,57	1,92	-	-
91B	Sarnafast SBF-S-6,0	Sarnabar disc 6,8	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-
92A	Sarnafast SBF-S-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	-	1,21	1,47	1,66	1,81	2,04	2,17	-	-	-	-	-	-	-	-
92B	IR2-S-4,8	Sarnabar	-	0,90	1,13	1,29	1,43	1,62	1,97	-	-	-	-	-	-	-	-
93A	IR3-4,8	Sarnabar	-	-	-	-	-	-	1,26	2,00	2,63	-	-	-	-	-	-
94A	IR2-4,8	Sarnafast KT-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15		1,44	2,27	1,39	1,74	-	-
94B	BSF-N-6,1	RH45	-	1,17	1,38	1,53	1,54	1,54	1,54	1,54	-	1,54	1,54	1,54	1,54	-	-

[1] for steel sheets S280GD the values have to be reduced to 92%

[2] predrill-diameter = 7,0 mm

SFS intec flat roof fasteners

Annex 100

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures													
			Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520			
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
1A	IR2-4,8	IR-82x40	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
1B	IR2-4,8	IF-70x70	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
2A	IR2-S-4,8	IR-82x40	1,28	1,74	1,94	-	-	-	-	-	-	-	-	-	-
3A	IR2-C-4,8	IRC/W-82x40	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
3B	BS-4,8	RP45	1,23	1,23	1,23	-	-	-	-	-	-	-	-	-	-
4A	BS-4,8	R45	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-
4B	BS-4,8	R75	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-
5A	BS-4,8	RP75	1,23	1,23	1,23	-	-	-	-	-	-	-	-	-	-
5B	BS-4,8	TPS	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-
6A	BS-4,8	TPP	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
6B	BS-4,8	R48-3N	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-
7A	BS-4,8	RP48-3N	1,16	1,16	1,16	-	-	-	-	-	-	-	-	-	-
7B	BS-4,8	SH-18/65 / Protan steelbar	1,03	1,03	1,03	-	-	-	-	-	-	-	-	-	-
8A	BS-S-4,8	RP45	1,23	1,23	1,23	-	-	-	-	-	-	-	-	-	-
8B	BS-S-4,8	TPP	1,28	1,74	1,96	-	-	-	-	-	-	-	-	-	-
9B	BS-6,1	R45	1,32	1,42	1,42	0,72	1,42	32	5,0	0,35	0,58	75			
14A	IG-6,0	IRD-82x40	1,31	1,43	2,49	-	-	-	-	-	-	-	-	-	-
14B	TS-T25-6,0	R45	1,31	1,42	1,42	0,44	0,89	32	5,0	1,07	1,42	75	-	-	-
						1,42	1,42	50							
15A	IWF-5,2	MW-40-FH	1,35	1,74	1,74	-	-	-	-	-	-	-	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

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Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures

Combination	SFS intec flat roof fastener		Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
15B	IW-T-5,0	IRC/W-82x40	1,08	1,12	2,12	-	-	-	-	-	-	-	-	-	-
16A	IW-S-5,0	IRC/W-82x40	1,08	1,12	2,04	-	-	-	-	-	-	-	-	-	-
16B	LBS-S-T25-8,0	R45	-	-	-	-	-	-	-	0,93	1,43	60	-	-	-
17A	LBS-T25-8,0	MW-40-LBS	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-
17B	LBS-T25-8,0	R45	-	-	-	-	-	-	-	0,93	1,43	60	-	-	-
18A	LB45	-	-	-	-	-	-	-	-	1,44	1,44	65 [4]	-	-	-
18B	FB-S-T25-7,5	R45	-	-	-	-	-	-	-	-	-	-	0,59	50	4,8
19A	DT-4,8	IRD-82x40	-	-	-	2,40	2,56	25	4,8	-	-	-	-	-	-
19B	DT-4,8	IF/IG-C-82x40	-	-	-	2,40	2,68	25	4,8	-	-	-	-	-	-
20A	DT-4,8	IW-82x40	-	-	-	2,40	3,34	25	4,8	-	-	-	-	-	-
20B	DT-4,8	R45	-	-	-	1,39	1,39	25	4,8	-	-	-	-	-	-
21A	DT-S-4,8	IRD-82x40	-	-	-	2,56	2,56	25	4,8	-	-	-	-	-	-
21B	DT-S-4,8	IF/IG-C-82x40	-	-	-	2,65	2,68	25	4,8	-	-	-	-	-	-
22A	DT-S-4,8	R45	-	-	-	1,39	1,39	25	4,8	-	-	-	-	-	-
22B	DT-6,3	IRD-82x40	-	-	-	2,93	3,68	32	6,3	-	-	-	-	-	-
23A	DT-6,3	IF/IG-C-82x40	-	-	-	2,93	4,07	32	6,3	-	-	-	-	-	-
23B	DT-S-6,3	IRD-82x40	-	-	-	2,23	3,10	32	6,3	-	-	-	-	-	-
24A	DT-S-6,3	IF/IG-C-82x40	-	-	-	2,23	3,10	32	6,3	-	-	-	-	-	-
24B	TI-6,3	IRD-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,56	2,56	30							

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³
[4] pre-drill diameter = 15 mm

SFS intec flat roof fasteners

Annex 101

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SFS intec flat roof fastener

Characteristic axial loading resistance N_{Rk} [kN] for non-metallic substructures

Combination	Fastener	Stress Plate / Sleeve / Bar	Timber: OSB3 EN 300 t ≥ 18 mm [1]	Timber: Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Timber: Plywood EN 636 t ≥ 18 mm [3]	Concrete EN 206-1: C12/15	Concrete EN 206-1: C25/30	Concrete EN 206-1: setting depth ≥ [mm]	Concrete EN 206-1: pre-drill diameter [mm]	Aerated Concrete DIN 4223-1: P 3.3	Aerated Concrete DIN 4223-1: P 4.4	Aerated Concrete DIN 4223-1: setting depth ≥ [mm]	Pumice Panel EN 1520: LAC 6, D 1,0	Pumice Panel EN 1520: setting depth ≥ [mm]	Pumice Panel EN 1520: pre-drill diameter [mm]
25A	TI-6,3	IF/IG-C-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,73	3,79	30							
25B	TI-6,3	ID-70x70	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,73	3,79	30							
26A	TI-T25-6,3	R75	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
						1,42	1,42	30							
26B	TI-T25-6,3	TPS	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
						1,42	1,42	30							
27A	TI-T25-6,3	R48-3N	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
						1,42	1,42	30							
27B	TI-T25-6,3	R45	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
						1,42	1,42	30							
28A	TIA-T25-6,3	R45	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
28B	BS-4,8	Sarnafast Tube SFT-50	1,45	1,32	1,66	-	-	-	-	-	-	-	-	-	-
29A	BS-4,8	Sarnafast Tube SBT-20 / Sarnabar	1,45	1,32	2,09	-	-	-	-	-	-	-	-	-	-
29B	BS-S-4,8	Sarnafast Tube SFT-50	1,28	1,66	1,66	-	-	-	-	-	-	-	-	-	-
30A	BS-S-4,8	Sarnafast Tube SBT-20 / Sarnabar	1,28	1,74	1,96	-	-	-	-	-	-	-	-	-	-
30B	Sarnafast SF-4,8	Sarnafast KT-82x40	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
31A	Sarnafast SF-4,8	Sarnafast DT-70x70	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
31B	Sarnafast SBF-6,0	Sarnafast Tube SFT-50	1,32	1,66	1,66	0,72	1,45	32	5,0	0,35	0,58	75			

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm

[2] effective setting depth (penetration length of threaded part) ≥ 22 mm

[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

SFS intec flat roof fasteners

Annex 102

SFS intec flat roof fasteners

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures												
			Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
32A	Sarnafast SBF-6,0	Sarnabar Tube SBT-20 / Sarnabar	1,32	2,10	2,10	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
32B	TI-6,3	Sarnafast DTL-70x70	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,56	2,56	30							
33A	TI-T25-6,3	Sarnafast Tube SFT-50	-	-	-	1,66	1,66	20	5,0	-	-	-	-	-	-
						1,66	1,66	30							
33B	TI-T25-6,3	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,10	2,10	30							
34A	TI-S-Z10-6,3	R45	-	-	-	0,53	1,05	32	5,0	-	-	-	-	-	-
34B	TI-S-Z10-6,3	R75	-	-	-	0,53	1,05	32	5,0	-	-	-	-	-	-
35A	IF2-6,1	IRD-82x40	1,07	2,04	2,40	1,56	2,56	32	5,0	1,27	2,11	75	-	-	-
35B	IF2-6,1	ID-70x70	1,07	2,04	2,40	1,56	3,12	32	5,0	1,27	2,11	75	-	-	-
36A	FB-S-T25-7,5	IRD-82x40	-	-	-	-	-	-	-	-	-	-	0,59	50	4,8
36B	FB-S-T25-7,5	IF/IG-C-82x40	-	-	-	-	-	-	-	-	-	-	0,59	50	4,8
37A	FB-S-T25-7,5	R75	-	-	-	-	-	-	-	-	-	-	0,59	50	4,8
37B	IW-S-5,0	IW-82x40	1,08	1,12	2,04	-	-	-	-	-	-	-	-	-	-
38A	IW-T-5,0	IW-82x40	1,08	1,12	2,12	-	-	-	-	-	-	-	-	-	-
38B	IWF-5,2	IW-82x40	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-
39A	BS-4,8	FI-P-6,8	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
39B	BS-S-4,8	FI-P-6,8	1,28	1,74	1,96	-	-	-	-	-	-	-	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

Annex 103

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SFS intec flat roof fastener

Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures

Combination	Fastener	Stress Plate / Sleeve / Bar	Timber			Concrete EN 206-1					Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
			OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
40A	TI-T25-6,3	FI-P-6,8	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,73	2,83	30							
40B	BS-6,1	FI-P-6,8	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75			
41A	DT-4,8	FI-P-6,8	-	-	-	2,40	2,83	25	4,8	-	-	-	-	-	-
41B	DT-S-4,8	FI-P-6,8	-	-	-	2,65	2,83	25	4,8	-	-	-	-	-	-
42A	DT-6,3	FI-P-6,8	-	-	-	2,93	3,82	32	6,3	-	-	-	-	-	-
42B	DT-S-6,3	FI-P-6,8	-	-	-	2,23	3,10	32	6,3	-	-	-	-	-	-
43A	LBS-T25-8,0	FI-P-6,8	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-
43B	LBS-S-T25-8,0	FI-P-6,8	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-
44A	TS-T25-6,0	FI-P-6,8	1,31	1,43	2,30	0,44	0,89	32	5,0	1,07	1,78	75	-	-	-
						2,83	2,83	50							
44B	Sarnafast SBF-6,0	FI-P-6,8	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
45A	Sarnafast SBF-S-6,0	FI-P-6,8	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
45B	FB-S-T25-7,5	FI-P-6,8	-	-	-	-	-	-	-	-	-	-	0,59	50	4,8
46A	BS-4,8	FI-P-16,0 / FI-R-20	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
46B	BS-S-4,8	FI-P-16,0 / FI-R-20	1,28	1,74	1,96	-	-	-	-	-	-	-	-	-	-
47A	TI-T25-6,3	FI-P-16,0 / FI-R-20	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,17	2,17	30							
47B	BS-6,1	FI-P-16,0 / FI-R-20	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
48A	DT-4,8	FI-P-16,0 / FI-R-20	-	-	-	2,17	2,17	25	4,8	-	-	-	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

SFS intec flat roof fasteners

Annex 104

SFS intec flat roof fasteners

Annex 105

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures													
			Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520			
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
48B	DT-S-4,8	FI-P-16,0 / FI-R-20	-	-	-	2,17	2,17	25	4,8	-	-	-	-	-	-
49A	TS-T25-6,0	FI-P-16,0 / FI-R-20	1,31	1,43	2,17	0,44	0,89	32	5,0	1,07	1,78	75	-	-	-
						2,17	2,17	50							
49B	Sarnafast SBF-6,0	FI-P-16,0 / FI-R-20	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
50A	Sarnafast SBF-6,0	FI-P-16,0 / FI-R-20	1,25	2,02	2,17	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
50B	TIA-T25-6,3	FI-P-16,0 / FI-R-20	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
51A	TIA-T25-6,3	FI-R-20 / Sarnabar	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
55B	TI-T25-6,3	Isolfix SRT	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-
						1,42	1,42	30							
56A	Sarnafast SBF-6,0	Isolfix SRT	1,32	1,42	1,42	0,72	1,42	32	5,0	0,35	0,58	75	-	-	-
56B	Sarnafast SBF-S-6,0	Isolfix SRT	1,25	1,42	1,42	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
57B	Sarnafast SBF-6,0	Sarnafast KTL-82x40	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
58A	Sarnafast SBF-6,0	Sarnafast DTL-70x70	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
58B	Sarnafast SBF-6,0	IF/IG-C-82x40	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
59A	Sarnafast SBF-S-6,0	Sarnafast KTL-82x40	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
59B	Sarnafast SBF-S-6,0	Sarnafast DTL-70x70	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
60A	Sarnafast SBF-S-6,0	IF/IG-C-82x40	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
60B	Sarnafast SBF-S-6,0	Sarnabar Tube SFT-50	1,25	1,66	1,66	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
61A	Sarnafast SBF-S-6,0	Sarnabar Tube SBT-20 / Sarnabar	1,25	2,02	2,10	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
61B	Sarnafast SBF-6,0	SBIW-70x70 / Sarnabar Tube SBT-20	1,32	2,10	2,10	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures													
			Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520			
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]	
62A	TIF-N-6,3	RH45	-	-	-	1,54	1,54	20	5,0	-	-	-	-	-	-	
62B	TIA-T25-6,3	R75	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
63A	TIA-T25-6,3	ST-25	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
63B	BS-4,8	ST-25	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-	
64A	TI-T25-6,3	ST-25	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
						1,42	1,42	30								
65A	LBS-S-T25-8,0	IF/IG-C-82x40	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
65B	BS-4,8	NPP	1,45	1,32	1,45	-	-	-	-	-	-	-	-	-	-	
66A	BS-S-4,8	NPP	1,28	1,45	1,45	-	-	-	-	-	-	-	-	-	-	
66B	BS-4,8	NPS	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-	
68A	TI-T25-6,3	NPS	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
						1,42	1,42	30								
68B	TIA-T25-6,3	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-	
69A	IWF-5,2	MW-40-F	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-	
69B	IWF-5,2	MW-40-R	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-	
70A	Sarnafast SBF-6,0	R75	1,32	1,42	1,42	0,72	1,42	32	5,0	0,35	0,58	75	-	-	-	
71A	BS-4,8	MW-40-F	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
71B	BS-6,1	MW-40-F	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	
72A	BS-4,8	IR-82x40	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
72B	BS-6,1	IRD-82x40	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

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Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures

Combination	SFS intec flat roof fastener		Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
73A	TI-T25-6,3	MW-40-F	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,73	3,34	30							
73B	TS-T25-6,0	MW-40-F	1,31	1,43	2,30	0,44	0,89	32	5,0	1,07	1,78	75	-	-	-
						3,07	3,34	50							
74A	TI-T25-6,3	IRD-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-
						2,56	2,56	30							
74B	IWF-5,2	IR-82x40	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-
75A	Sarnafast SF-4,8	Sarnabar	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
75B	Sarnafast SBF-6,0-	Sarnabar	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-
76A	Sarnafast SBF-S-6,0-	Sarnabar	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-
76B	IR2-4,8	Sarnabar	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-
77A	DT-4,8	Sarnabar	-	-	-	2,40	3,34	25	4,8	-	-	-	-	-	-
77B	DT-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	2,10	2,10	25	4,8	-	-	-	-	-	-
78A	DT-S-4,8	Sarnabar	-	-	-	2,65	3,69	25	4,8	-	-	-	-	-	-
78B	DT-S-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	2,10	2,10	25	4,8	-	-	-	-	-	-
79A	DT-6,3	Sarnabar	-	-	-	2,93	4,07	32	6,3	-	-	-	-	-	-
79B	DT-S-6,3	Sarnabar	-	-	-	2,23	3,10	32	6,3	-	-	-	-	-	-
80A	IW-S-5,0	Sarnabar	1,08	1,12	2,04	-	-	-	-	-	-	-	-	-	-
80B	IW-T-5,0	Sarnabar	1,08	1,12	2,12	-	-	-	-	-	-	-	-	-	-
81A	LBS-S-T25-8,0	Sarnabar	-	-	-	-	-	-	-	0,93	1,43	60	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

SFS intec flat roof fasteners

Annex 107

SFS intec flat roof fasteners

Annex 108

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures													
			Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520			
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]	
81B	BS-S-6,1	FI-P-6,8	1,25	2,02	2,22	-	-	-	-	-	-	-	-	-	-	
82A	BS-S-6,1	FI-P-16,0 / FI-R-20	1,25	2,02	2,17	-	-	-	-	-	-	-	-	-	-	
82B	LBS-S-T25-8,0	IRD-82x40	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
83A	LBS-T25-8,0	IRD-82x40	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
83B	LBS-T25-8,0	IF/IG-C-82x40	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
84A	IWF-5,2	FI-P-6,8	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-	
84B	IW-S-5,0	FI-P-6,8	1,08	1,12	2,04	-	-	-	-	-	-	-	-	-	-	
85B	DT-4,8	ID-70x70	-	-	-	2,40	2,56	25	4,8	-	-	-	-	-	-	
86A	DT-6,3	ID-70x70	-	-	-	2,93	3,68	32	6,3	-	-	-	-	-	-	
86B	DT-4,8	R75	-	-	-	1,39	1,39	25	4,8	-	-	-	-	-	-	
87A	DT-S-4,8	R75	-	-	-	1,39	1,39	25	4,8	-	-	-	-	-	-	
88A	BS-4,8	IPF45 / FI-R-20	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
88B	BS-4,8	IPF45 / FI-R-20	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
89A	BS-4,8	Isolfast SQT	1,45	1,32	1,45	-	-	-	-	-	-	-	-	-	-	
89B	Sarnafast SF-4,8	IF/IG-C-82x40	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
90A	LBS-T25-8,0	Sarnabar	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
90B	Sarnafast SBF-6,0	Sarnaweld disc 6,8	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	
91A	Sarnafast SBF-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	
91B	Sarnafast SBF-S-6,0	Sarnaweld disc 6,8	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-	
92A	Sarnafast SBF-S-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	1,25	2,02	2,17	0,42	0,84	32	5,0	0,82	1,37	75	-	-	-	

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm

[2] effective setting depth (penetration length of threaded part) ≥ 22 mm

[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

Deutsches Institut für Bautechnik

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Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures

Combination	SFS intec flat roof fastener		Timber			Concrete EN 206-1					Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
	Fastener	Stress Plate / Sleeve / Bar	OSB3 EN 300 t ≥ 18 mm [1]	Structural Timber EN 338 / C24 t ≥ 22 mm [2]	Plywood EN 636 t ≥ 18 mm [3]	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]		P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]
92B	IR2-S-4,8	Sarnabar	1,28	1,74	1,94	-	-	-	-		-	-	-	-	-	-
93B	TI-6,3	Sarnabar	-	-	-	1,83	1,83	20	5,0		-	-	-	-	-	-
						2,73	3,79	30								
94A	IR2-4,8	Sarnafast KT-82x40	1,45	1,32	2,18	-	-	-	-		-	-	-	-	-	-
94B	BSF-N-6,1	RH45	1,32	1,54	1,54	-	-	-	-		-	-	-	-	-	-

[1] effective setting depth (penetration length of threaded part) ≥ 18 mm
[2] effective setting depth (penetration length of threaded part) ≥ 22 mm
[3] effective setting depth (penetration length of threaded part) ≥ 18 mm; minimum density = 400 kg/m³

SFS intec flat roof fasteners | **Annex 109**