

Zulassungsstelle für Bauprodukte und Bauarten

Bautechnisches Prüfamt

Eine vom Bund und den Ländern
gemeinsam getragene Anstalt des öffentlichen Rechts



Europäische Technische Bewertung

ETA-08/0262
vom 17. Oktober 2017

Allgemeiner Teil

Technische Bewertungsstelle, die
die Europäische Technische Bewertung
ausstellt

Handelsname des Bauprodukts

Produktfamilie,
zu der das Bauprodukt gehört

Hersteller

Herstellungsbetrieb

Diese Europäische Technische Bewertung
enthält

Diese Europäische Technische Bewertung
wird ausgestellt gemäß der Verordnung (EU)
Nr. 305/2011, auf der Grundlage von

Diese Fassung ersetzt

Deutsches Institut für Bautechnik

SFS intec Flachdachbefestigungselemente

Befestigungselemente für Dachabdichtungssysteme

SFS intec AG
FasteningSystems
Rosenbergsaustraße 10
9435 HEERBRUGG
SCHWEIZ

Werke der SFS intec AG

114 Seiten, davon 109 Anhänge, die fester Bestandteil
dieser Bewertung sind.

ETAG 006,
verwendet als EAD gemäß Artikel 66 Absatz 3 der
Verordnung (EU) Nr. 305/2011

ETA-08/0262 vom 25. April 2013

Die Europäische Technische Bewertung wird von der Technischen Bewertungsstelle in ihrer Amtssprache ausgestellt. Übersetzungen dieser Europäischen Technischen Bewertung in andere Sprachen müssen dem Original vollständig entsprechen und müssen als solche gekennzeichnet sein.

Diese Europäische Technische Bewertung darf, auch bei elektronischer Übermittlung, nur vollständig und ungekürzt wiedergegeben werden. Nur mit schriftlicher Zustimmung der ausstellenden Technischen Bewertungsstelle kann eine teilweise Wiedergabe erfolgen. Jede teilweise Wiedergabe ist als solche zu kennzeichnen.

Die ausstellende Technische Bewertungsstelle kann diese Europäische Technische Bewertung widerrufen, insbesondere nach Unterrichtung durch die Kommission gemäß Artikel 25 Absatz 3 der Verordnung (EU) Nr. 305/2011.

Besonderer Teil

1 Technische Beschreibung des Produkts

Bei den Bauprodukten handelt es sich um mechanische Befestigungselemente. Die Befestigungselemente bestehen aus einer Schraube, einem Blindniet oder einem Dübel aus beschichtetem Stahl, Aluminium oder nichtrostendem Stahl und einem Halteteller oder Halteschiene. Die Halteteller sind mit oder ohne Hülse. Die Halteschienen und Halteteller ohne Hülse werden aus beschichtetem Stahl und die Halteteller mit Hülse werden aus Polypropylen oder Polyamid hergestellt.

Die Befestigungselemente sind in den Anhängen zu dieser ETA dargestellt.

2 Spezifizierung des Verwendungszwecks gemäß dem anwendbaren Europäischen Bewertungsdokument

Die Befestigungselemente sind für die Befestigung von Dachabdichtungsbahnen nach ETAG 006 vorgesehen. Mögliche Unterkonstruktionen sind Stahl- oder Aluminiumtrapezprofile, Beton, Porenbeton, Bimsleichtbeton oder Holz.

Von den Leistungen in Abschnitt 3.2 kann nur ausgegangen werden, wenn die mechanischen Befestigungselemente entsprechend den Angaben und unter den Randbedingungen nach den Abschnitten 3.1 und 3.3 und den Anhängen zu dieser ETA verwendet werden.

Die Prüf- und Bewertungsmethoden, die dieser ETA zu Grunde liegen, führen zur Annahme einer Nutzungsdauer der Befestigungselemente von mindestens 10 Jahren. Die Angaben zur Nutzungsdauer können nicht als Garantie des Herstellers ausgelegt werden, sondern sind lediglich ein Hilfsmittel zur Auswahl der richtigen Produkte im Hinblick auf die erwartete wirtschaftlich angemessene Nutzungsdauer des Bauwerks.

Für die Verwendung der Befestigungselemente für mechanisch zu befestigende Dachabdichtungssysteme nach ETAG 006 ist eine gesonderte ETA für das gesamte Dachabdichtungssystem erforderlich. Die System-ETA umfasst sowohl den Windsogwiderstand des Gesamtsystems als auch die Produkteigenschaften der Systemkomponenten.

3 Leistung des Produkts und Angabe der Methoden ihrer Bewertung

3.1 Merkmale des Produkts

Die Befestigungselemente müssen den Angaben in den Anhängen 1 bis 94 entsprechen.

Die Korrosionsbeständigkeit der Nietdorne der Blindniete vom Typ TPR-L ist durch eine galvanische Verzinkung mit mindestens 8 µm Dicke sicherzustellen.

Die Werkstoffeigenschaften, Abmessungen und Toleranzen, die nicht in den Anhängen 1 bis 94 angegeben sind, müssen mit den Angaben in der Technischen Dokumentation¹ zu dieser europäischen technischen Bewertung übereinstimmen.

3.2 Sicherheit und Barrierefreiheit bei der Nutzung (BWR 4)

Wesentliches Merkmal	Leistung
Charakteristische Zugtragfähigkeit	Siehe Anhänge 95 bis 109
Widerstand gegen Rückdrehen	erfüllt
Korrosionswiderstand von Befestigungselementen aus Metall	erfüllt; ≤ 15 % Oberflächenkorrosion

¹ Die technische Dokumentation dieser europäischen technischen Bewertung ist beim Deutschen Institut für Bautechnik hinterlegt und, soweit diese für die Aufgaben der in das Verfahren der Konformitätsbescheinigung eingeschalteten zugelassenen Stellen bedeutsam ist, den zugelassenen Stellen auszuhändigen.

Wesentliches Merkmal	Leistung
Stoßfestigkeit und Sprödigkeit von Befestigungselementen aus Kunststoff (vor und nach Wärmealterung)	erfüllt; Fallhöhe > 1,0 m
Anforderungen an die Ergebnisse von Charpy Versuchen an Kunststoffproben (vor und nach Wärmealterung)	erfüllt; keine wesentlichen Abweichungen im Vergleich zu Ergebnissen vor Wärmealterung

Die in den Tabellen der charakteristischen Zugtragfähigkeiten (Anhänge 95 bis 109) angeführten Materialstärken und –festigkeiten sind Mindestanforderungen. Die angegebenen Werte sind ebenfalls für Materialien mit höheren Stärken und Festigkeiten anwendbar. Die in den Anhängen 95 bis 109 angegebenen Werte der Zugtragfähigkeit wurden durch Zugversuche nach ETAG 006 ermittelt.

Die Befestigungselemente erfüllen die in ETAG 006 festgelegten Anforderungen an das Rückdrehverhalten. Dies wurde auf der Grundlage der vorliegenden praktischen Erfahrungen der Hersteller beurteilt.

Die Anforderungen an die Dauerhaftigkeit nach ETAG 006 (Korrosionswiderstand von Befestigungselementen aus Metall, Stoßfestigkeit und Sprödigkeit von Befestigungselementen aus Kunststoff vor und nach Wärmealterung, Anforderungen an die Ergebnisse von Charpy-Versuchen an Kunststoffproben vor und nach Wärmealterung) werden für alle Komponenten der Befestigungselemente aus beschichtetem Stahl, Aluminium, nichtrostendem Stahl, Polypropylen und Polyamid erfüllt.

Sämtliche Komponenten aus beschichtetem Stahl widerstanden den 15 Zyklen des in ETAG 006 beschriebenen Versuchs (Kesternichversuch) und wiesen maximal 15 % Oberflächenkorrosion auf.

Die Ergebnisse der Versuche zur Überprüfung der Stoßfestigkeit und Sprödigkeit der Komponenten aus Polyamid zeigten eine Fallhöhe von mehr als 1,0 m vor und nach Wärmealterung dieser Komponenten. Des Weiteren ergaben die Ergebnisse der zugehörigen Charpy-Versuche nach Wärmealterung keine wesentlichen Abweichungen im Vergleich zu den Ergebnissen vor Wärmealterung.

3.3 Vorgaben für den Einbau

Der Einbau erfolgt ausschließlich nach Angaben des Herstellers. Beim Zusammenbau von Haltetellern oder Halteschienen mit den Befestigungsschrauben dürfen die Gewindebereiche der Schrauben, die in die Unterkonstruktion eindringen, nicht beschädigt werden. Der Hersteller übergibt die Montageanweisung an die ausführende Firma. Die Übereinstimmung der eingebauten Befestigungselemente mit den Bestimmungen dieser europäischen technischen Bewertung wird durch die ausführende Firma bestätigt.

Der Hersteller hat sicherzustellen, dass die Anforderungen entsprechend den Abschnitten 1, 2, 3.1 und 3.2 den betroffenen Kreisen bekannt gemacht werden. Das kann z. B. durch Übergabe von Kopien der ETA erfolgen. Zusätzlich sind alle für den Einbau relevanten Angaben eindeutig auf der Verpackung oder auf einer beigefügten Beschreibung anzugeben. Vorzugsweise sollten dafür Abbildungen verwendet werden.

4 Angewandtes System zur Bewertung und Überprüfung der Leistungsbeständigkeit mit der Angabe der Rechtsgrundlage

Gemäß der Europäischen Technischen Leitlinie ETAG 006 gilt folgende Rechtsgrundlage: 1998/143/EG.

Folgendes System ist anzuwenden: 2+

5 Für die Durchführung des Systems zur Bewertung und Überprüfung der Leistungsbeständigkeit erforderliche technische Einzelheiten gemäß anwendbarem Europäischen Bewertungsdokument

Technische Einzelheiten, die für die Durchführung des Systems zur Bewertung und Überprüfung der Leistungsbeständigkeit notwendig sind, sind Bestandteil des Prüf- und Überwachungsplans, der beim Deutschen Institut für Bautechnik hinterlegt ist.

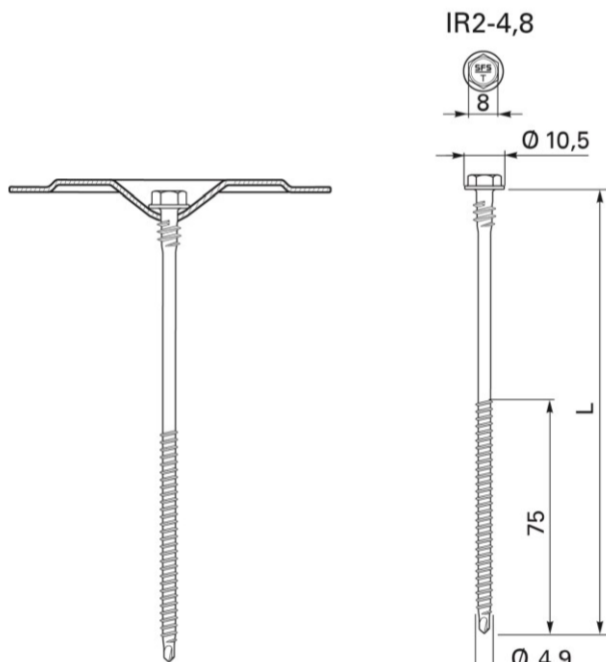
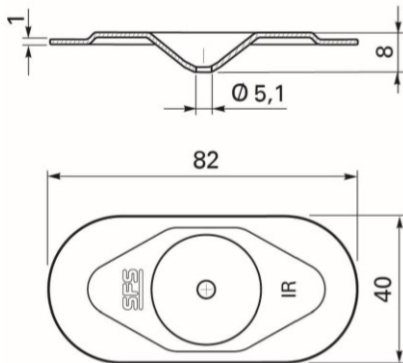
Ausgestellt in Berlin am 17. Oktober 2017 vom Deutschen Institut für Bautechnik

Dr.-Ing. Lars Eckfeldt
i. V. Abteilungsleiter

Beglaubigt

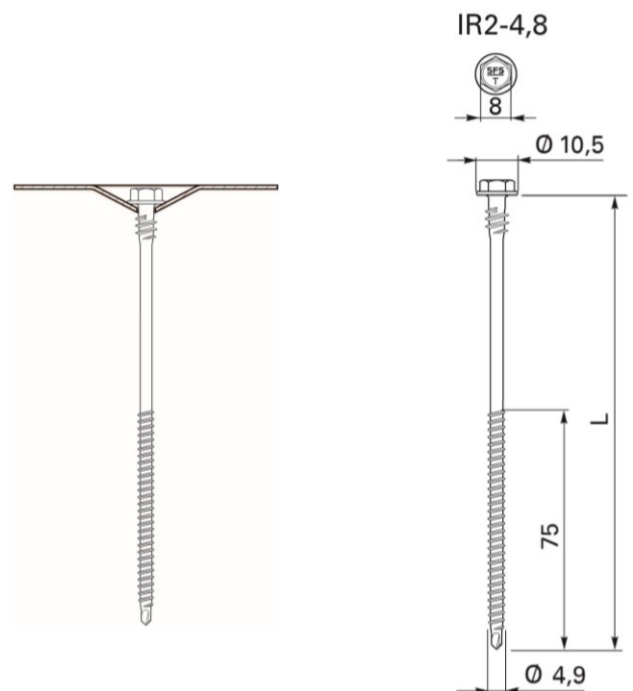
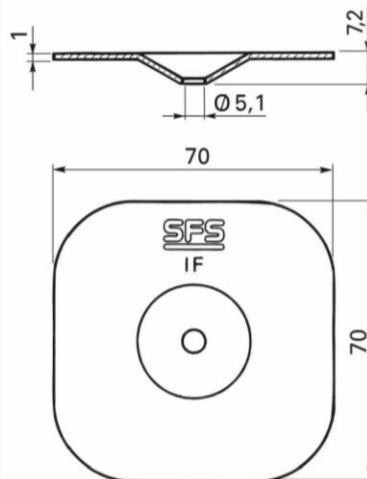
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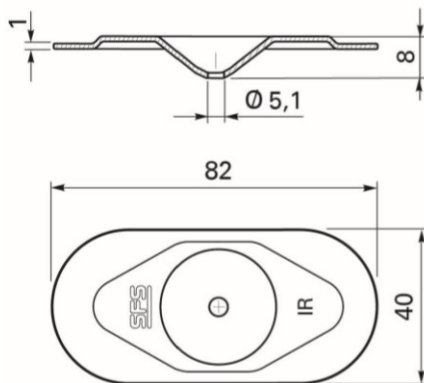
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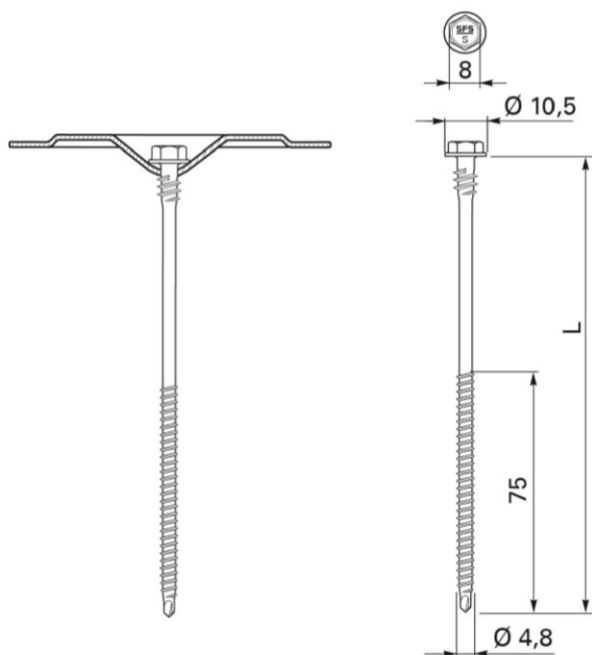


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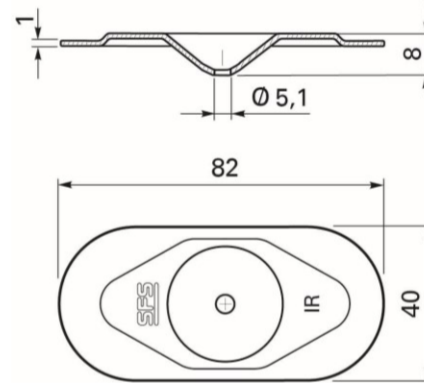


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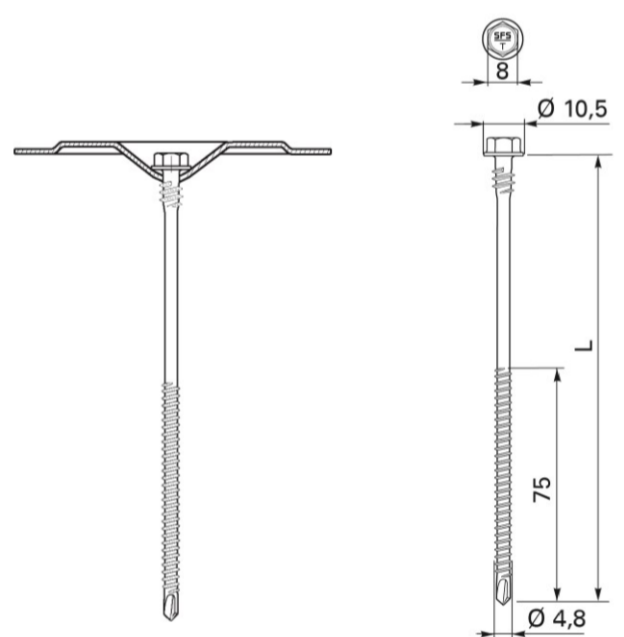


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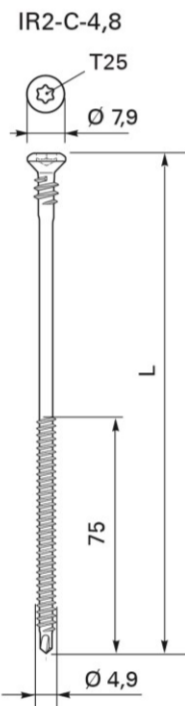
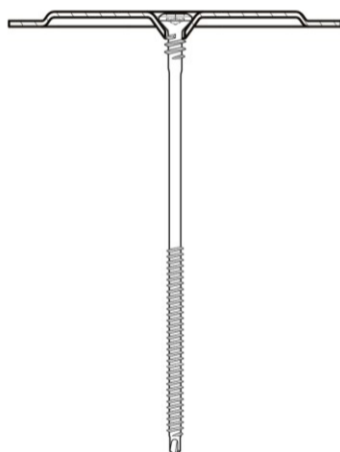
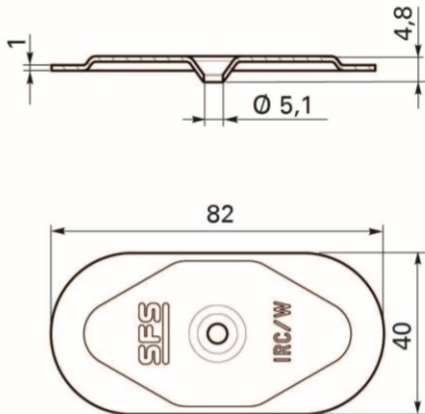


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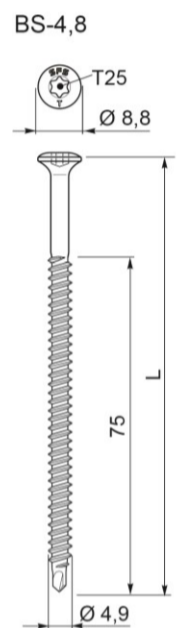
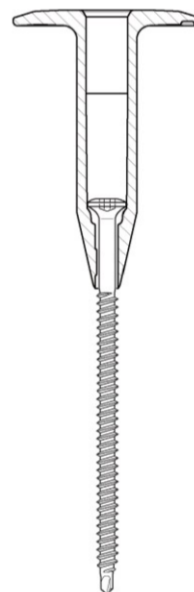
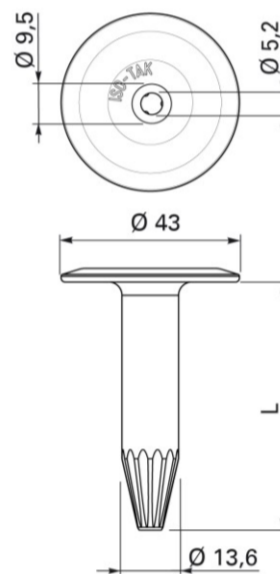
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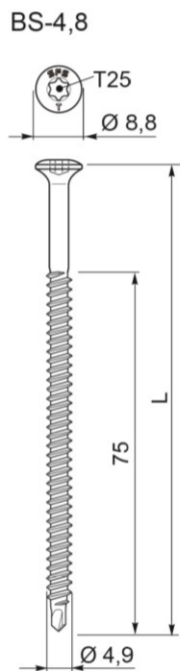
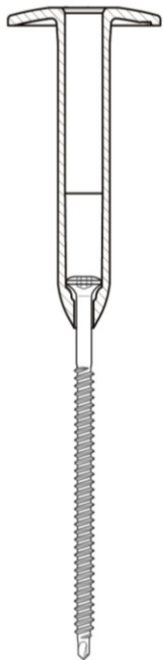
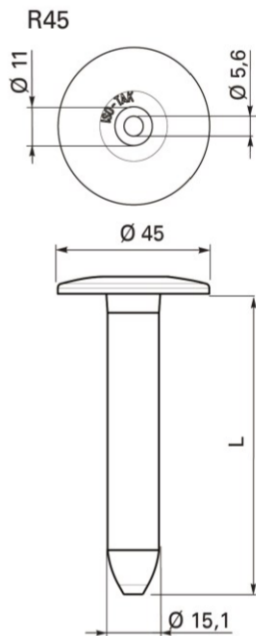


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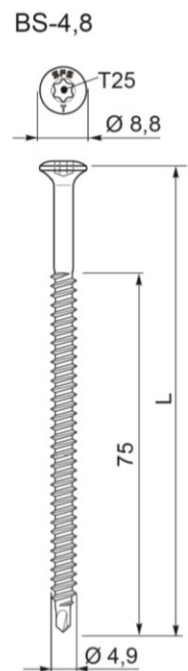
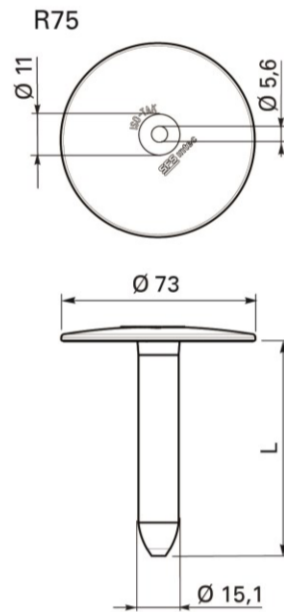
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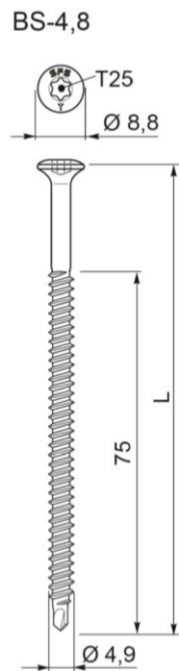
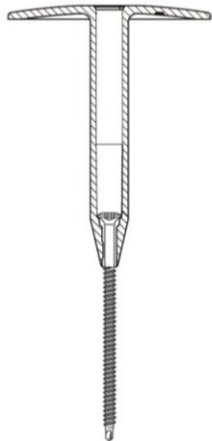
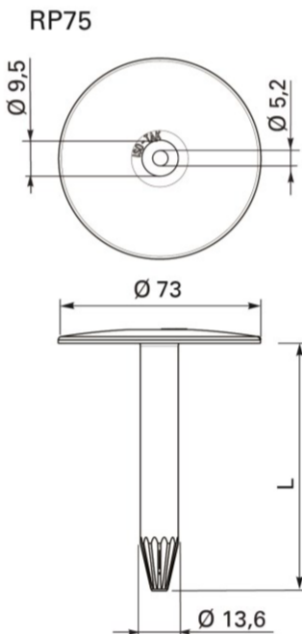
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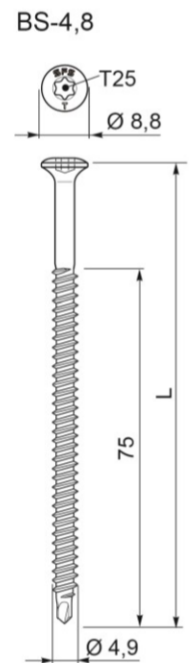
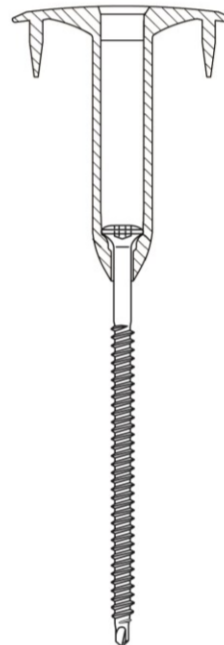
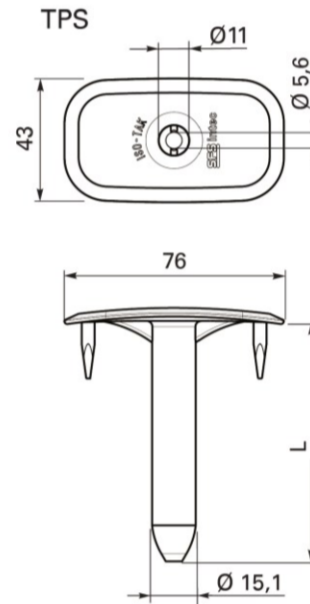
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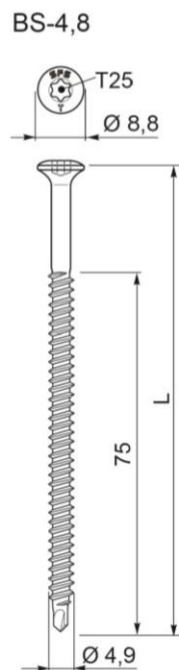
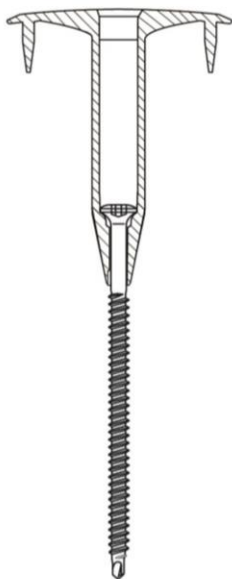
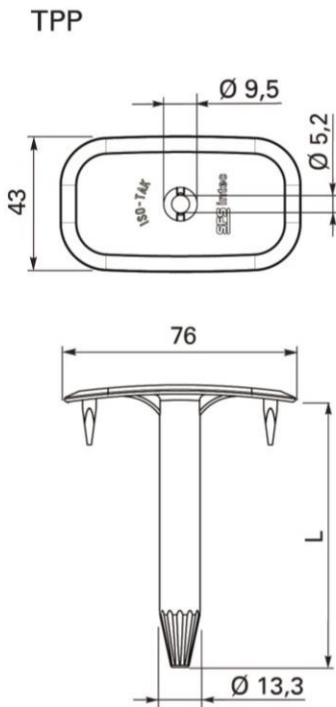
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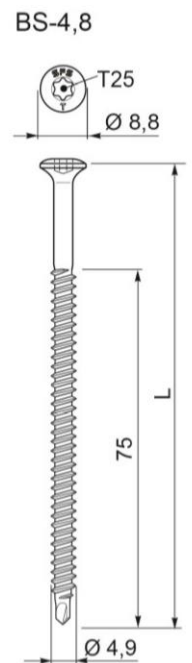
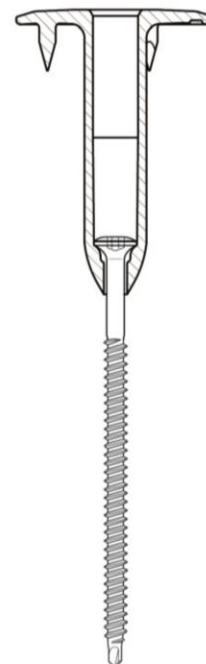
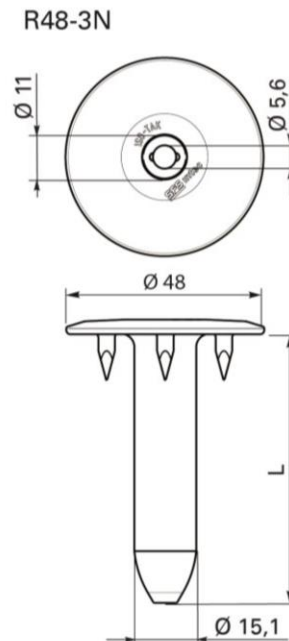
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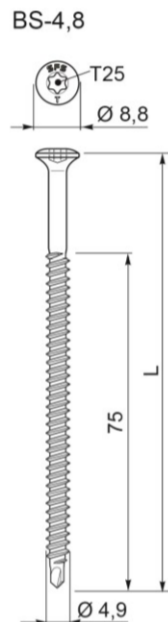
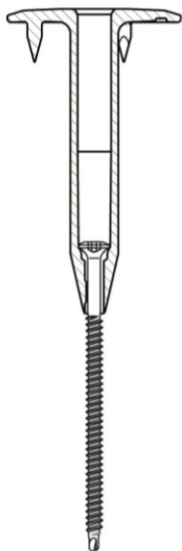
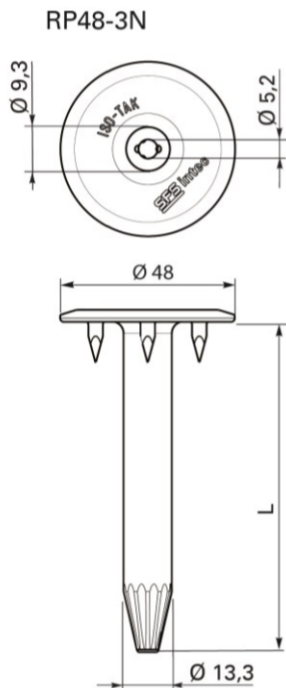
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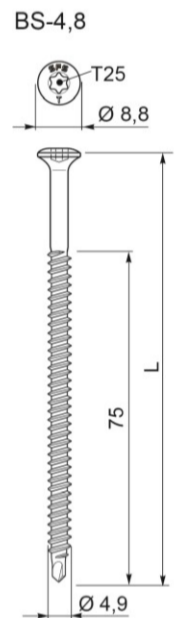
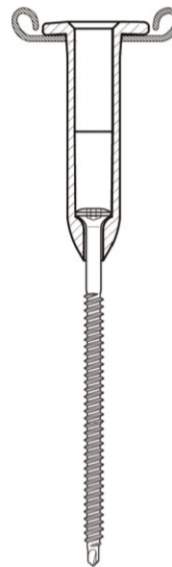
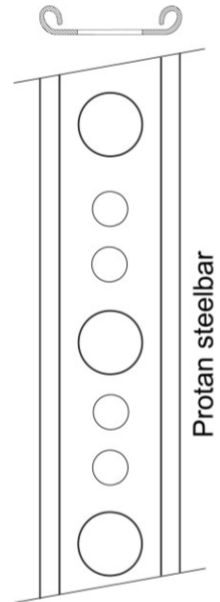
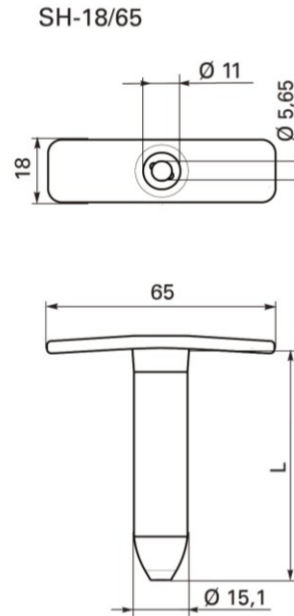
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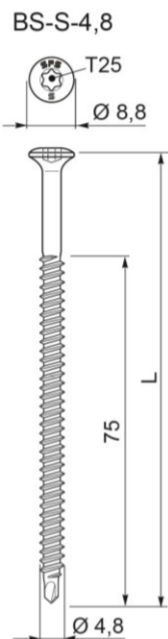
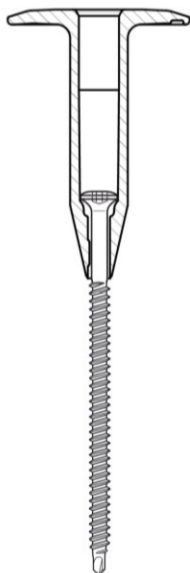
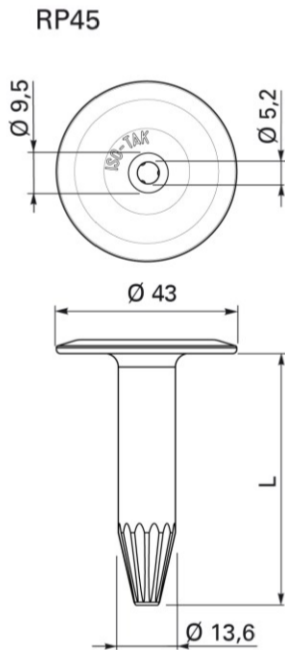
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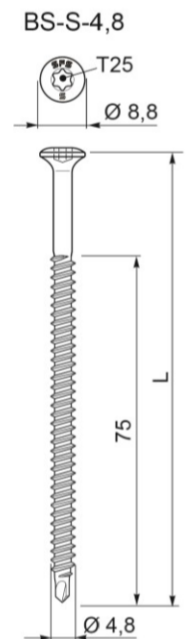
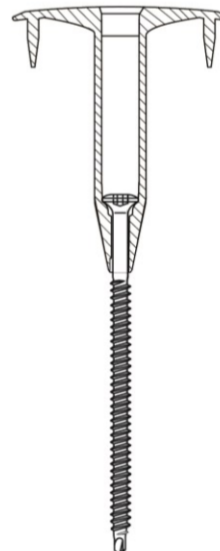
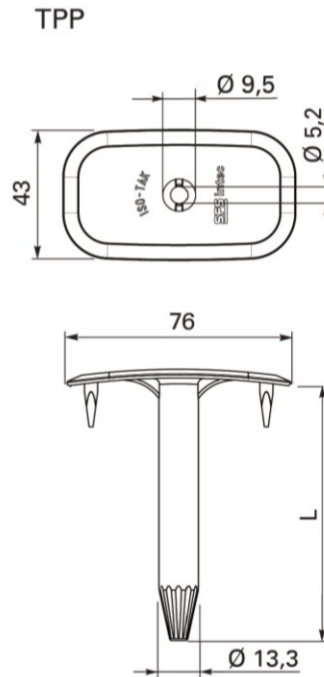
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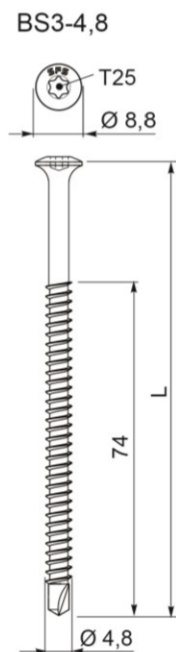
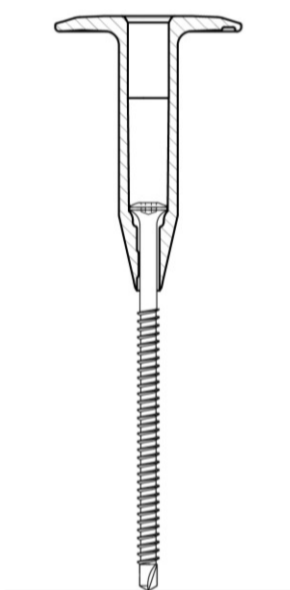
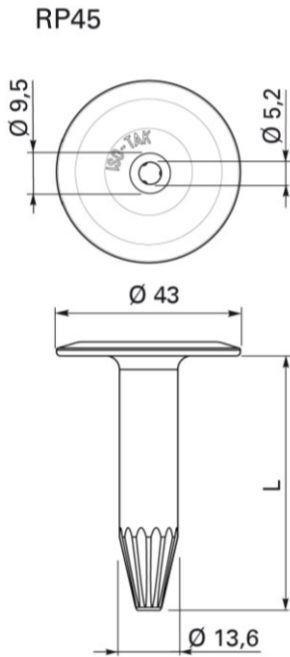
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BS-S-4,8 / RP45



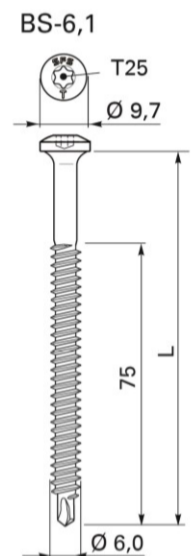
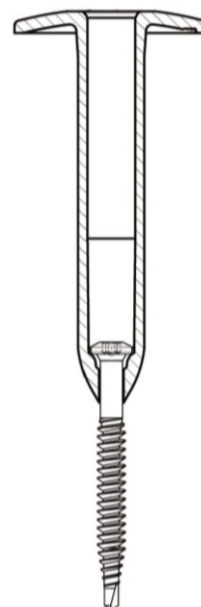
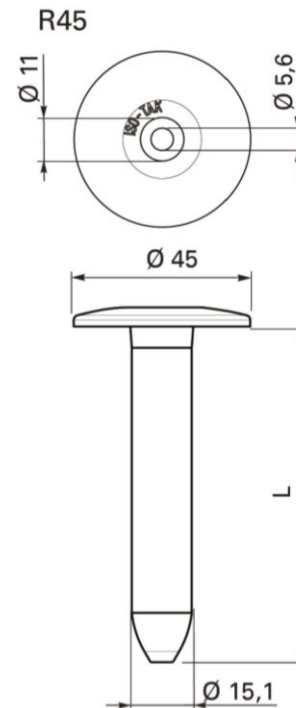
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BS-S-4,8 / TPP



Kombination 9A
BS3-4,8 / RP45

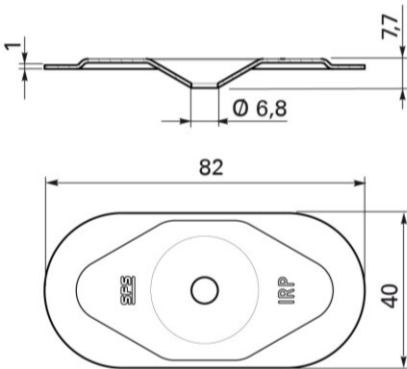


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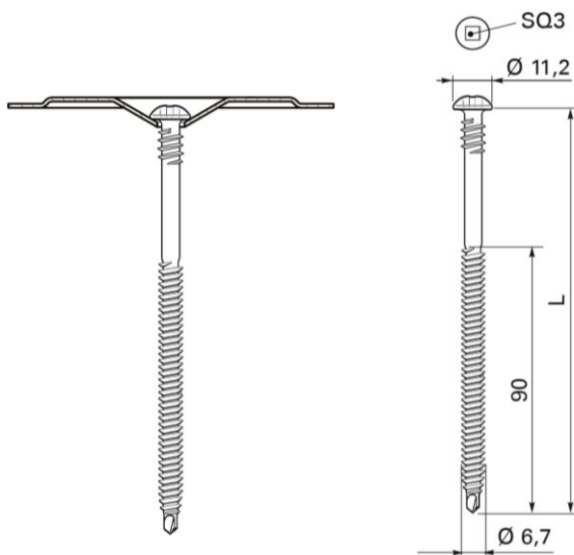


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IRP-82x40

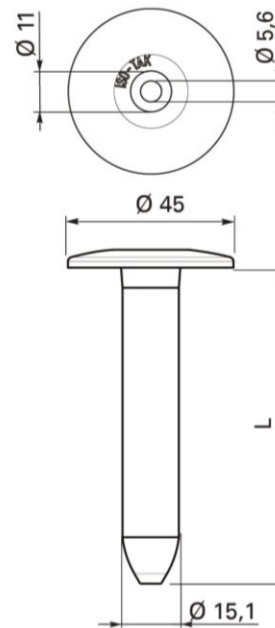


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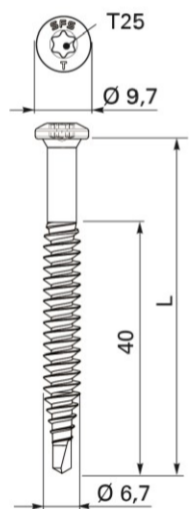


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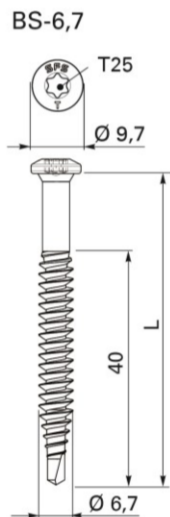
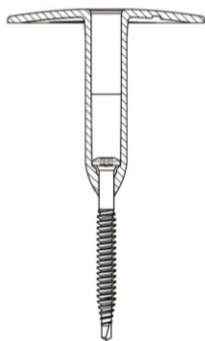
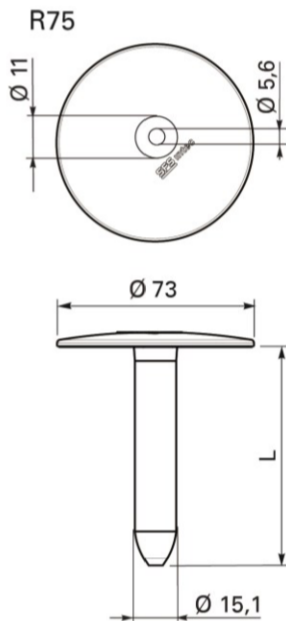
R45



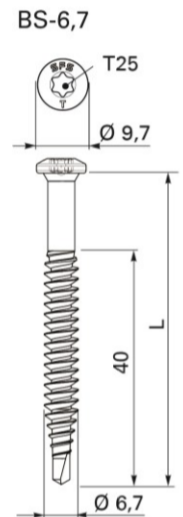
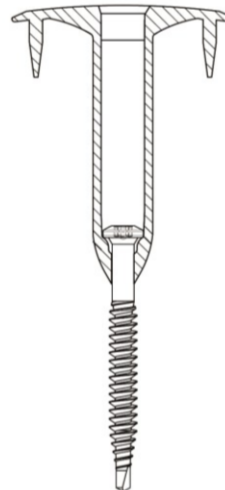
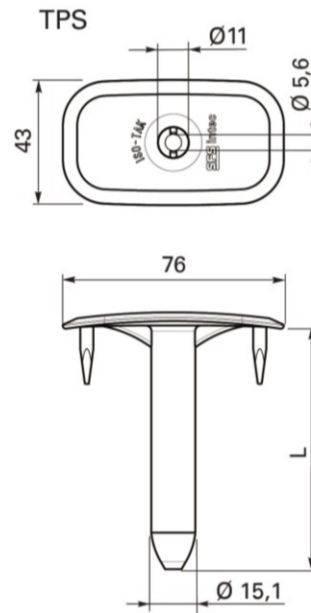
BS-6,7



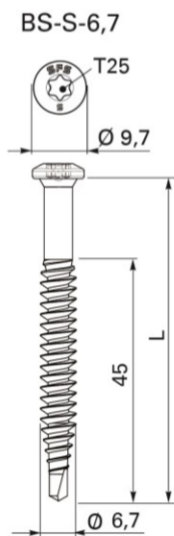
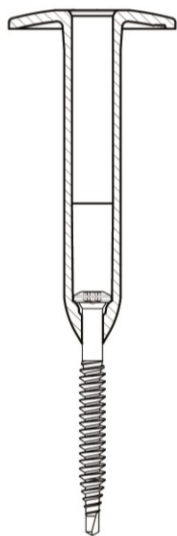
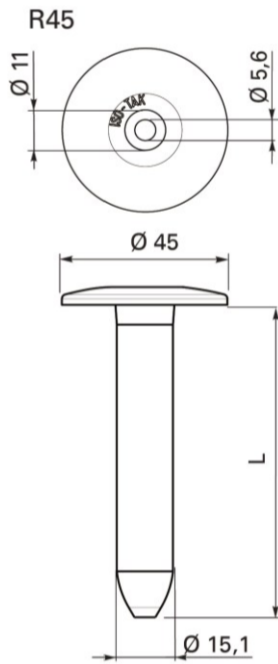
Kombination 11A
BS-6,7 / R75



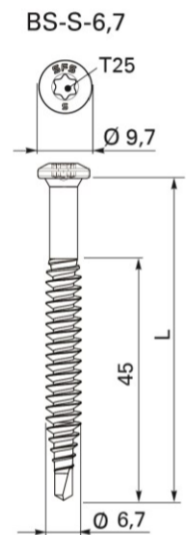
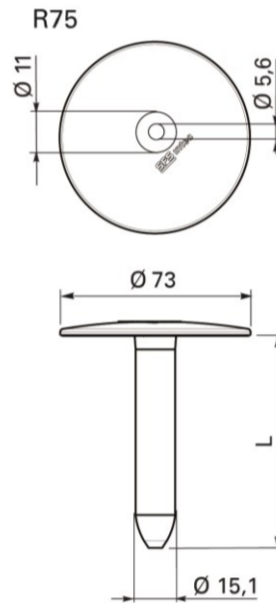
Kombination 11B
BS-6,7 / TPS



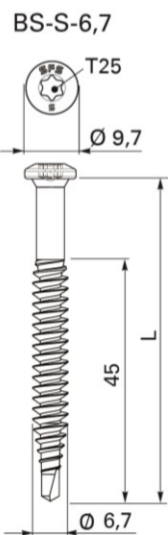
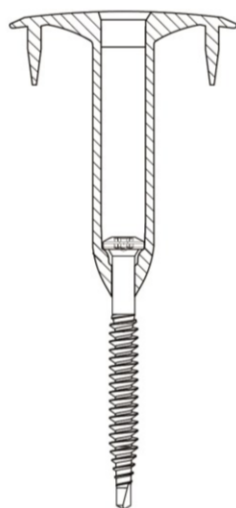
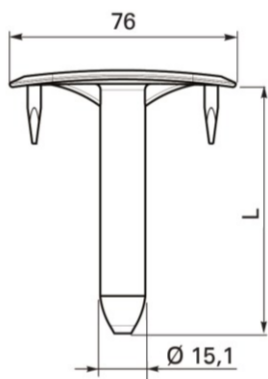
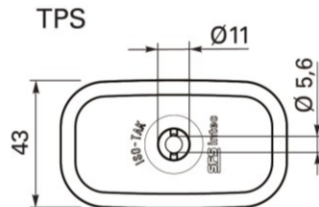
Kombination 12A
BS-S-6,7 / R45



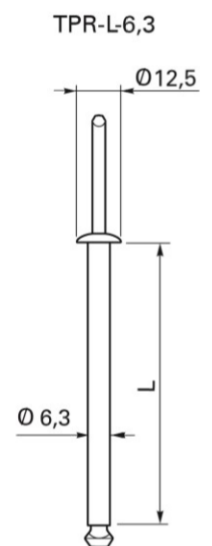
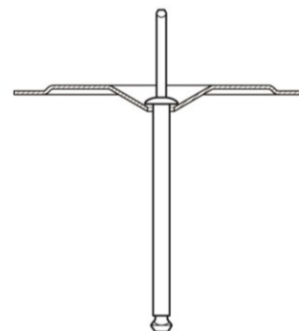
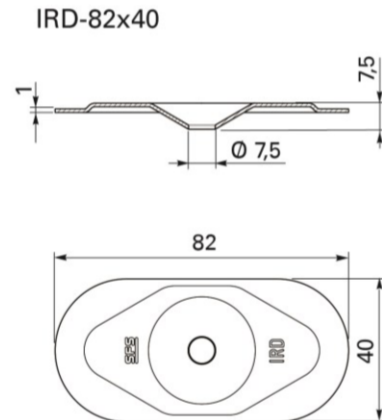
Kombination 12B
BS-S-6,7 / R75

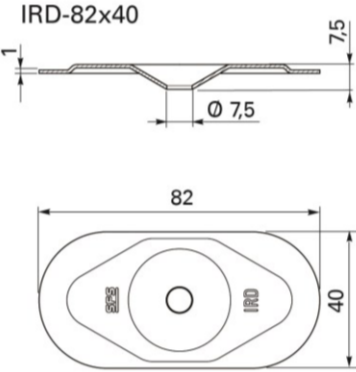
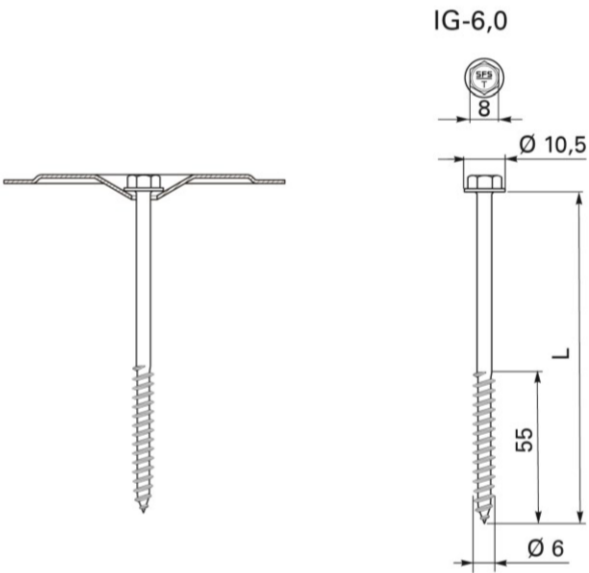
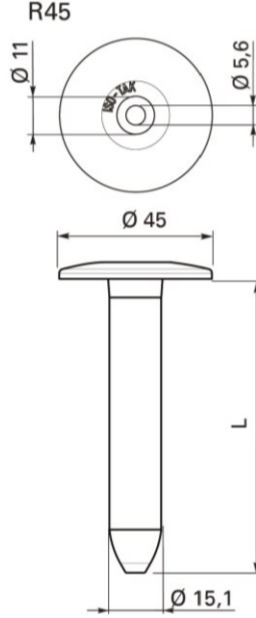
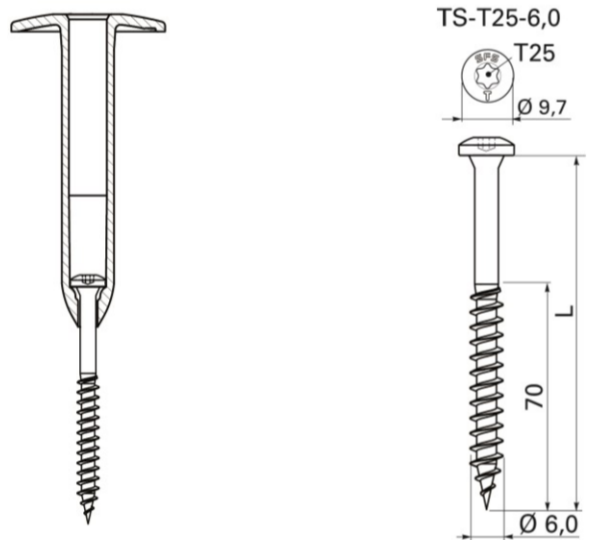


Kombination 13A
BS-S-6,7 / TPS



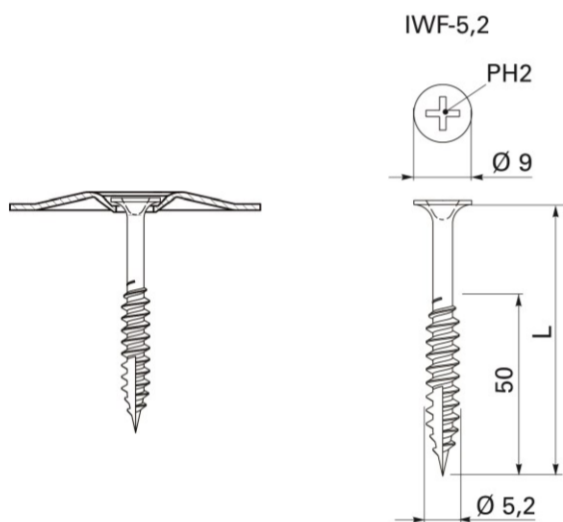
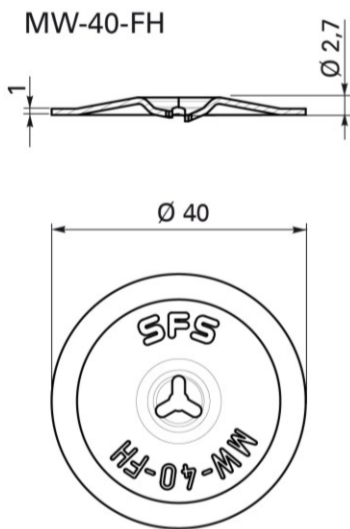
Kombination 13B
TPR-L-6,3 / IRD-82x40



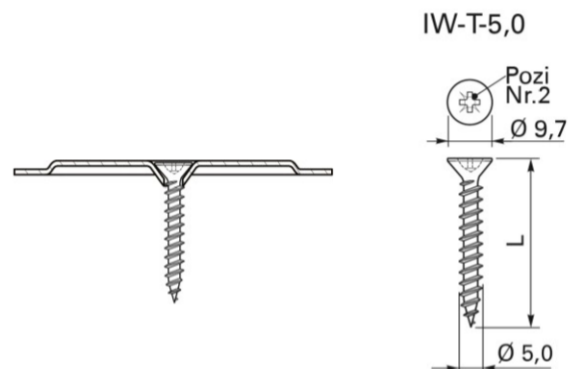
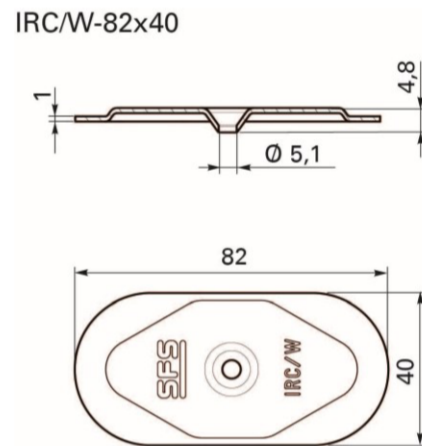
Kombination 14A IG-6,0 / IRD-82x40	Kombination 14B TS-T25-6,0 / R45
IRD-82x40  IG-6,0 	R45  
SFS intec Flachdachbefestigungselemente	Anhang 14

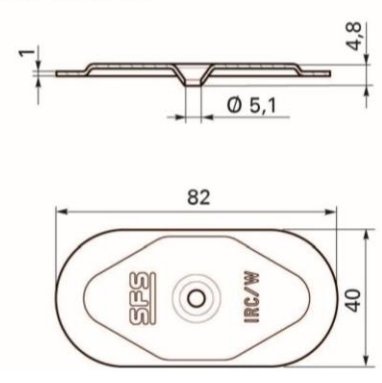
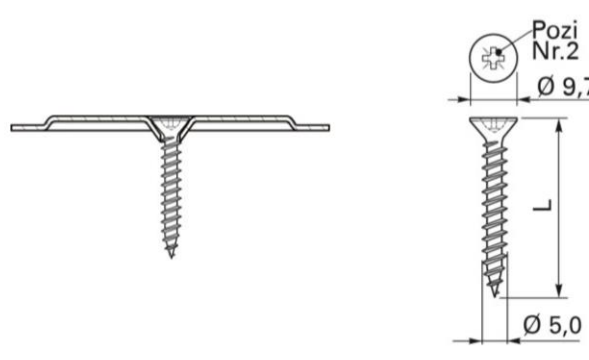
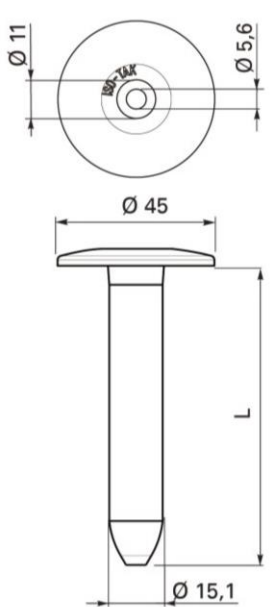
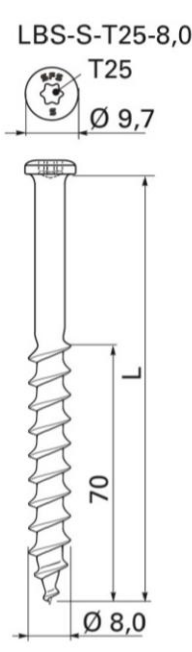
elektronische kopie der eta des dibt: eta-08/0262

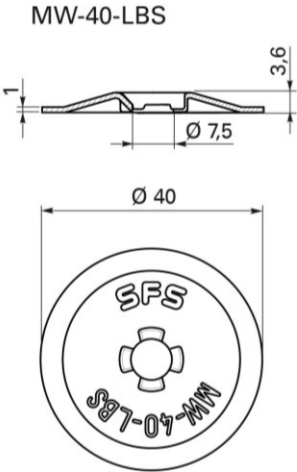
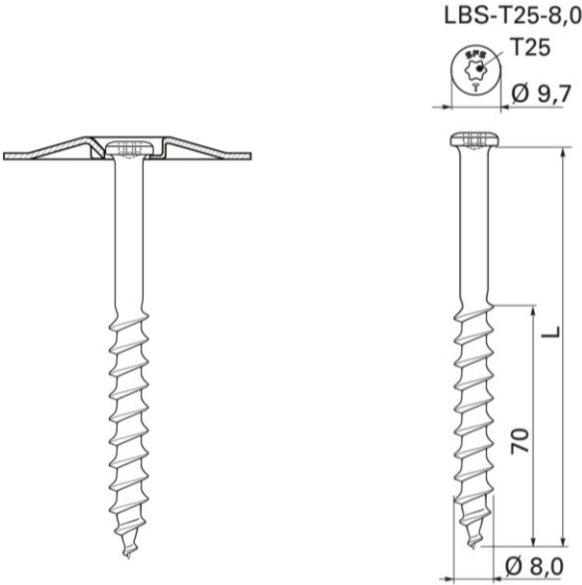
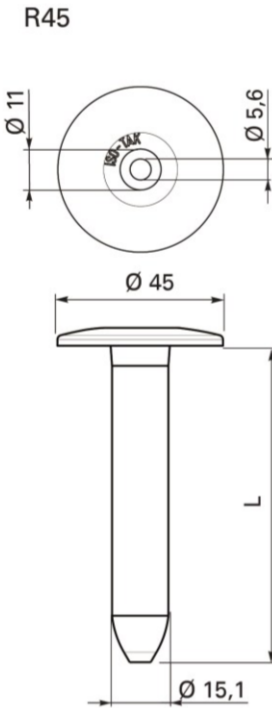
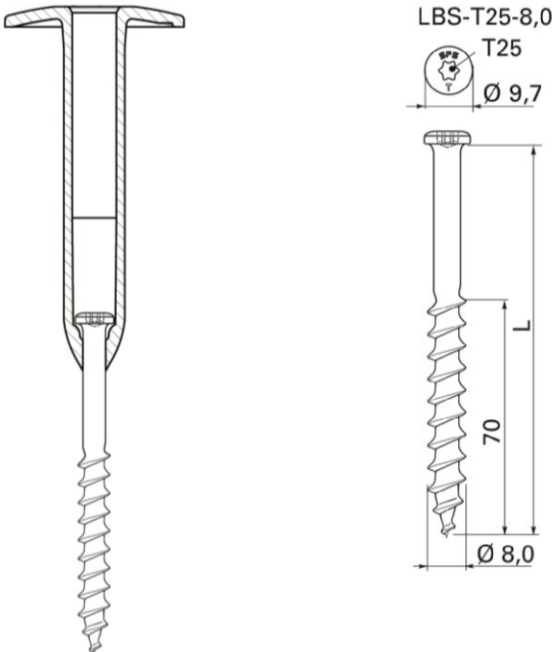
Kombination 15A
IWF-5,2 / MW-40-FH



Kombination 15B
IW-T-5,0 / IRC/W-82x40

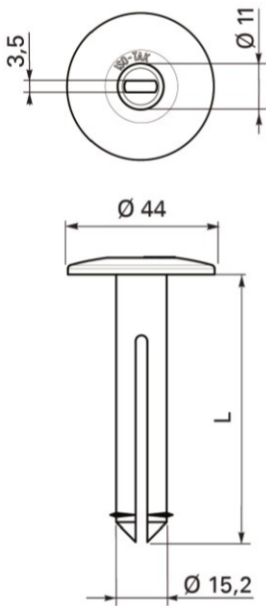


Kombination 16A IW-S-5,0 / IRC/W-82x40	Kombination 16B LBS-S-T25-8,0 / R45
IRC/W-82x40  IW-S-5,0 	R45  LBS-S-T25-8,0 
SFS intec Flachdachbefestigungselemente	Anhang 16

Kombination 17A LBS-T25-8,0 / MW-40-LBS	Kombination 17B LBS-T25-8,0 / R45
MW-40-LBS  LBS-T25-8,0 	R45  LBS-T25-8,0 
SFS intec Flachdachbefestigungselemente	Anhang 17

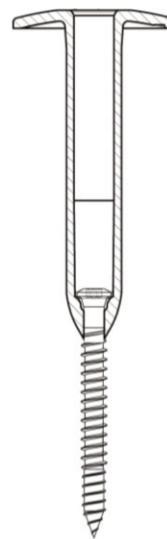
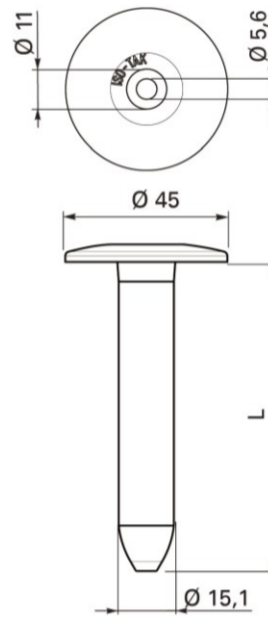
Kombination 18A
LB-45

LB-45

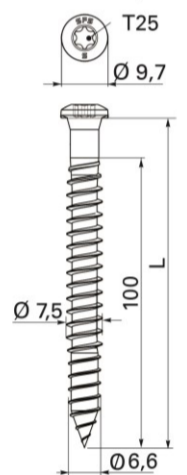


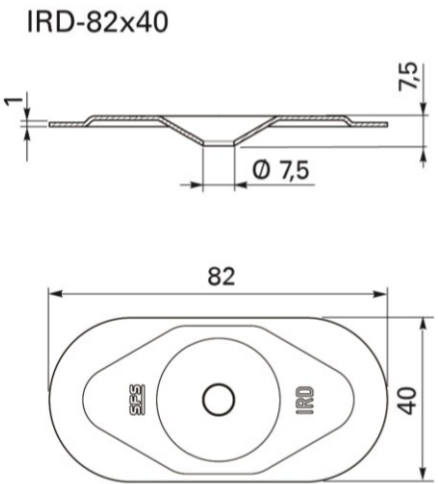
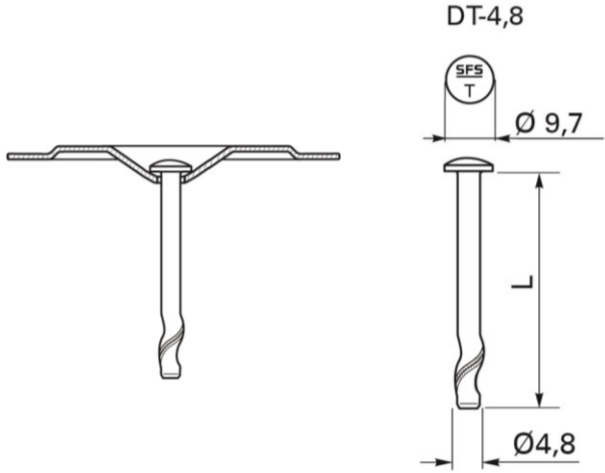
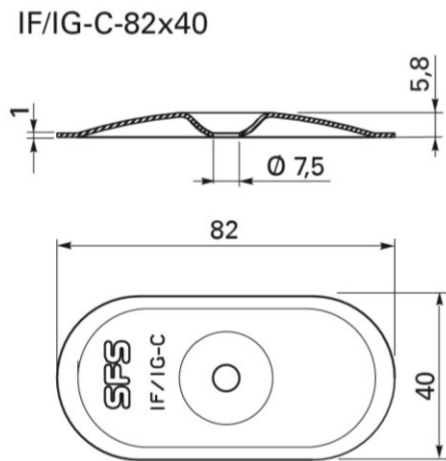
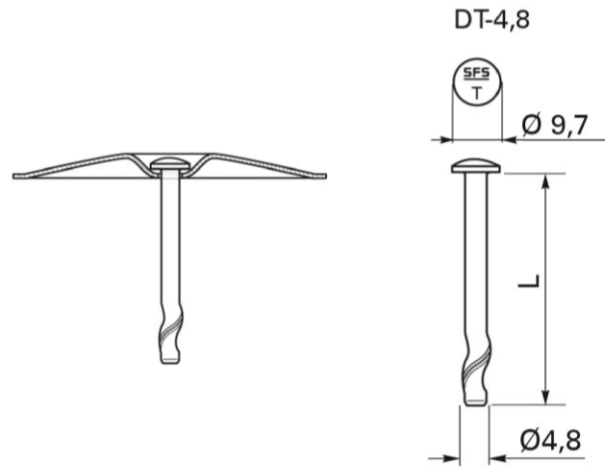
Kombination 18B
FB-S-T25-7,5 / R45

R45



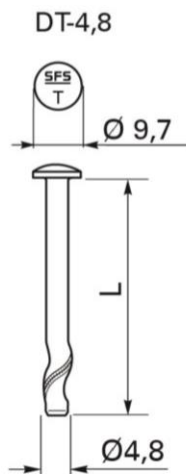
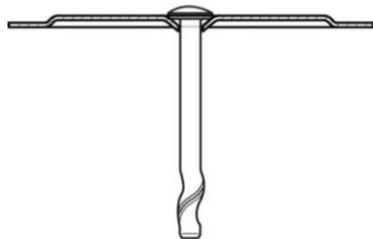
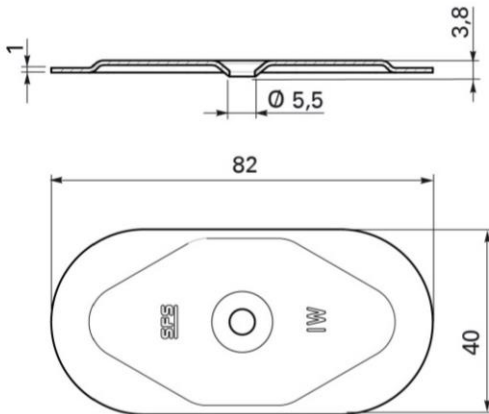
FB-S-T25-7,5



Kombination 19A DT-4,8 / IRD-82x40	Kombination 19B DT-4,8 / IF/IG-C-82x40
IRD-82x40  DT-4,8 	IF/IG-C-82x40  DT-4,8 
SFS intec Flachdachbefestigungselemente	
Anhang 19	

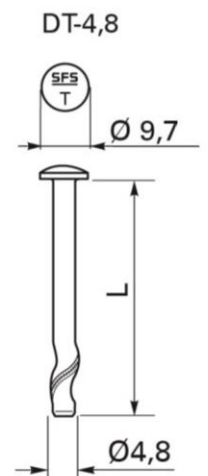
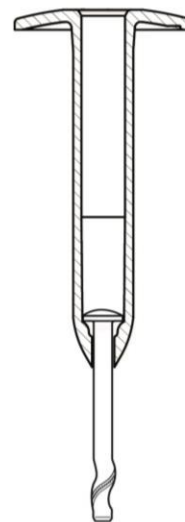
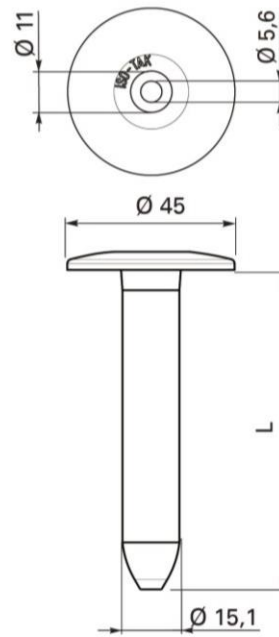
Kombination 20A
DT-4,8 / IW-82x40

IW-82x40

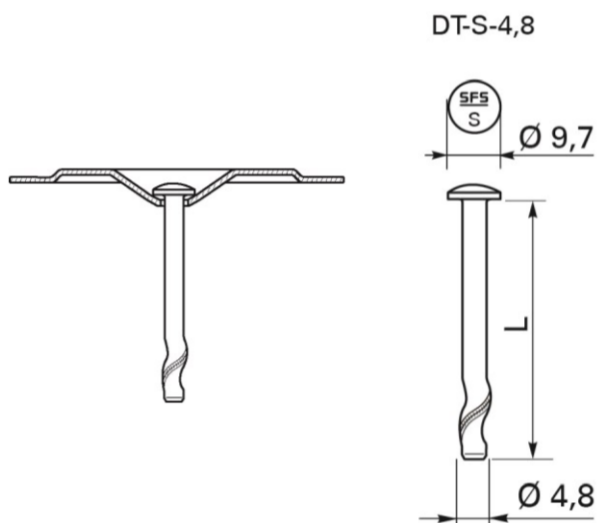
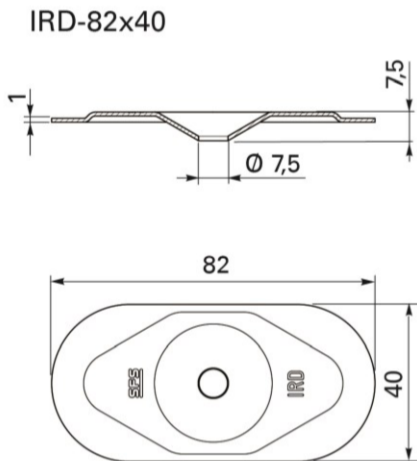


Kombination 20B
DT-4,8 / R45

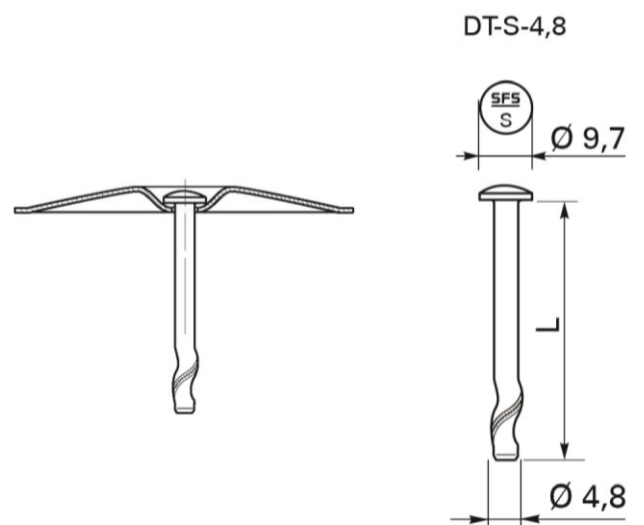
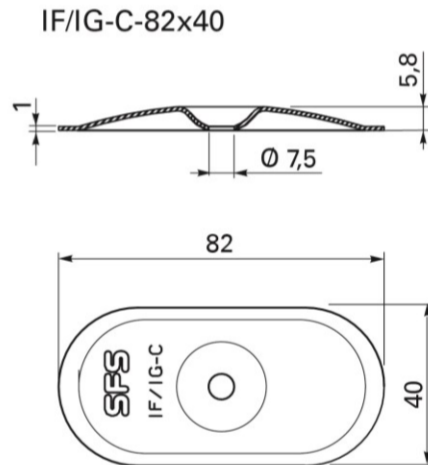
R45



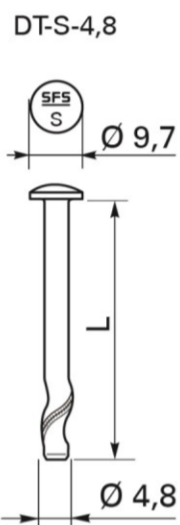
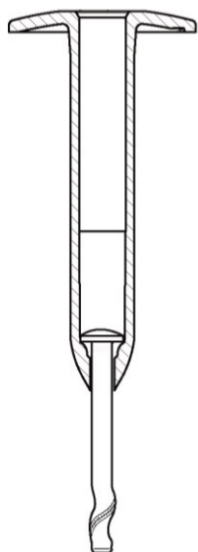
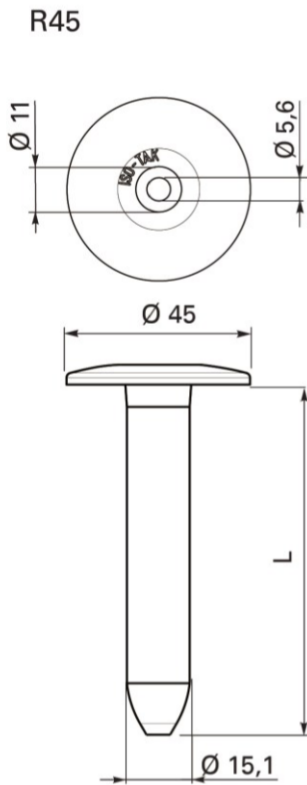
Kombination 21A
DT-S-4,8 / IRD-82x40



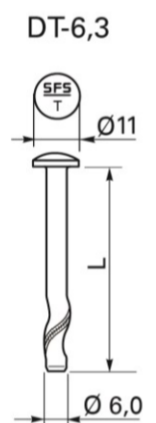
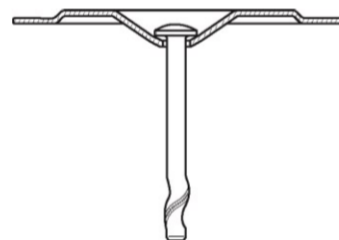
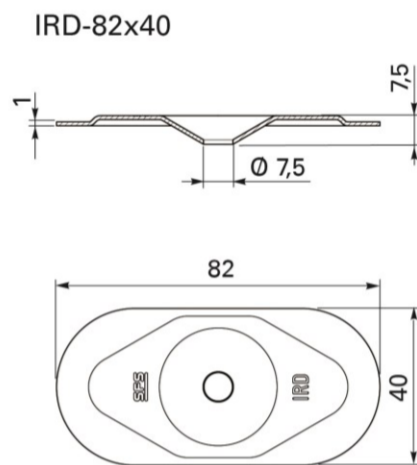
Kombination 21B
DT-S-4,8 / IF/IG-C-82x40

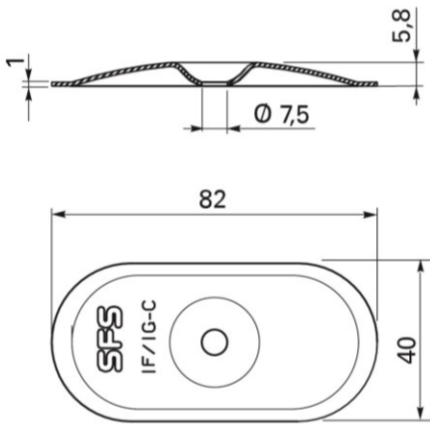
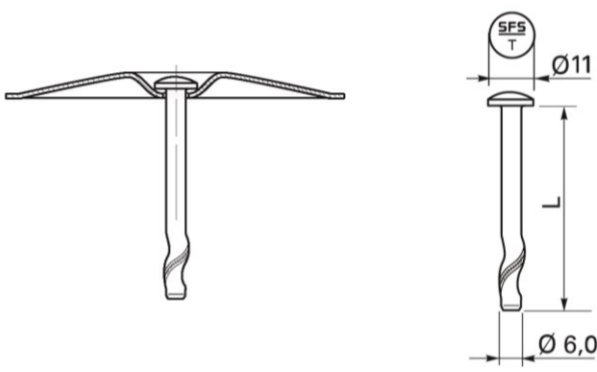
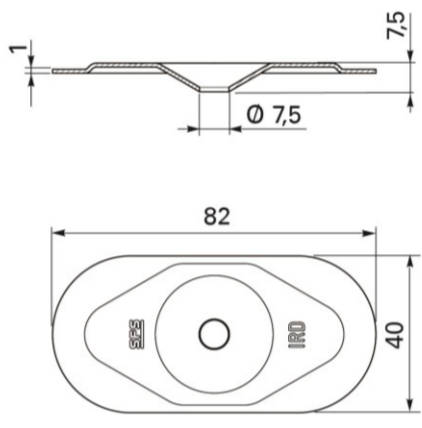
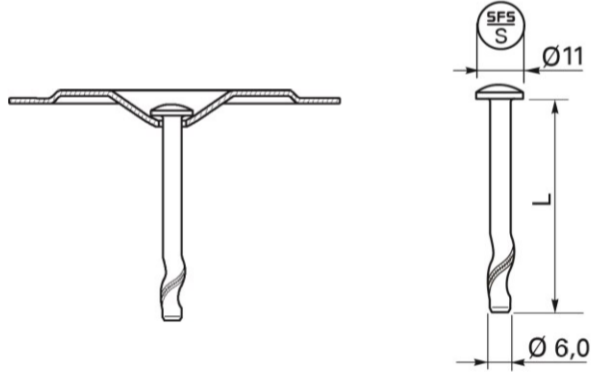


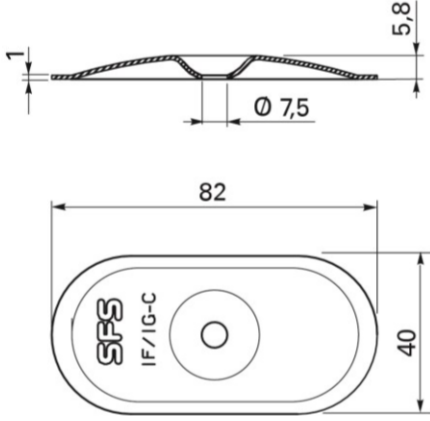
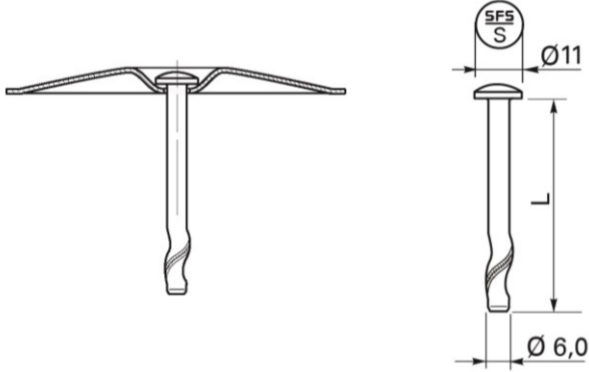
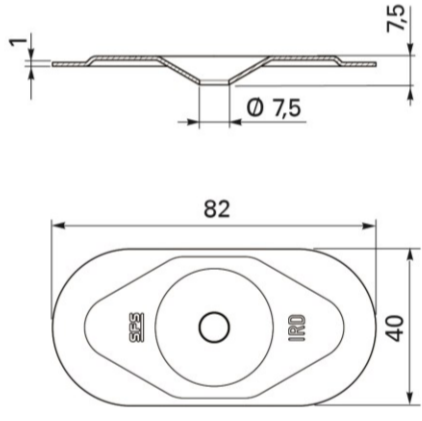
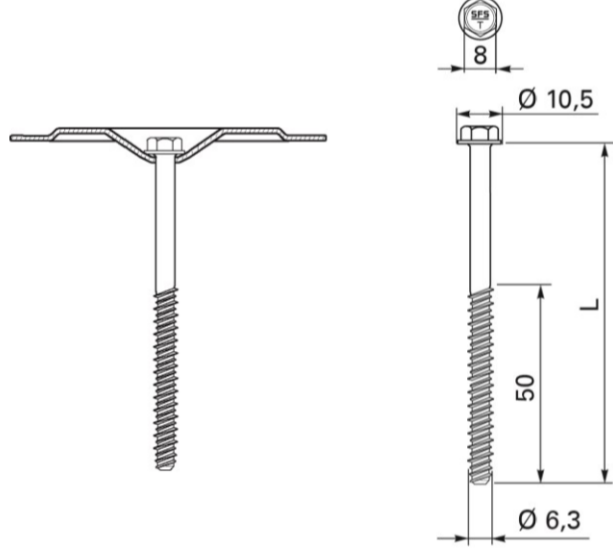
Kombination 22A
DT-S-4,8 / R45



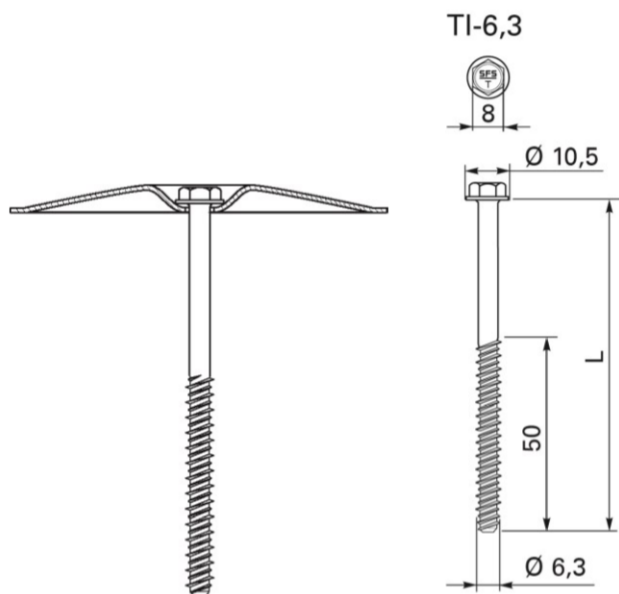
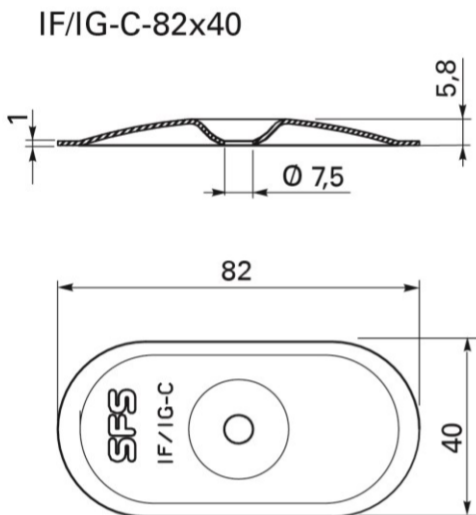
Kombination 22B
DT-6,3 / IRD-82x40



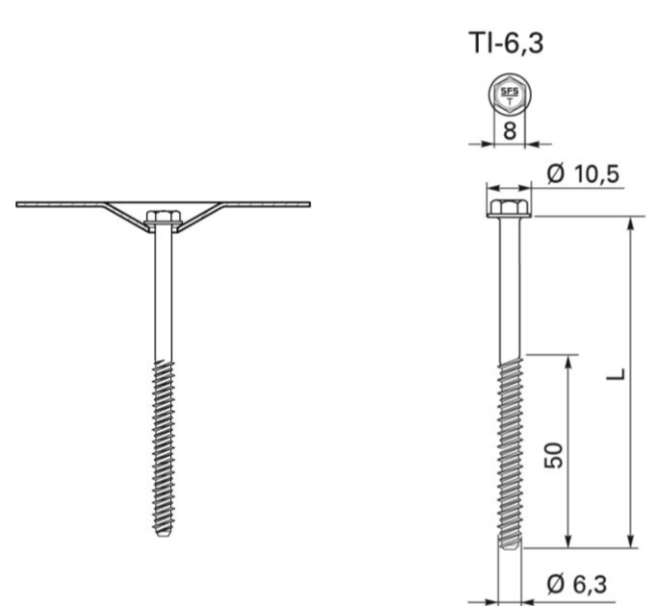
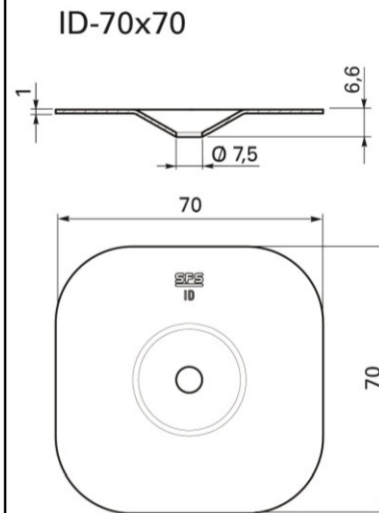
Kombination 23A DT-6,3 / IF/IG-C-82x40	Kombination 23B DT-S-6,3 / IRD-82x40
IF/IG-C-82x40  DT-6,3 	IRD-82x40  DT-S-6,3 
SFS intec Flachdachbefestigungselemente	Anhang 23

Kombination 24A DT-S-6,3 / IF/IG-C-82x40	Kombination 24B TI-6,3 / IRD-82x40
IF/IG-C-82x40  DT-S-6,3 	IRD-82x40  TI-6,3 
SFS intec Flachdachbefestigungselemente	Anhang 24

Kombination 25A
TI-6,3 / IF/IG-C-82x40

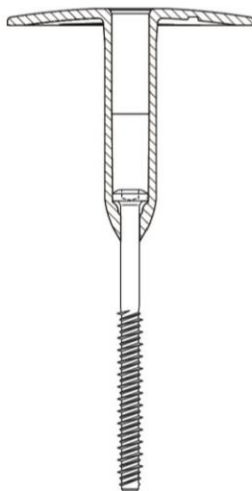
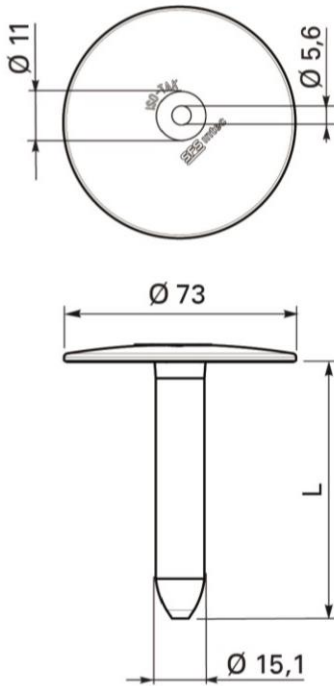


Kombination 25B
TI-6,3 / ID-70x70

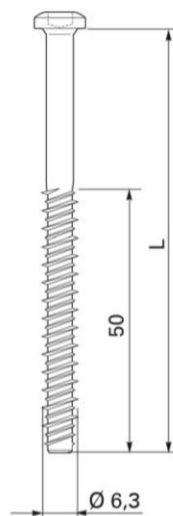


Kombination 26A
TI-T25-6,3 / R75

R75

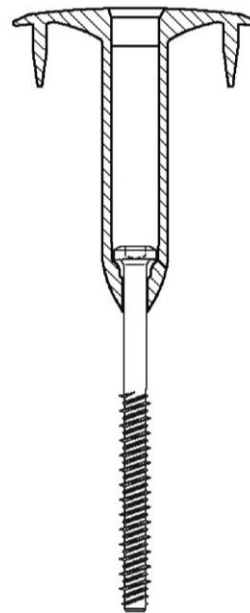
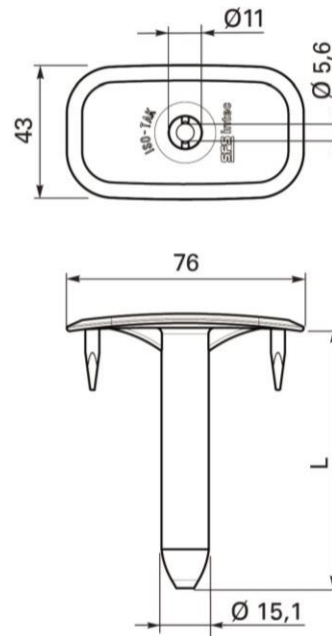


TI-T25-6,3

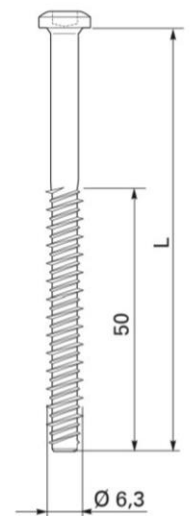


Kombination 26B
TI-T25-6,3 / TPS

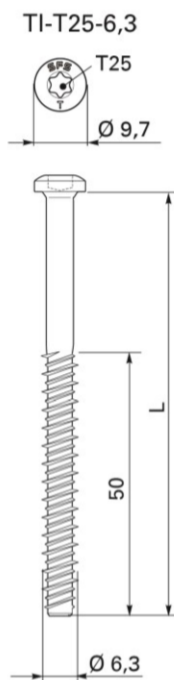
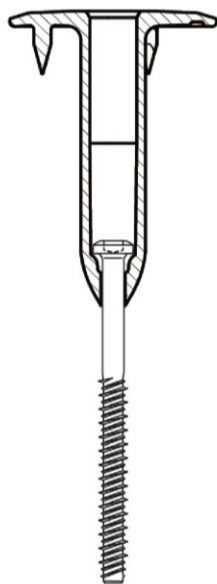
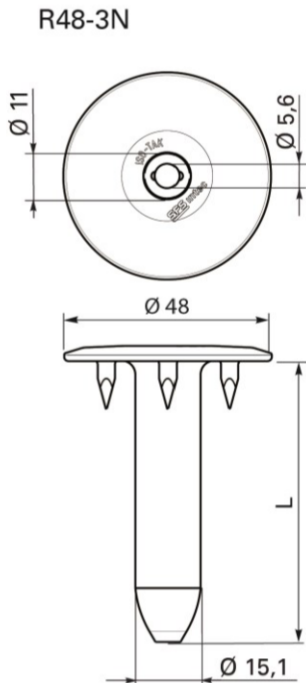
TPS



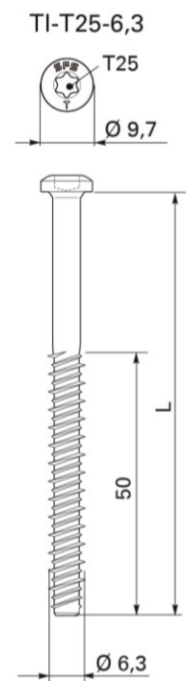
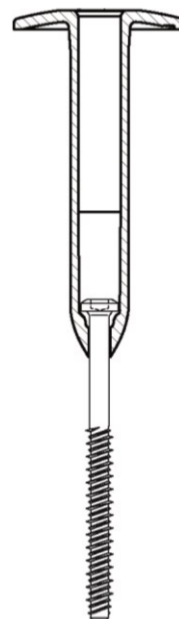
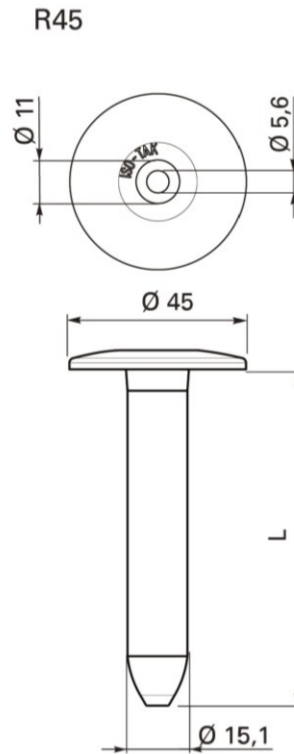
TI-T25-6,3



Kombination 27A
TI-T25-6,3 / R48-3N

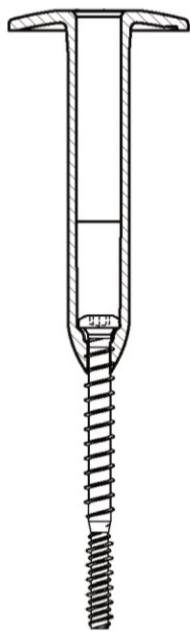
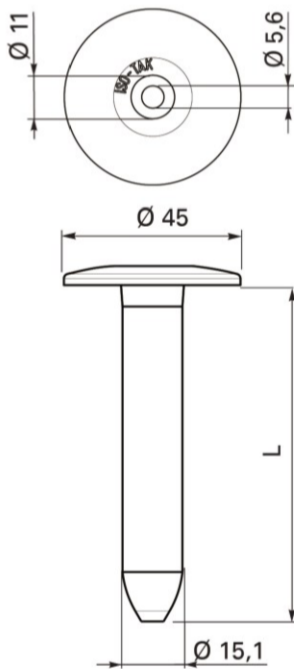


Kombination 27B
TI-T25-6,3 / R45

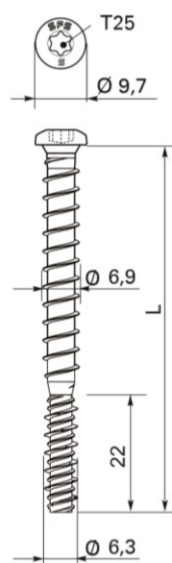


Kombination 28A
TIA-T25-6,3 / R45

R45

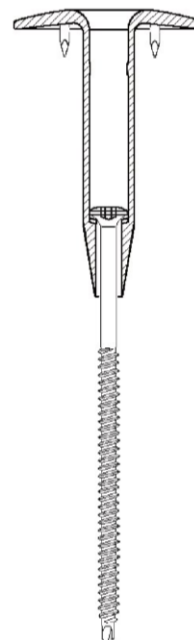
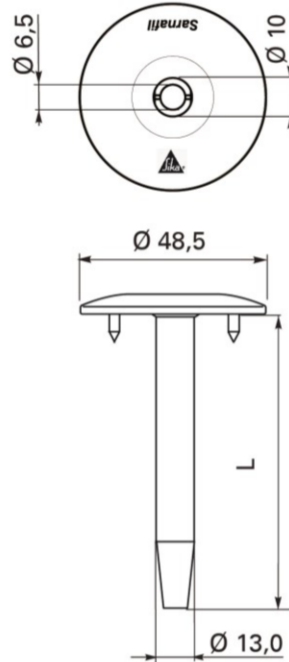


TIA-T25-6,3

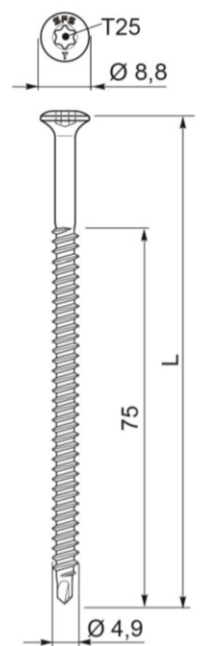


Kombination 28B
BS-4,8 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50

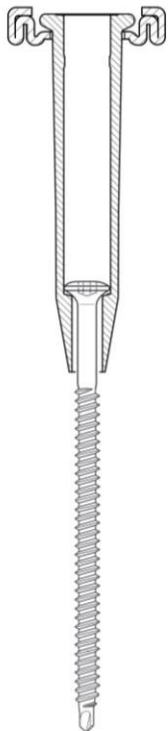
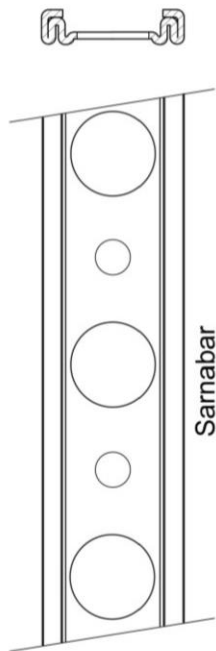
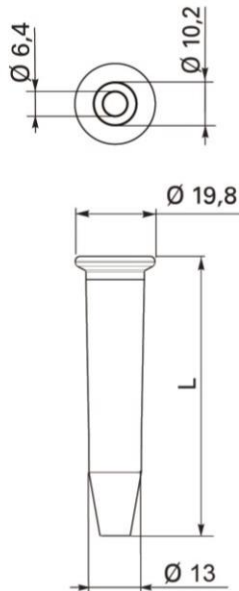


BS-4,8

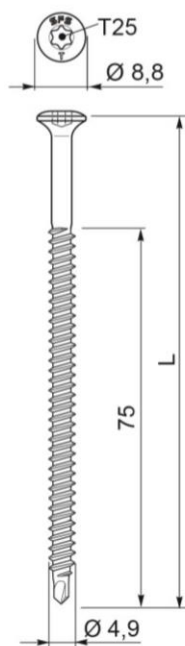


Kombination 29A
BS-4,8 / Sarnabar Tube SBT-20 / Sarnabar

Sarnabar Tube SBT-20

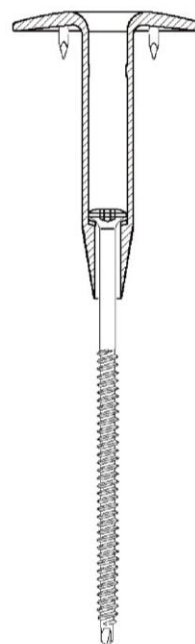
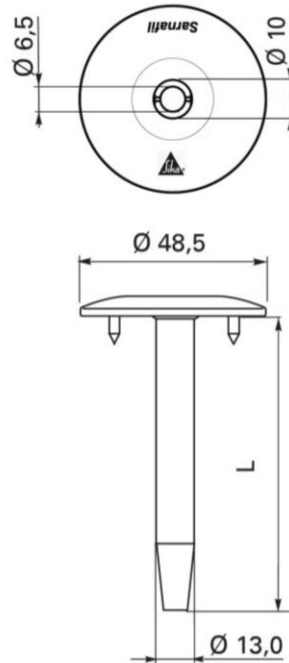


BS-4,8

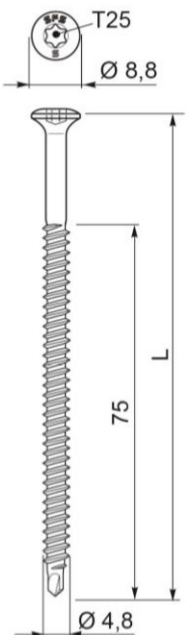


Kombination 29B
BS-S-4,8 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50



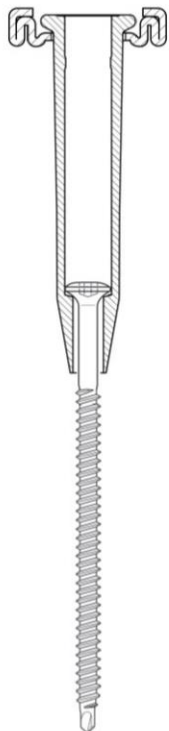
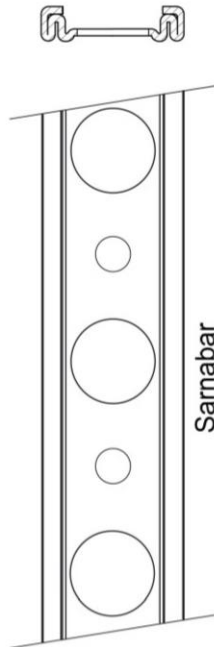
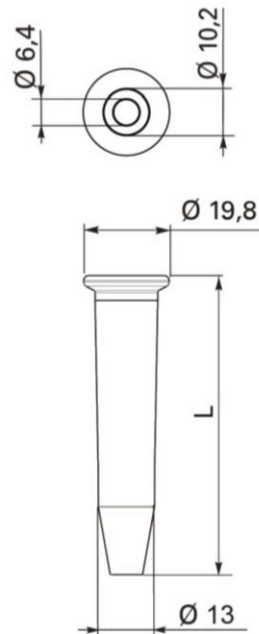
BS-S-4,8



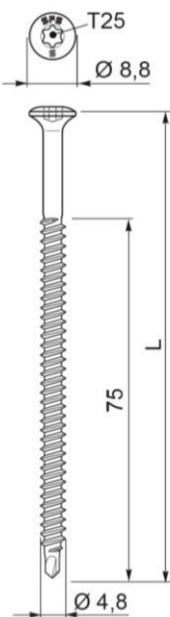
Kombination 30A

BS-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar

Sarnabar Tube SBT-20



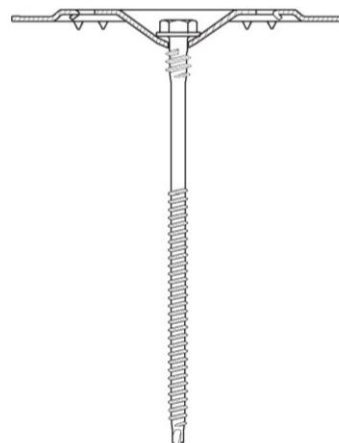
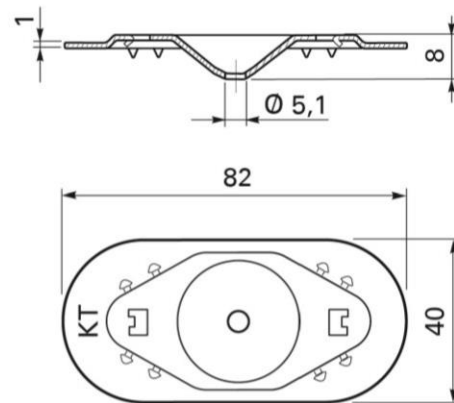
BS-S-4,8



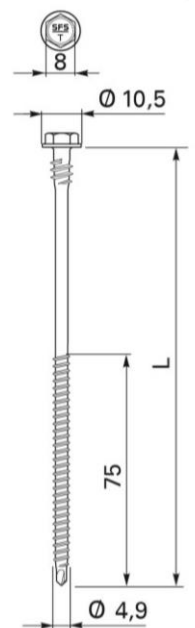
Kombination 30B

Sarnafast SF-4,8 / Sarnafast KT-82x40

Sarnafast KT-82x40



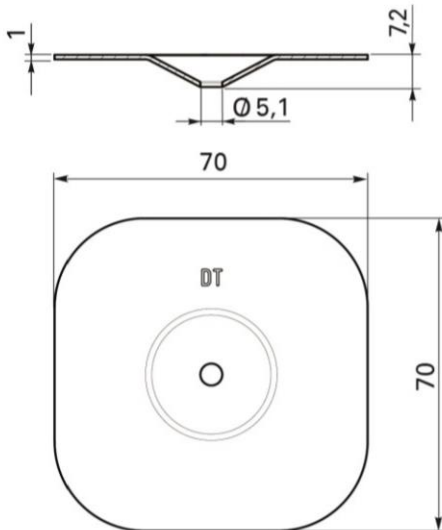
Sarnafast SF-4,8



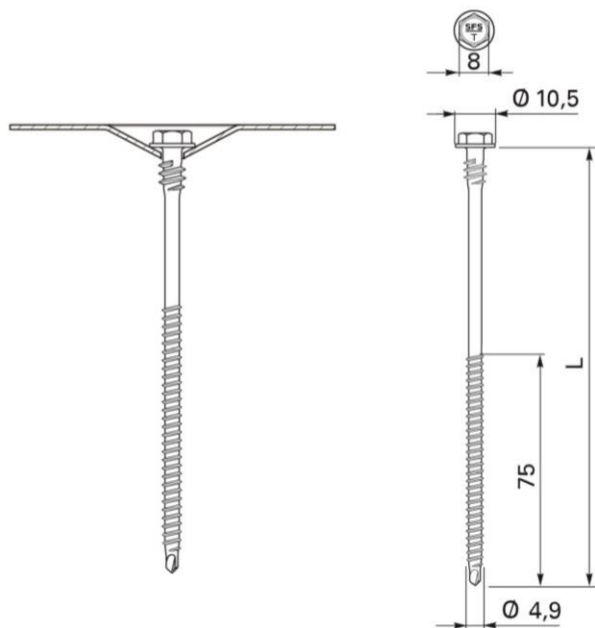
Kombination 31A

Sarnafast SF-4,8 / Sarnafast DT-70x70

Sarnafast DT-70x70



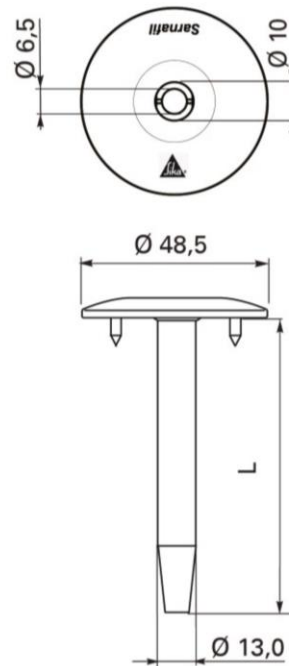
Sarnafast SF-4,8



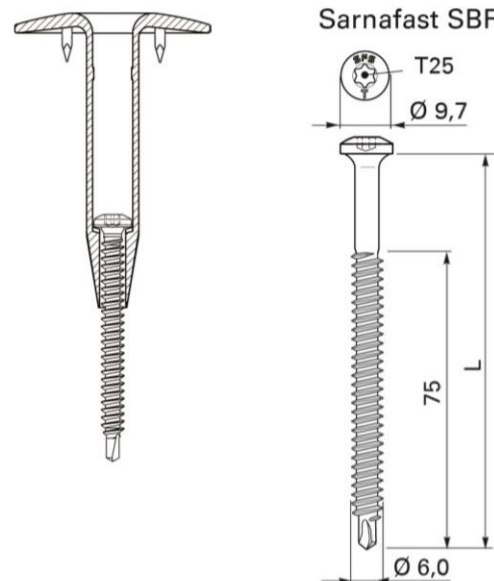
Kombination 31B

Sarnafast SBF-6,0 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50



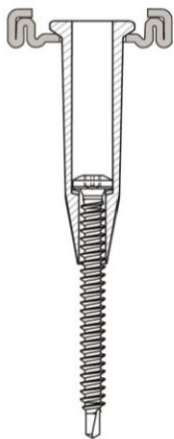
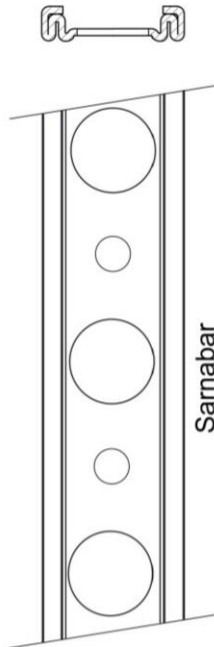
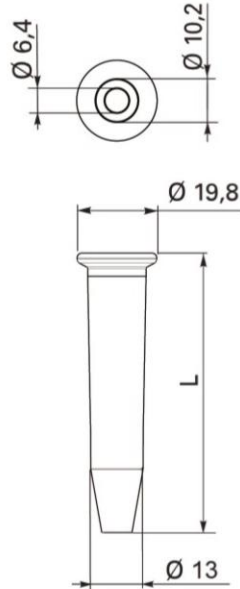
Sarnafast SBF-6,0



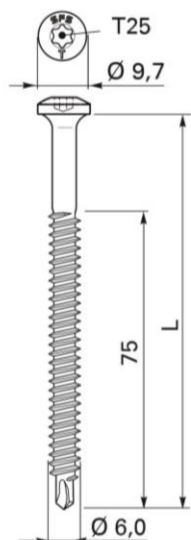
Kombination 32A

Sarnafast SBF-6,0 / Sarnabar Tube SBT-20 / Sarnabar

Sarnabar Tube SBT-20



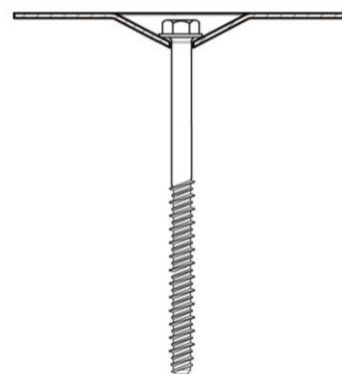
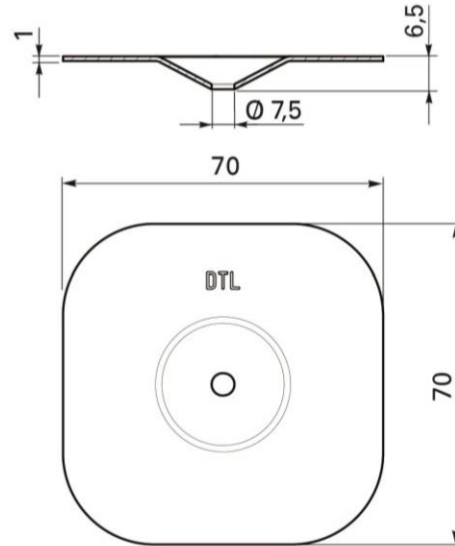
Sarnafast SBF-6,0



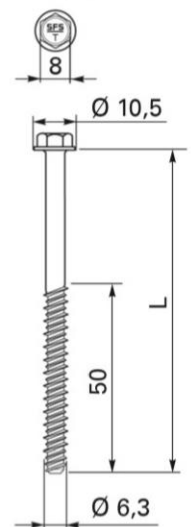
Kombination 32B

TI-6,3 / Sarnafast DTL-70x70

Sarnafast DTL-70x70

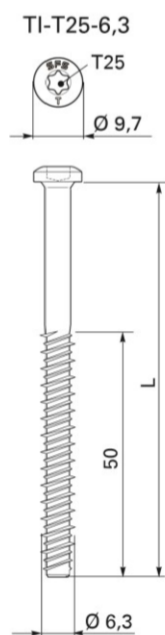
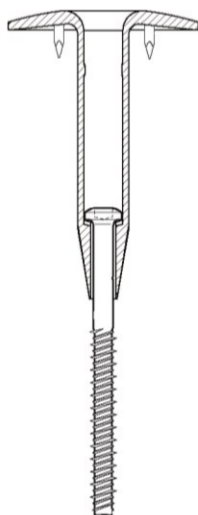
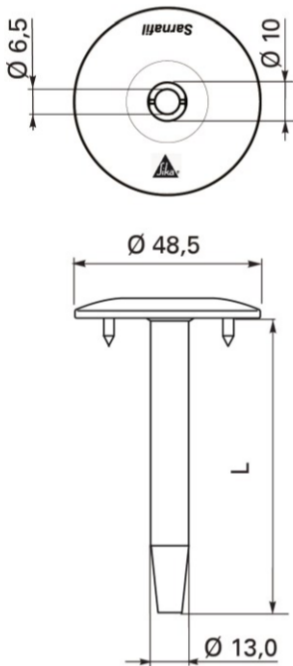


TI-6,3xL



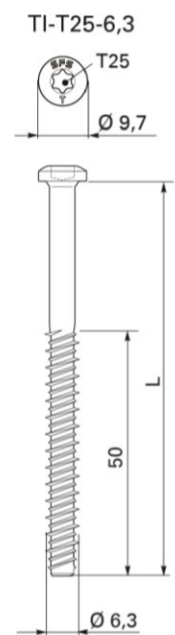
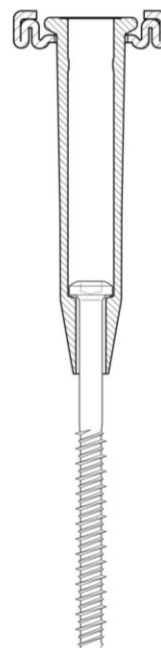
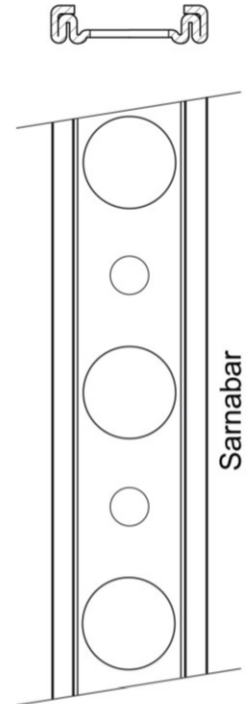
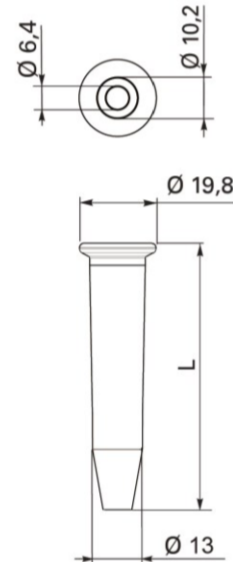
Kombination 33A
TI-T25-6,3 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50

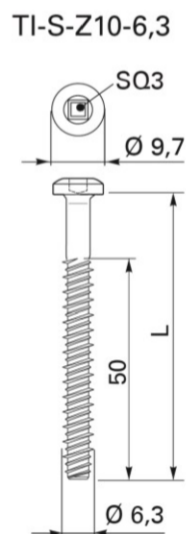
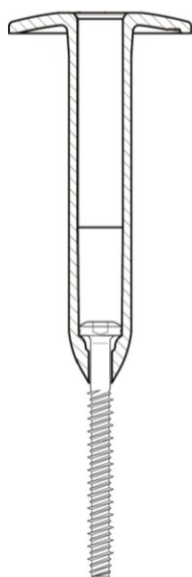
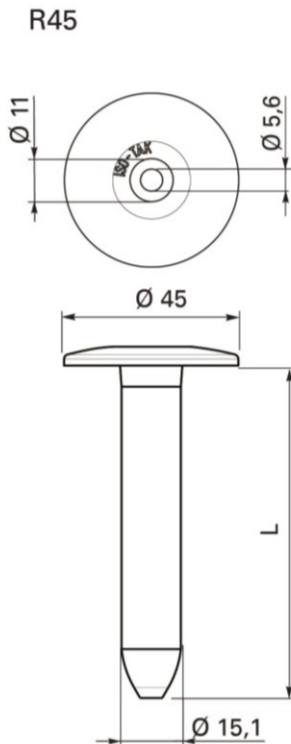


Kombination 33B
TI-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar

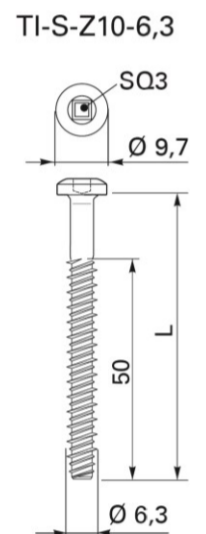
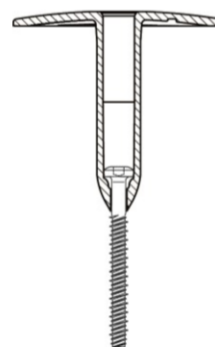
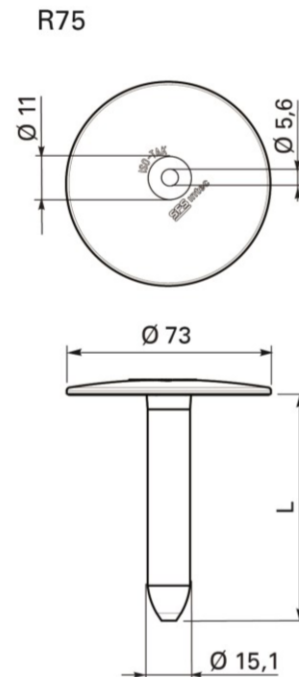
Sarnabar Tube SBT-20



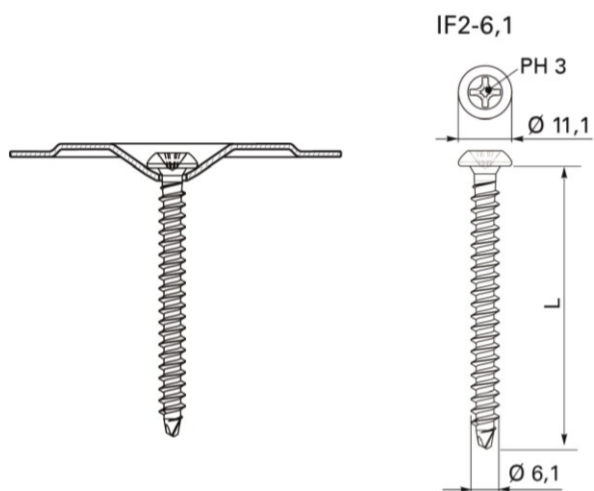
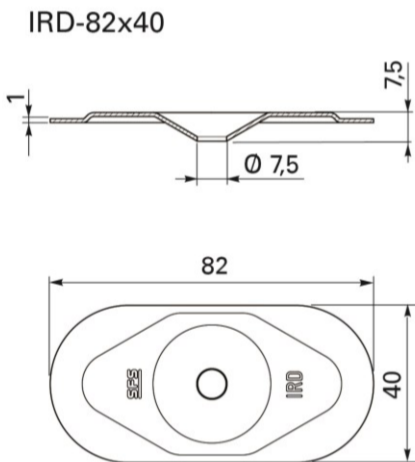
Kombination 34A
TI-S-Z10-6,3 / R45



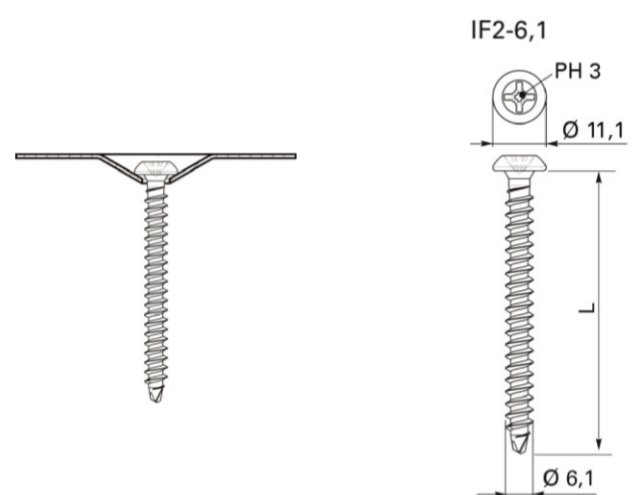
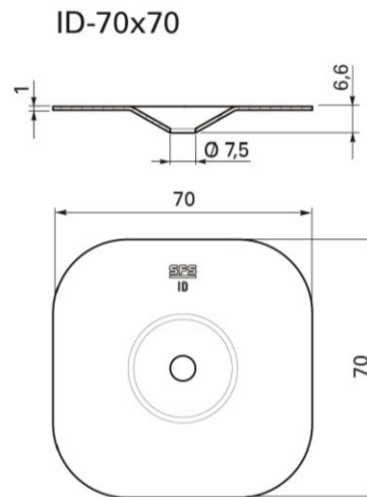
Kombination 34B
TI-S-Z10-6,3 / R75



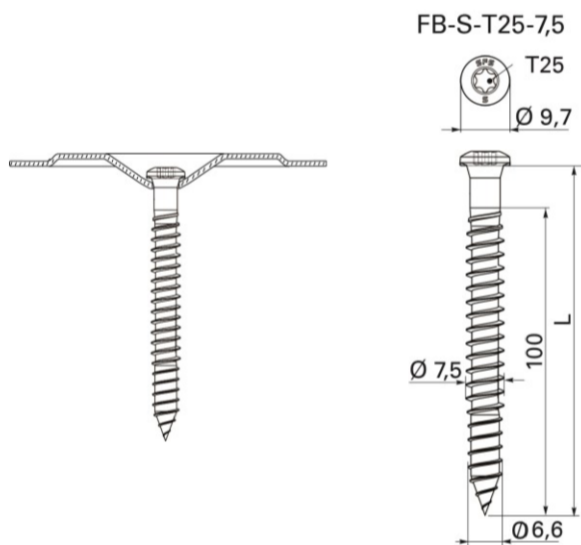
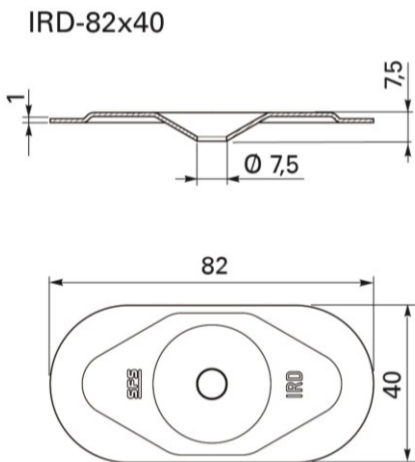
Kombination 35A
IF2-6,1 / IRD-82x40



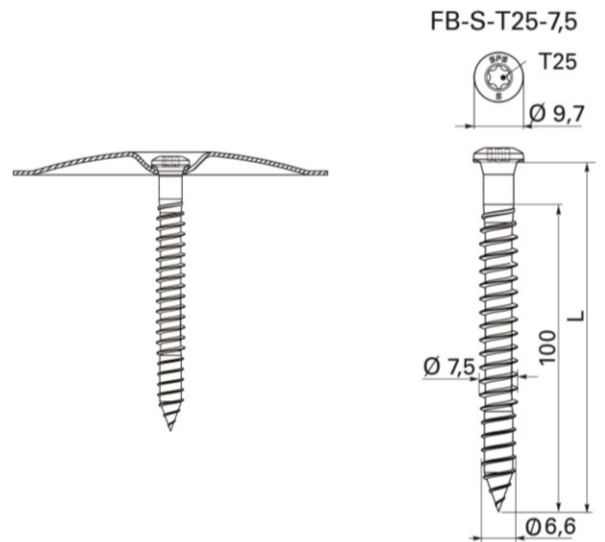
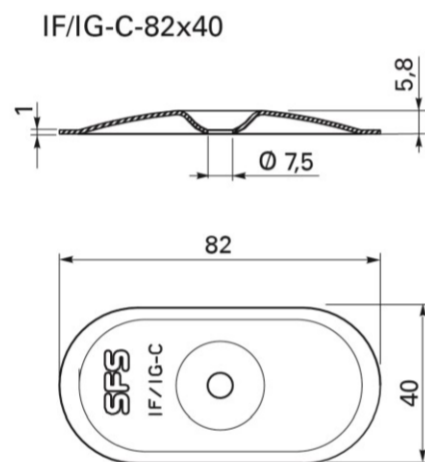
Kombination 35B
IF2-6,1 / ID-70x70



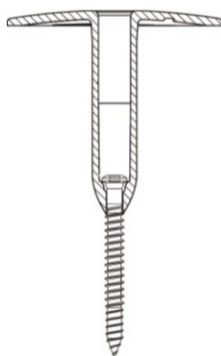
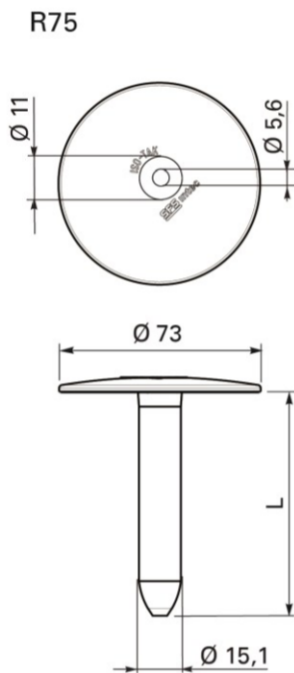
Kombination 36A
FB-S-T25-7,5 / IRD-82x40



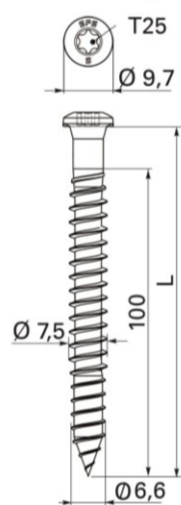
Kombination 36B
FB-S-T25-7,5 / IF/IG-C-82x40



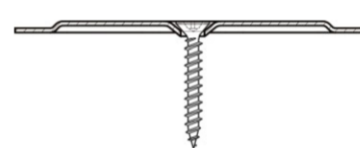
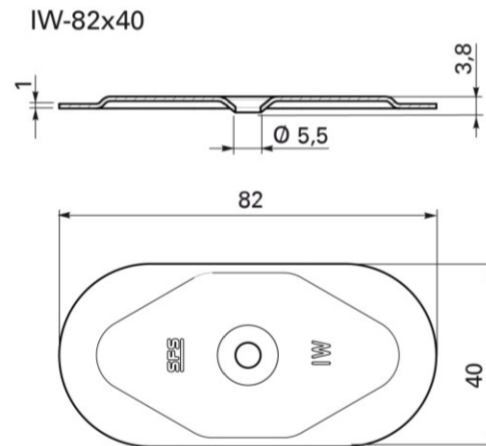
Kombination 37A
FB-S-T25-7,5 / R75



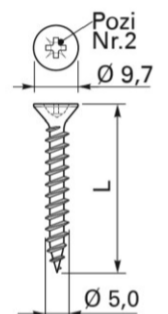
FB-S-T25-7,5

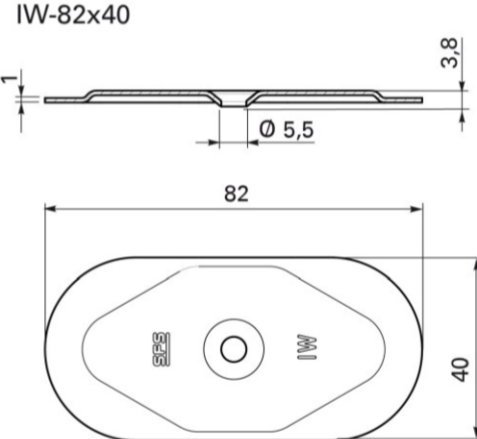
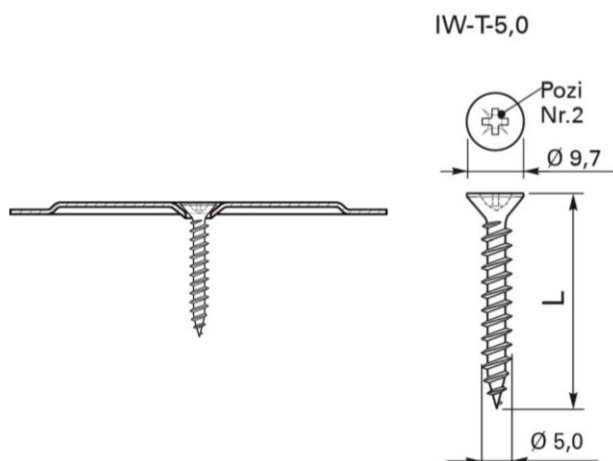
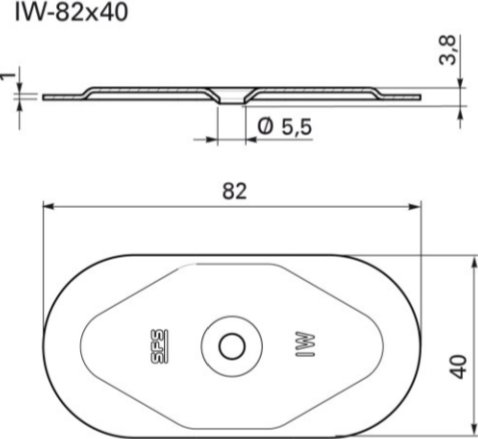
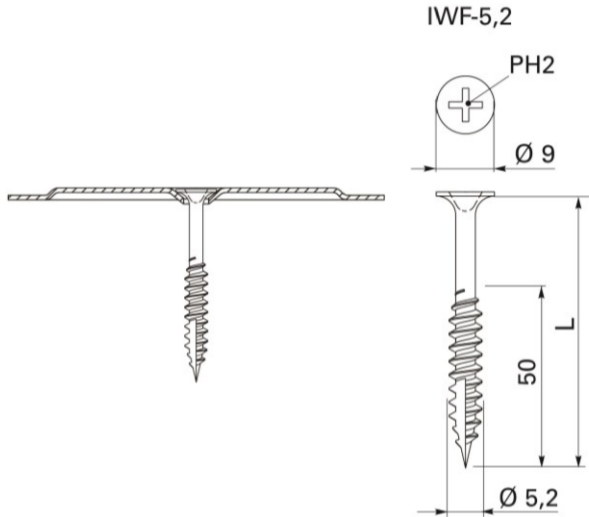


Kombination 37B
IW-S-5,0 / IW-82x40



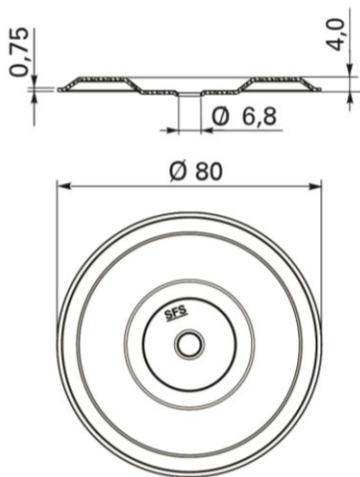
IW-S-5,0



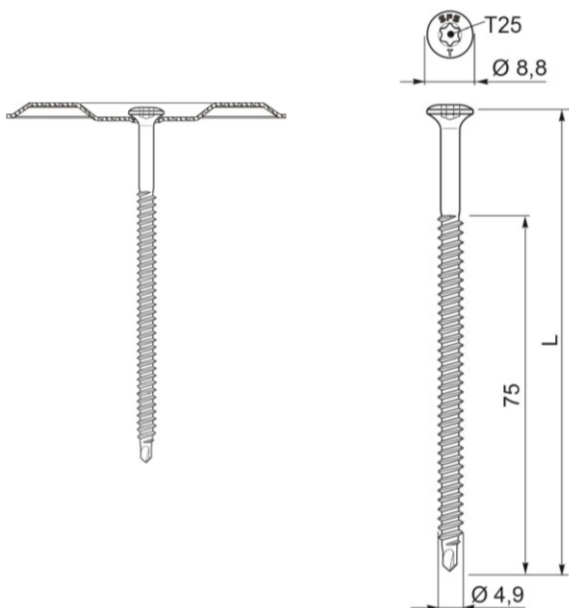
Kombination 38A IW-T-5,0 / IW-82x40	Kombination 38B IWF-5,2 / IW-82x40
IW-82x40  IW-T-5,0 	IW-82x40  IWF-5,2 
SFS intec Flachdachbefestigungselemente	
Anhang 38	

Kombination 39A
BS-4,8 / FI-P-6,8

FI-P-6,8

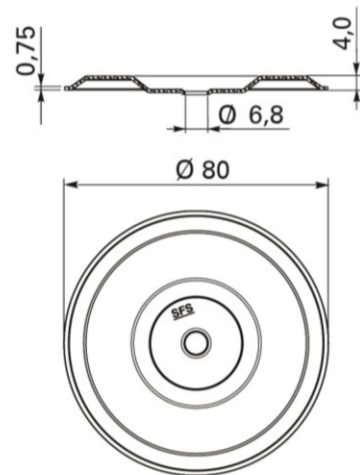


BS-4,8

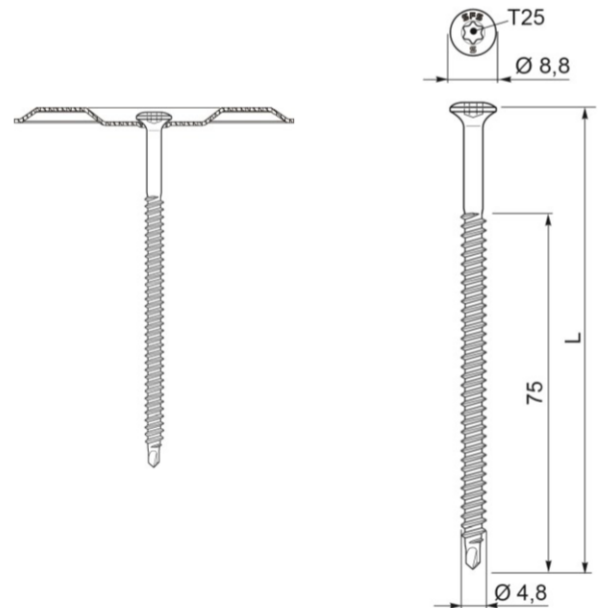


Kombination 39B
BS-S-4,8 / FI-P-6,8

FI-P-6,8

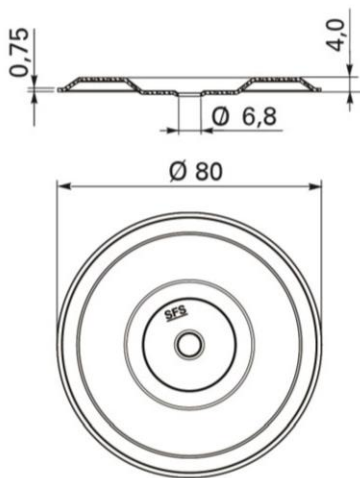


BS-S-4,8

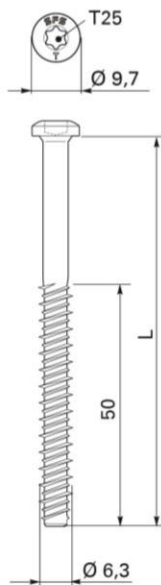


Kombination 40A
TI-T25-6,3 / FI-P-6,8

FI-P-6,8

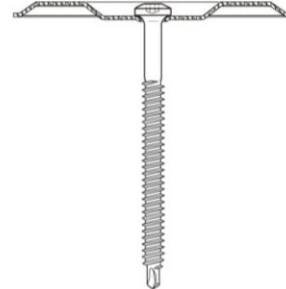
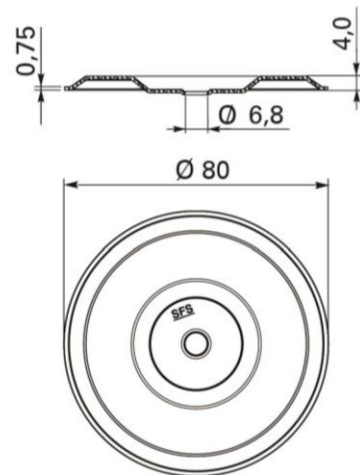


TI-T25-6,3

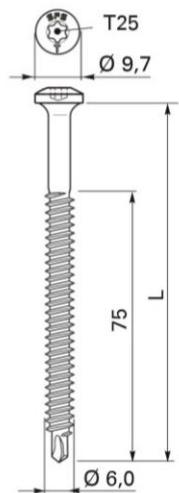


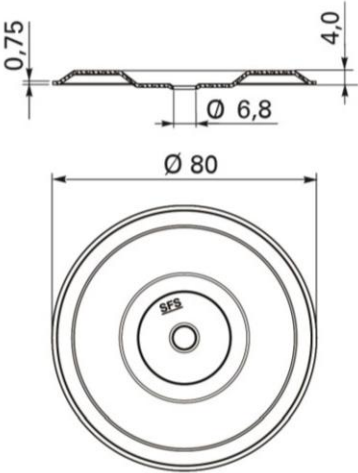
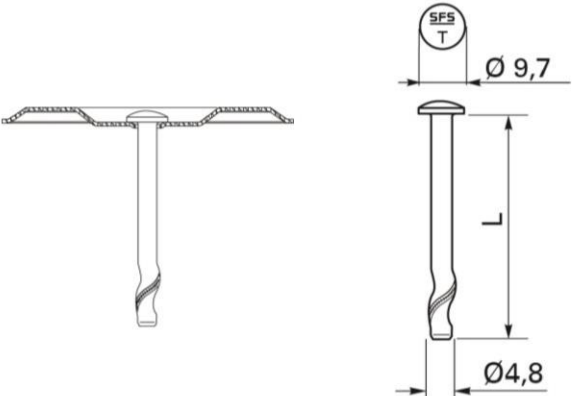
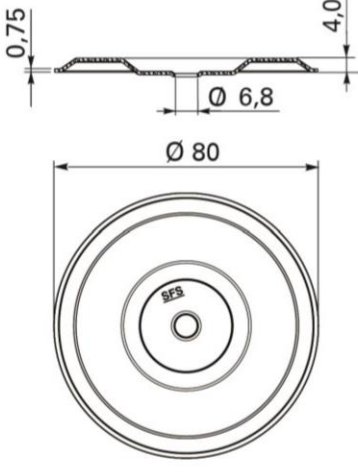
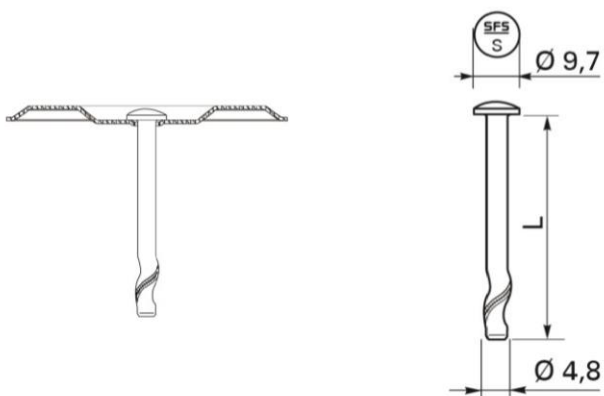
Kombination 40B
BS-6,1 / FI-P-6,8

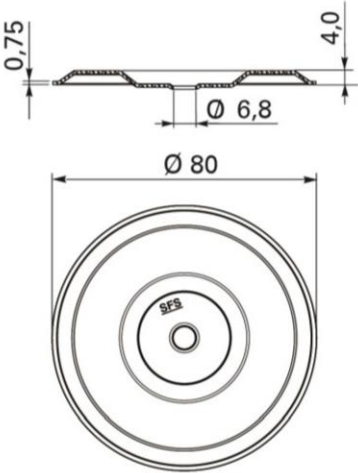
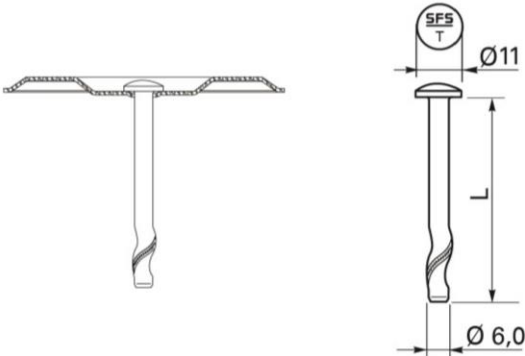
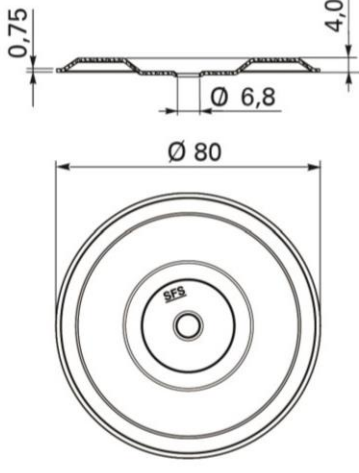
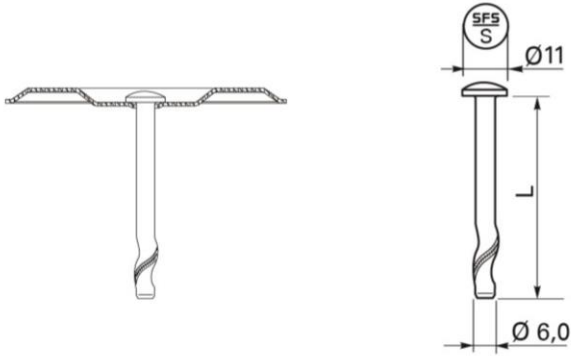
FI-P-6,8

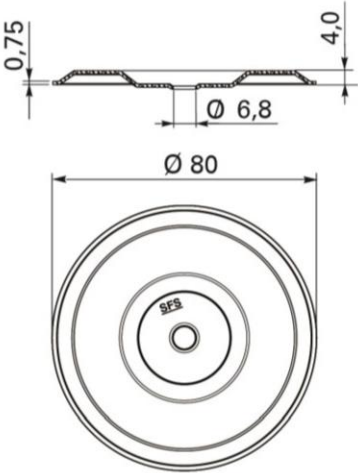
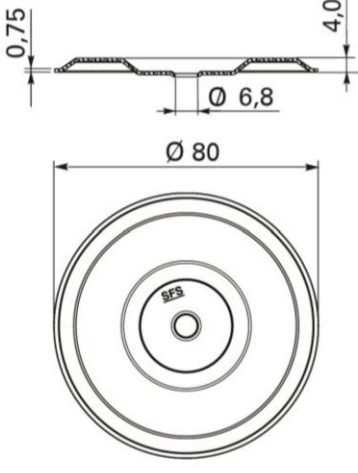


BS-6,1



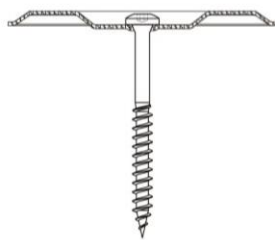
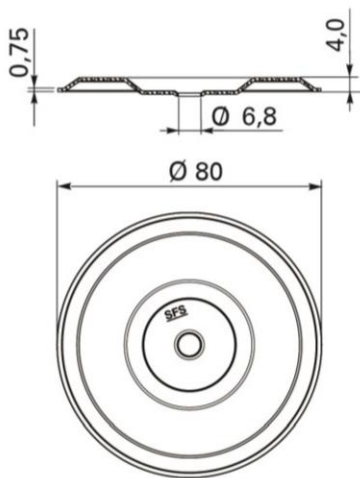
Kombination 41A DT-4,8 / FI-P-6,8	Kombination 41B DT-S-4,8 / FI-P-6,8
FI-P-6,8  DT-4,8 	FI-P-6,8  DT-S-4,8 
SFS intec Flachdachbefestigungselemente	Anhang 41

Kombination 42A DT-6,3 / FI-P-6,8	Kombination 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 Flachdachbefestigungselemente	
Anhang 42	

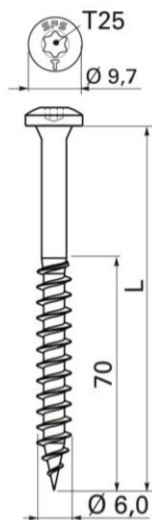
Kombination 43A LBS-T25-8,0 / FI-P-6,8	Kombination 43B LBS-S-T25-8,0 / FI-P-6,8
FI-P-6,8  LBS-T25-8,0  T25 Ø 9,7 70 Ø 8,0	FI-P-6,8  LBS-S-T25-8,0  T25 Ø 9,7 70 Ø 8,0
SFS intec Flachdachbefestigungselemente	
Anhang 43	

Kombination 44A
TS-T25-6,0 / FI-P-6,8

FI-P-6,8

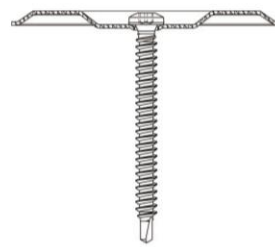
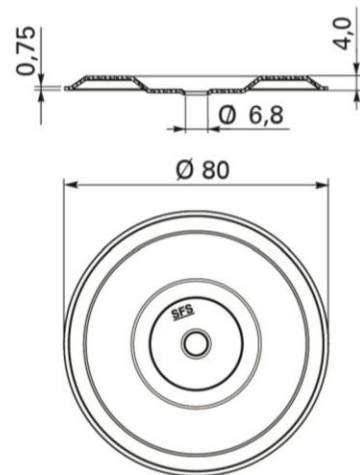


TS-T25-6,0

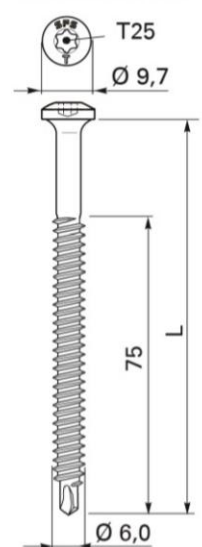


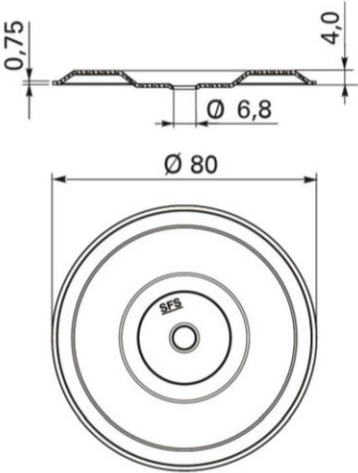
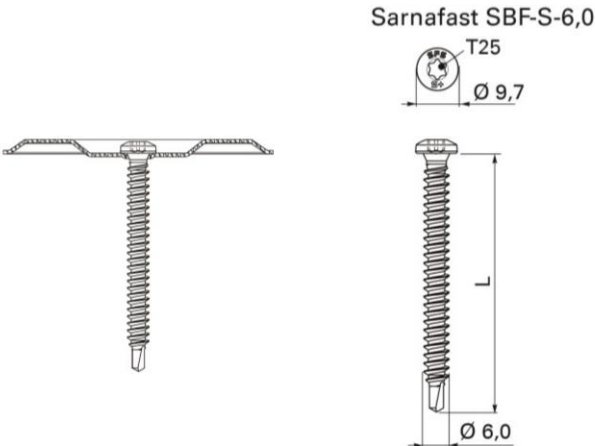
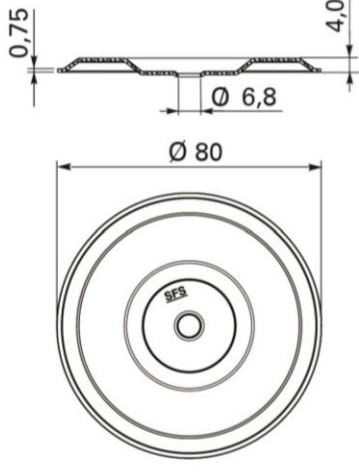
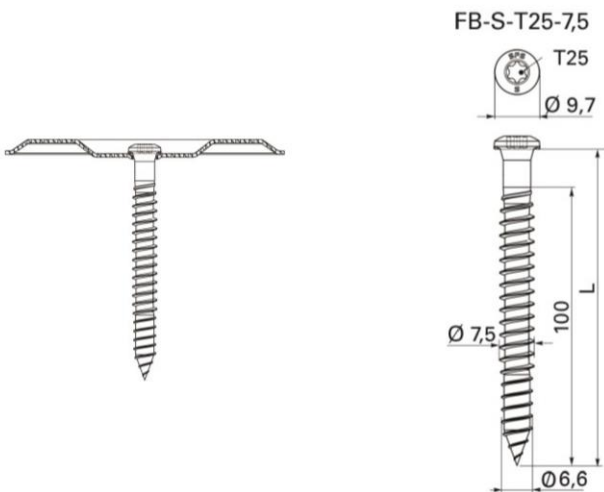
Kombination 44B
Sarnafast SBF-6,0 / FI-P-6,8

FI-P-6,8



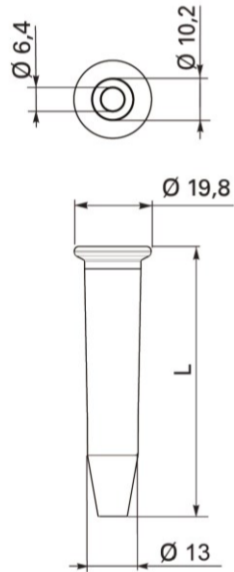
Sarnafast SBF-6,0



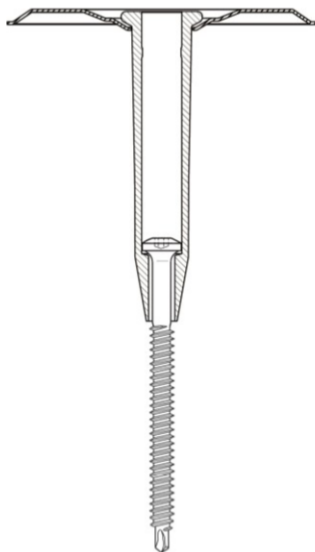
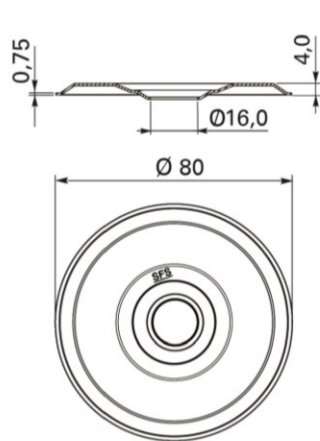
Kombination 45A Sarnafast SBF-S-6,0 / FI-P-6,8	Kombination 45B FB-S-T25-7,5 / FI-P-6,8
FI-P-6,8  Sarnafast SBF-S-6,0 	FI-P-6,8  FB-S-T25-7,5 
SFS intec Flachdachbefestigungselemente	Anhang 45

Kombination 46A
BS-4,8 / FI-P-16,0 / FI-R-20

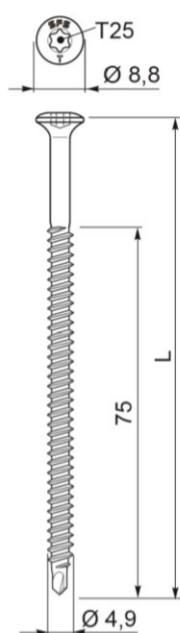
FI-R-20



FI-P-16,0

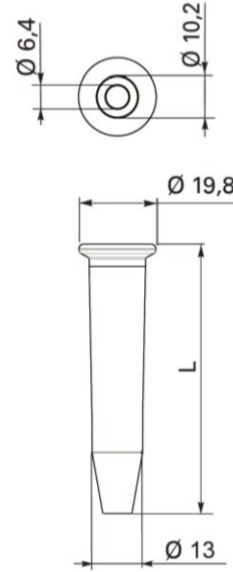


BS-4,8

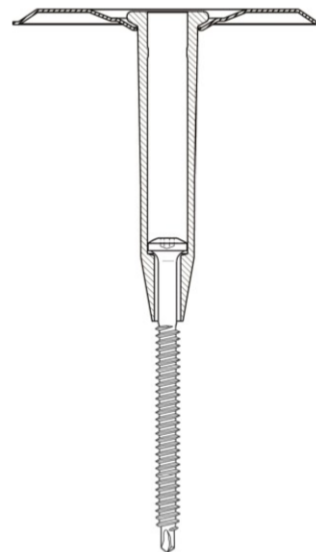
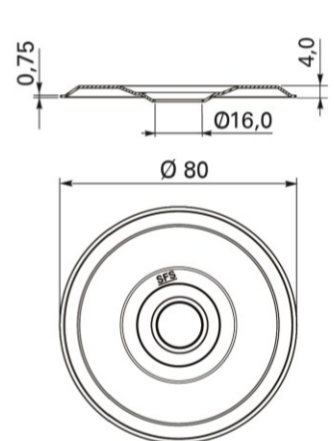


Kombination 46B
BS-S-4,8 / FI-P-16,0 / FI-R-20

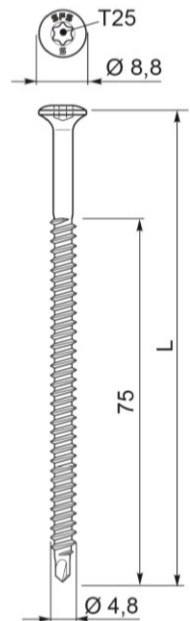
FI-R-20



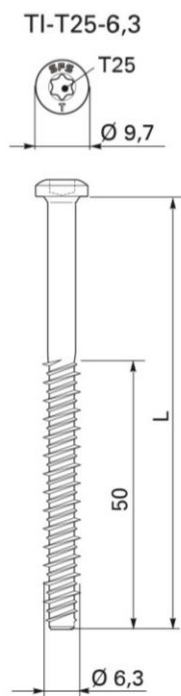
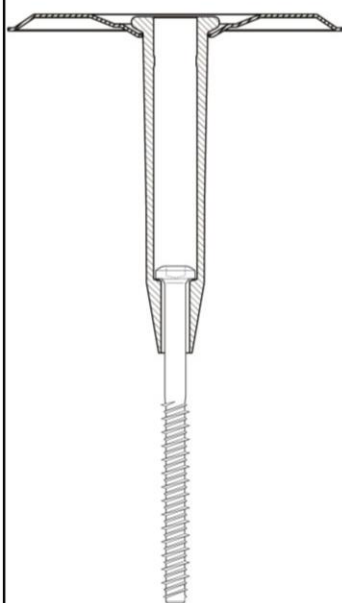
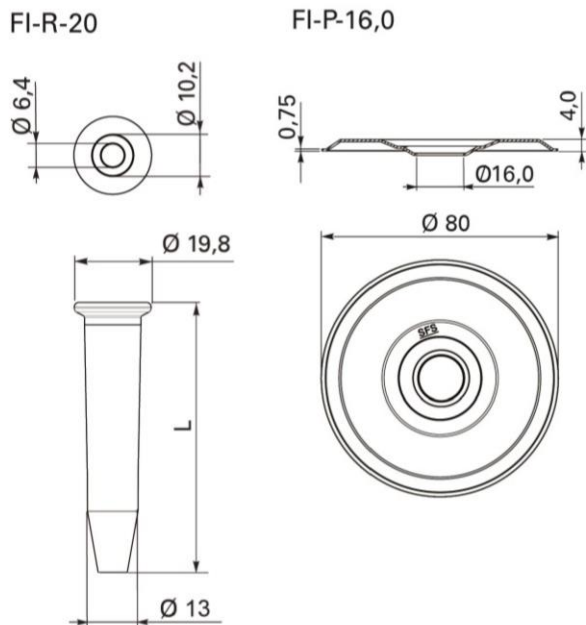
FI-P-16,0



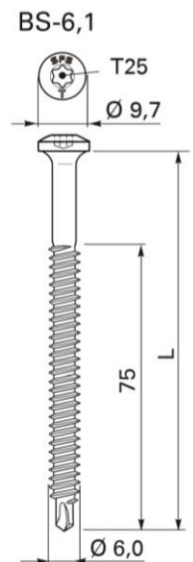
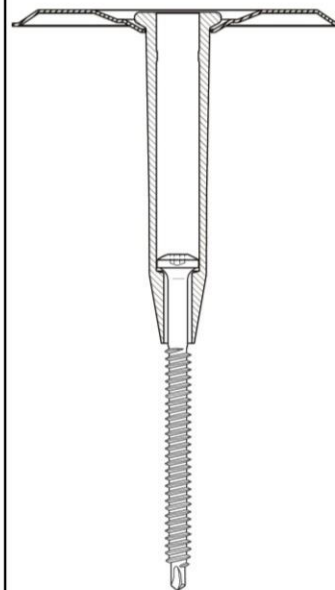
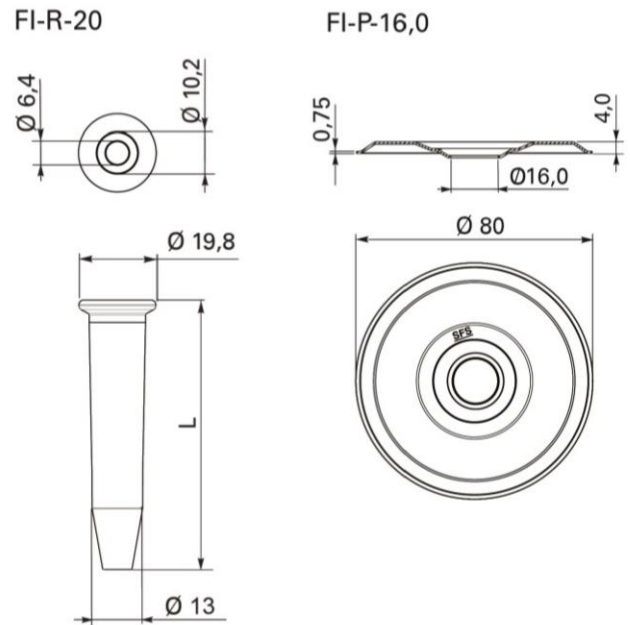
BS-S-4,8



Kombination 47A
TI-T25-6,3 / FI-P-16,0 / FI-R-20

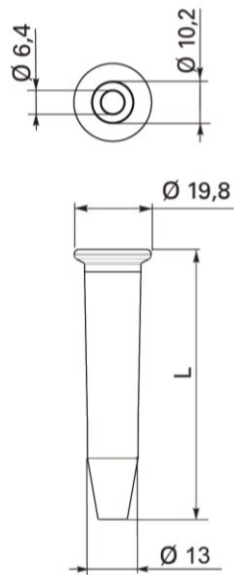


Kombination 47B
BS-6,1 / FI-P-16,0 / FI-R-20

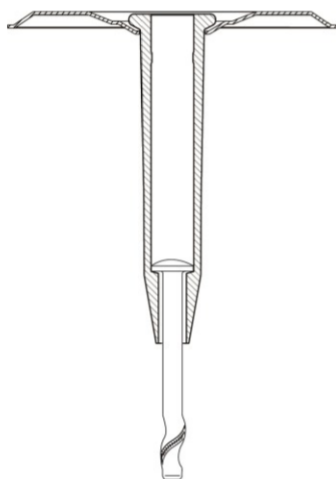
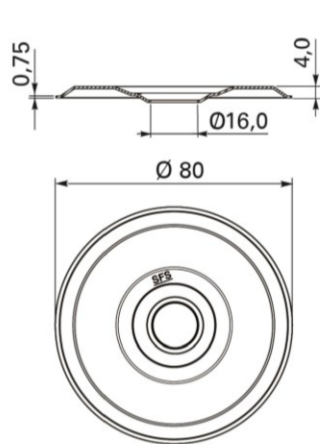


Kombination 48A
DT-4,8 / FI-P-16,0 / FI-R-20

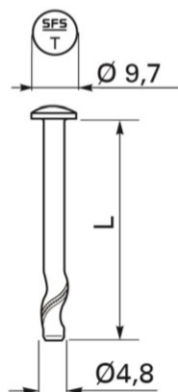
FI-R-20



FI-P-16,0

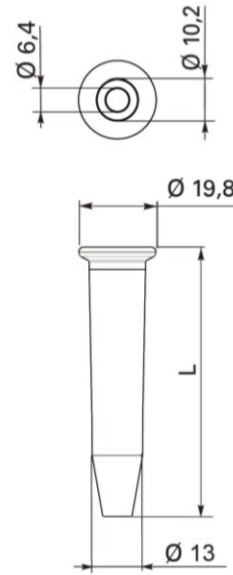


DT-4,8

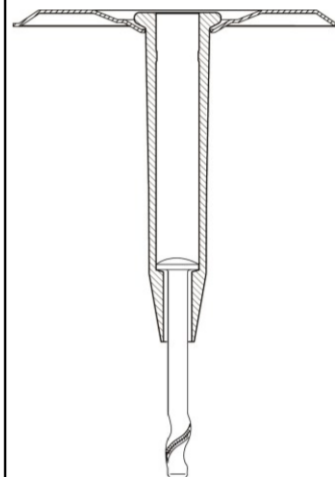
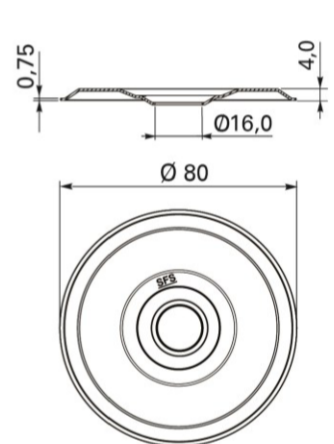


Kombination 48B
DT-S-4,8 / FI-P-16,0 / FI-R-20

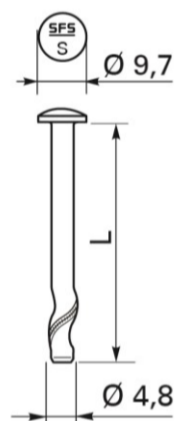
FI-R-20



FI-P-16,0

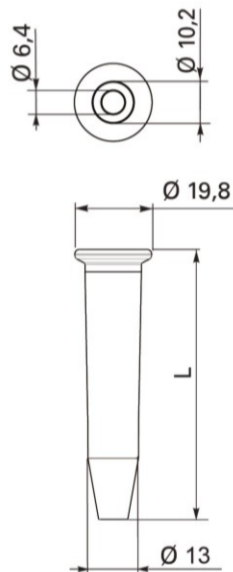


DT-S-4,8

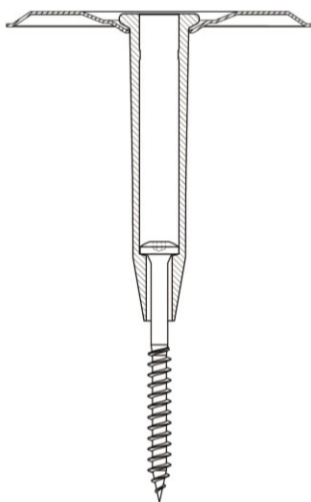
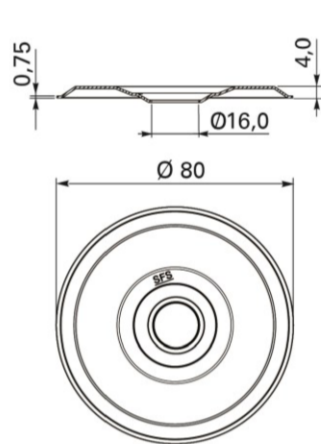


Kombination 49A
TS-T25-6,0 / FI-P-16,0 / FI-R-20

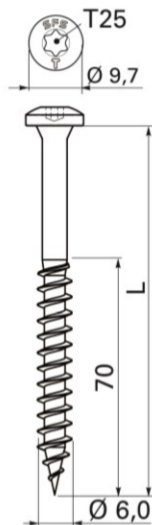
FI-R-20



FI-P-16,0

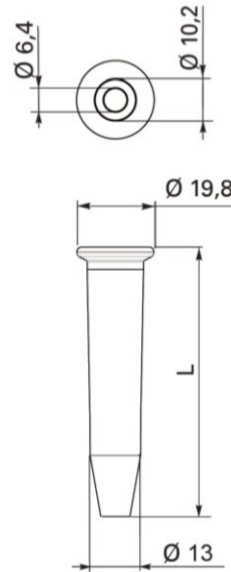


TS-T25-6,0

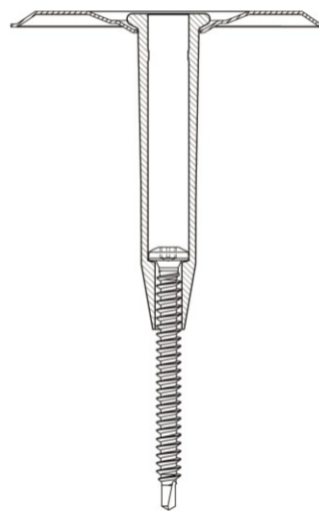
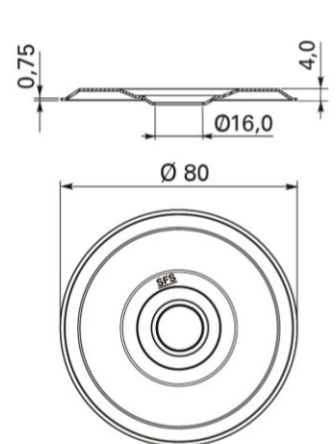


Kombination 49B
Sarnafast SBF-6,0 / FI-P-16,0 / FI-R-20

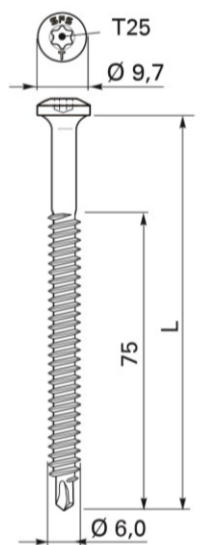
FI-R-20



FI-P-16,0

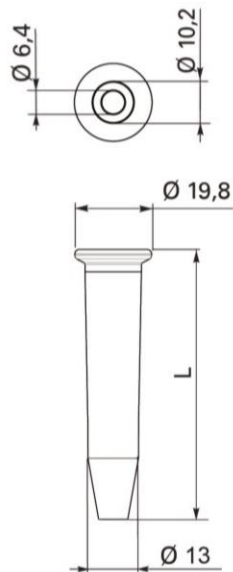


Sarnafast SBF-6,0

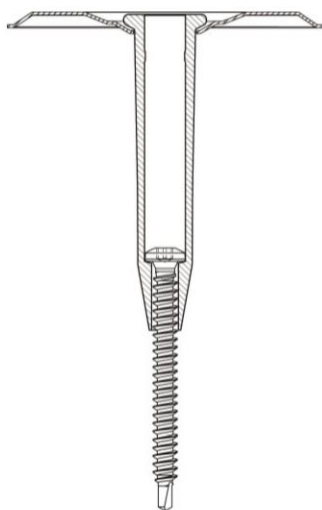
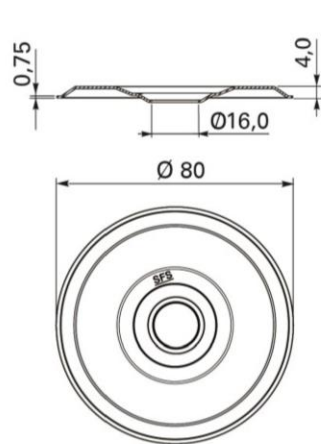


Kombination 50A
Sarnafast SBF-S-6,0 / FI-P-16,0 / FI-R-20

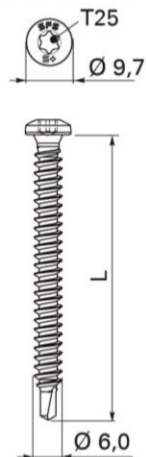
FI-R-20



FI-P-16,0

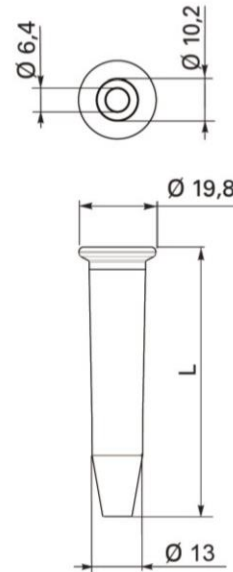


Sarnafast SBF-S-6,0

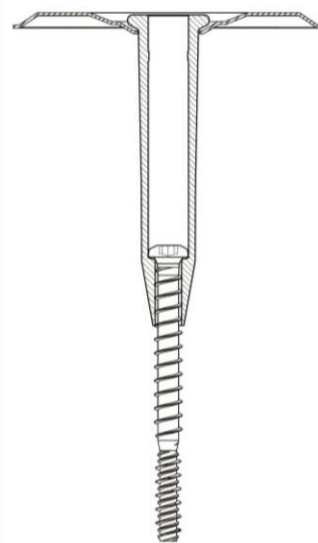
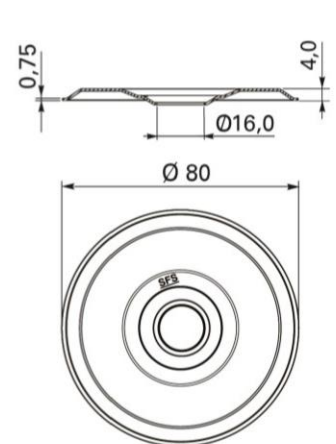


Kombination 50B
TIA-T25-6,3 / FI-P-16,0 / FI-R-20

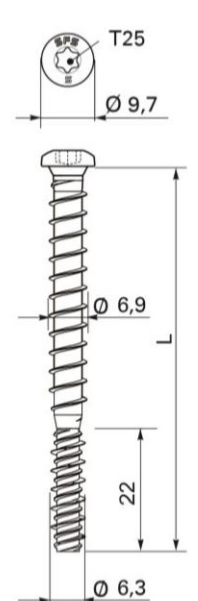
FI-R-20



FI-P-16,0

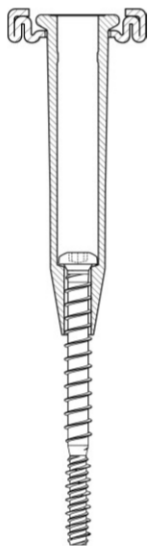
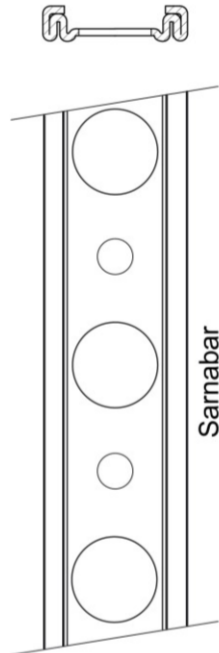
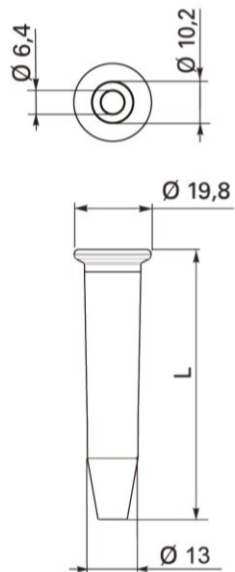


TIA-T25-6,3

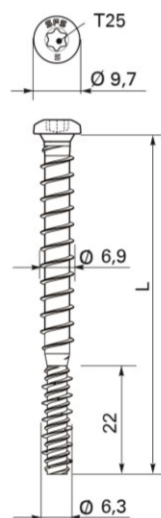


Kombination 51A
TIA-T25-6,3 / FI-R-20 / Sarnabar

FI-R-20

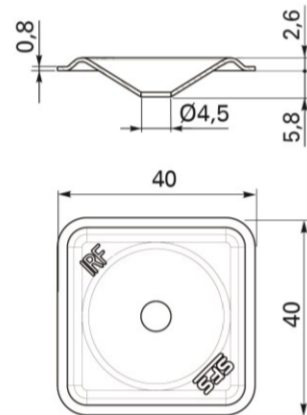


TIA-T25-6,3



Kombination 51B
IRF-4,8 / IRF-40x40

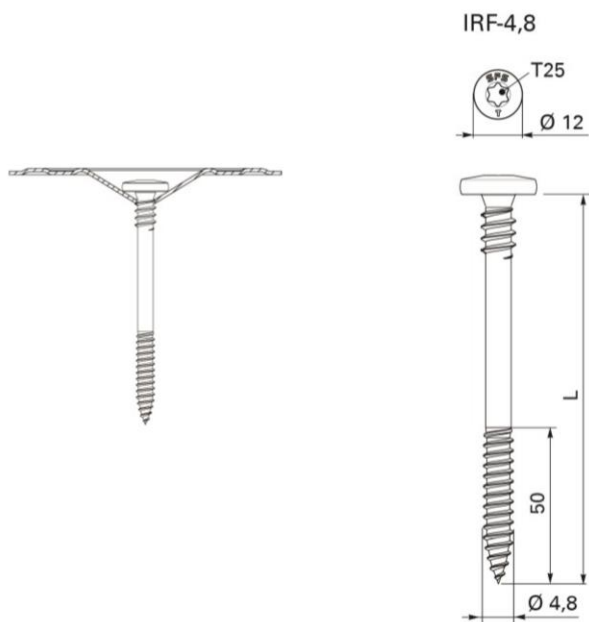
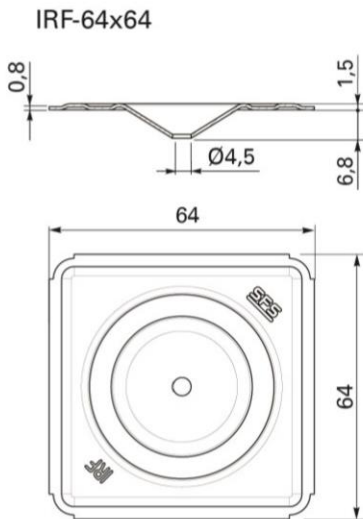
IRF-40x40



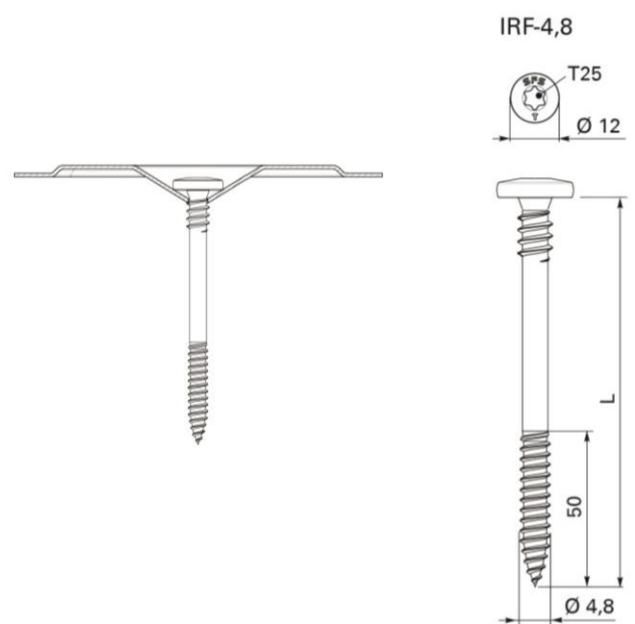
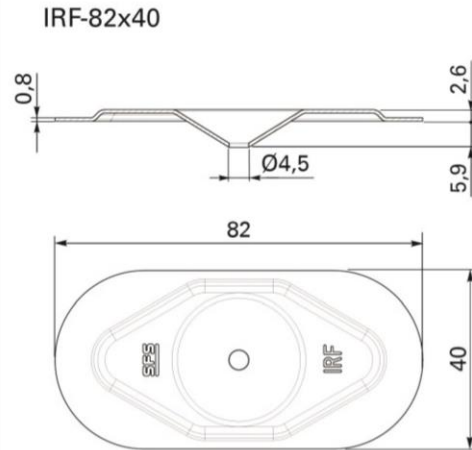
IRF-4,8



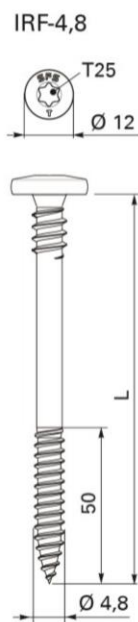
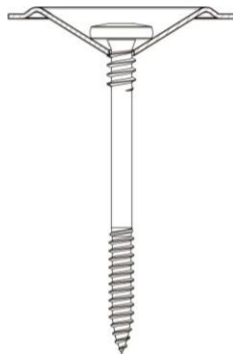
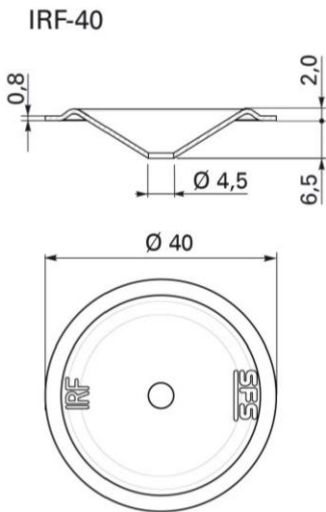
Kombination 52A
IRF-4,8 / IRF-64x64



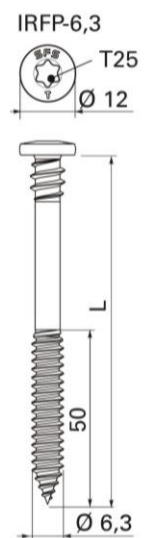
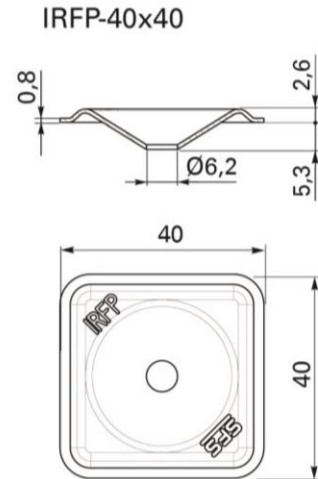
Kombination 52B
IRF-4,8 / IRF-82x40



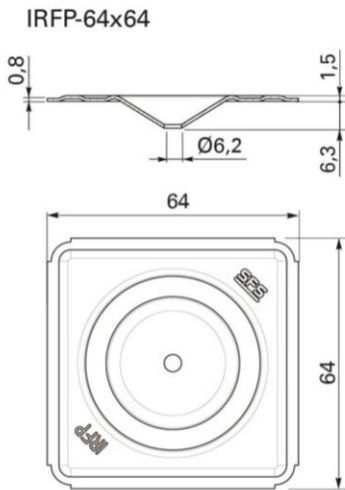
Kombination 53A
IRF-4,8 / IRF-40



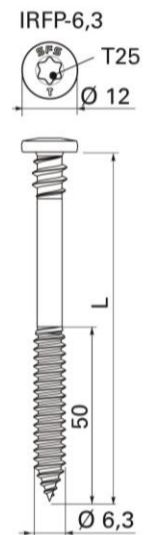
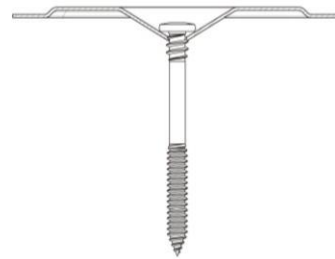
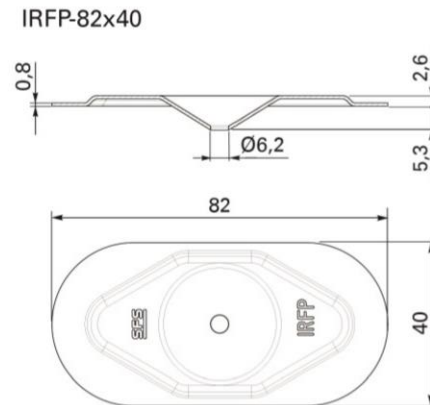
Kombination 53B
IRFP-6,3 / IRFP-40x40



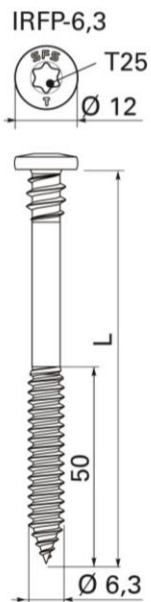
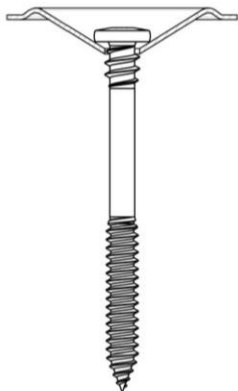
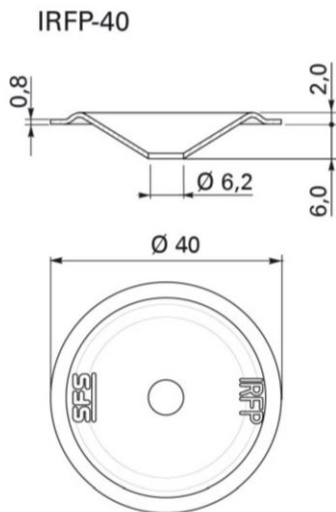
Kombination 54A
IRFP-6,3 / IRFP-64x64



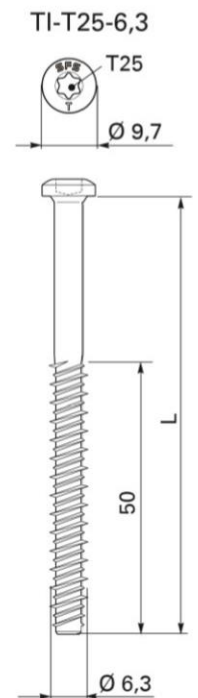
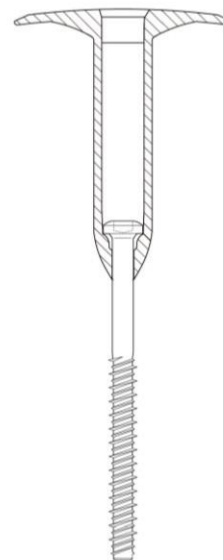
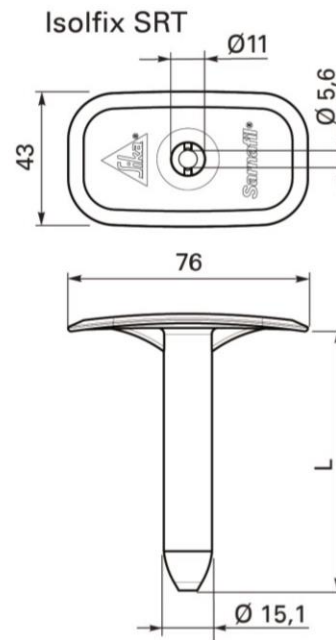
Kombination 54B
IRFP-6,3 / IRFP-82x40



Kombination 55A
IRFP-6,3 / IRFP-40



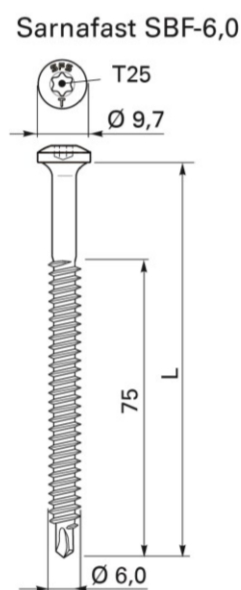
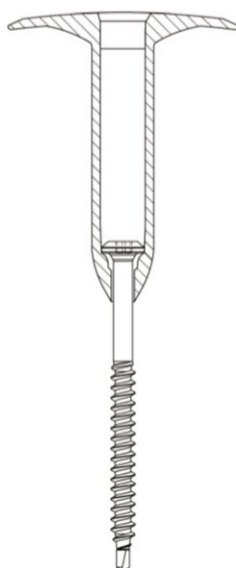
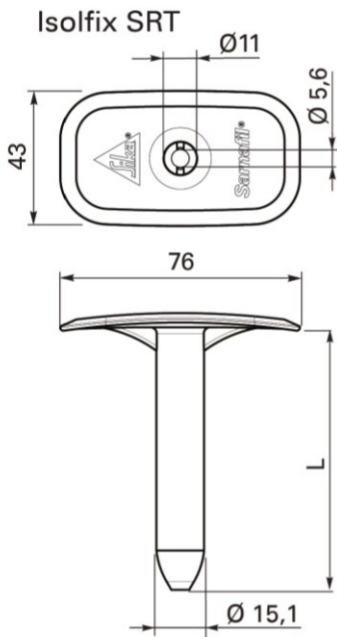
Kombination 55B
TI-T25-6,3 / Isolfix SRT



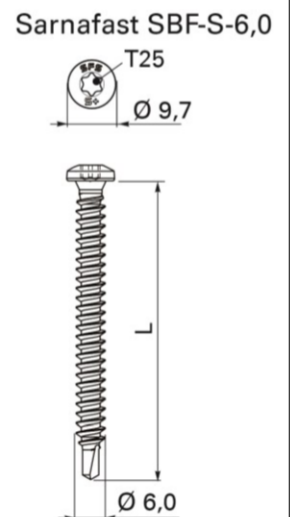
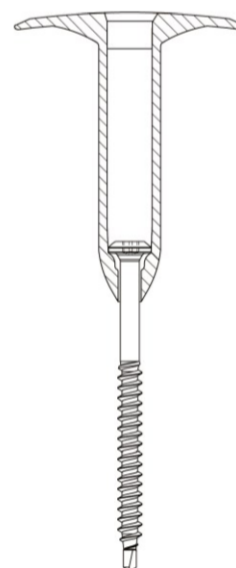
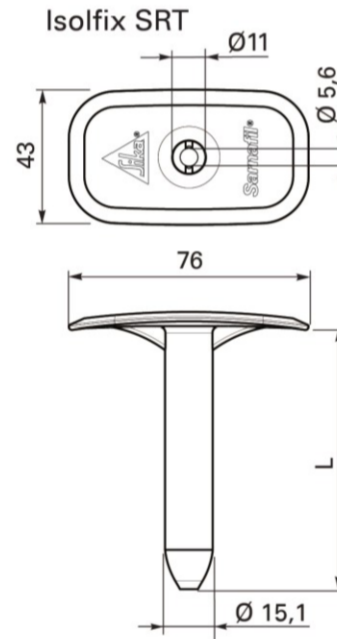
SFS intec Flachdachbefestigungselemente

Anhang 55

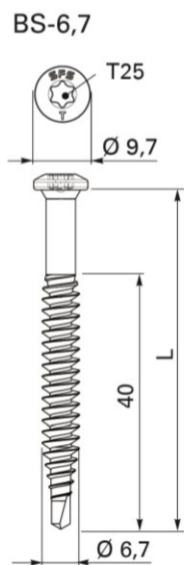
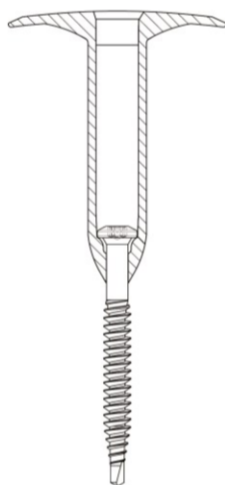
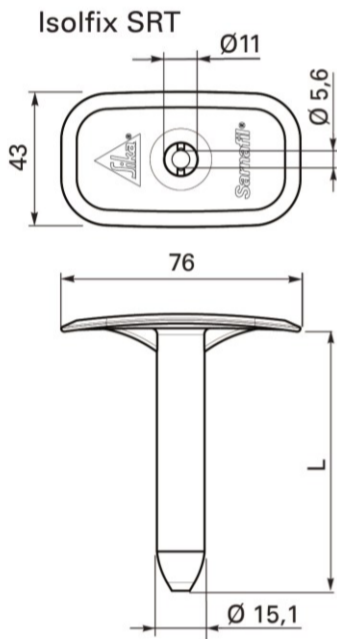
Kombination 56A
Sarnafast SBF-6,0 / Isolfix SRT



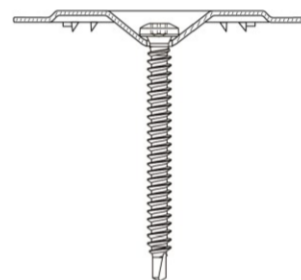
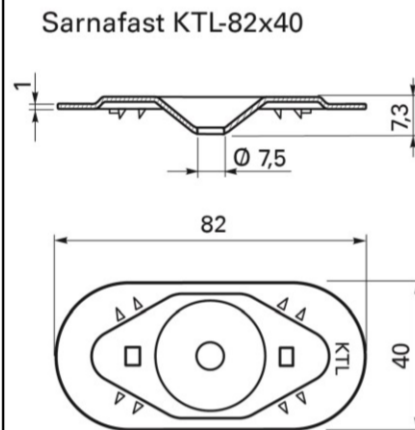
Kombination 56B
Sarnafast SBF-S-6,0 / Isolfix SRT



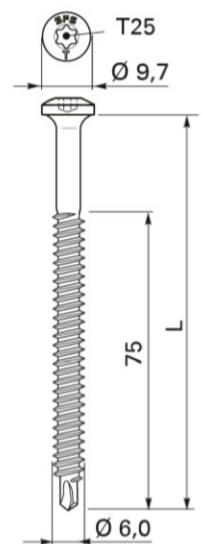
Kombination 57A
BS-6,7 / Isolfix SRT



Kombination 57B
Sarnafast SBF-6,0 / Sarnafast KTL-82x40



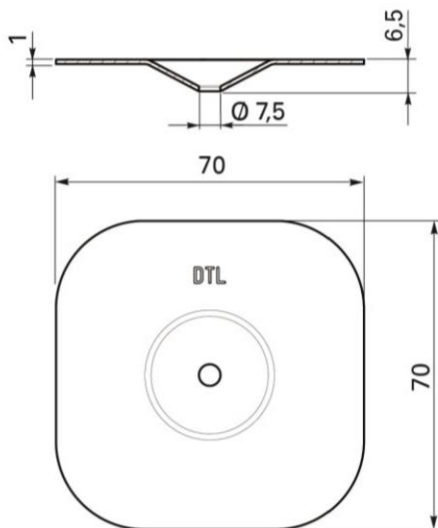
Sarnafast SBF-6,0



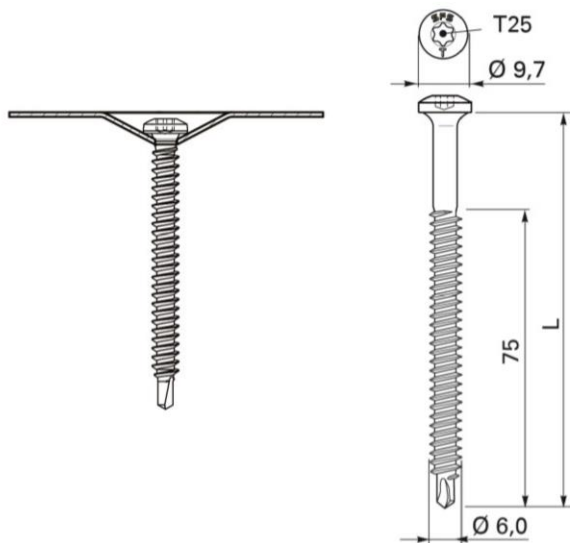
Kombination 58A

Sarnafast SBF-6,0 / Sarnafast DTL-70x70

Sarnafast DTL-70x70



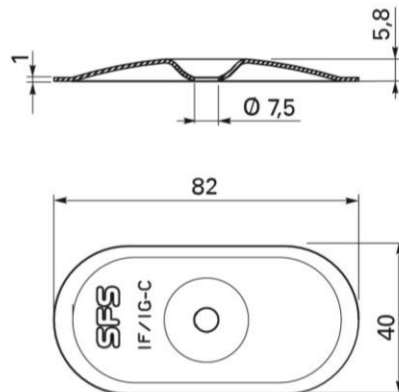
Sarnafast SBF-6,0



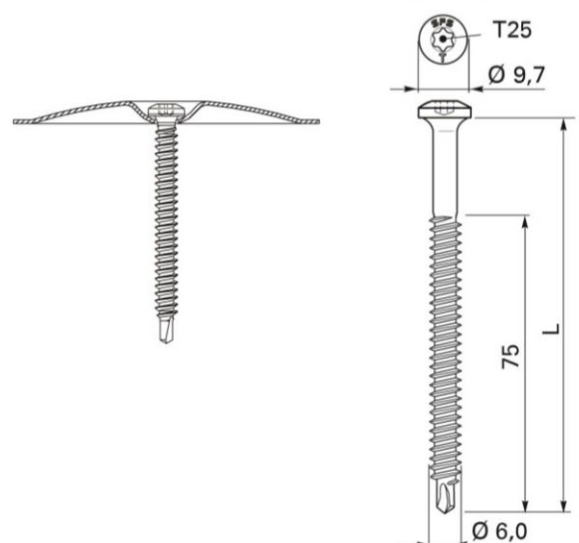
Kombination 58B

Sarnafast SBF-6,0 / IF/IG-C-82x40

IF/IG-C-82x40



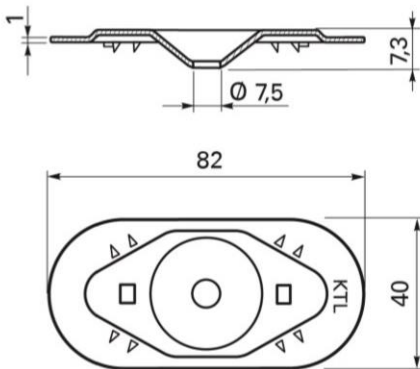
Sarnafast SBF-6,0



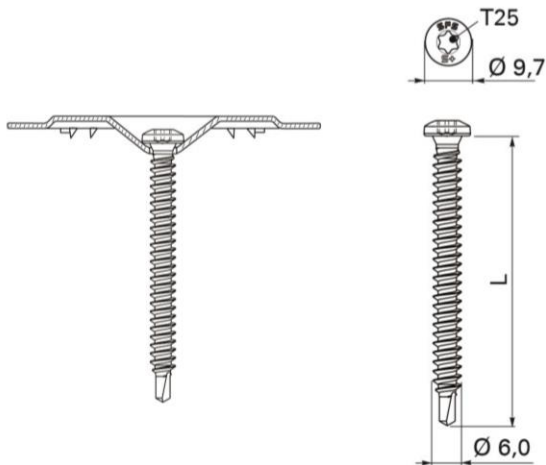
Kombination 59A

Sarnafast SBF-S-6,0 / Sarnafast KTL-82x40

Sarnafast KTL-82x40



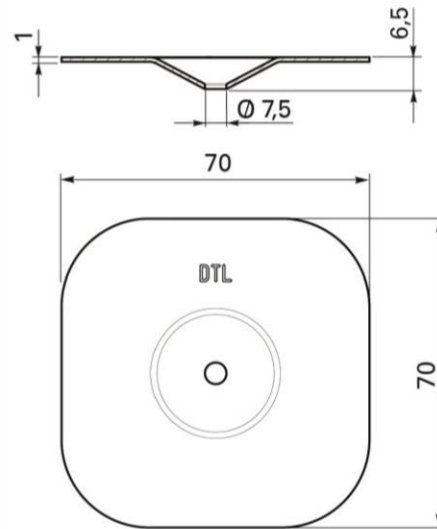
Sarnafast SBF-S-6,0



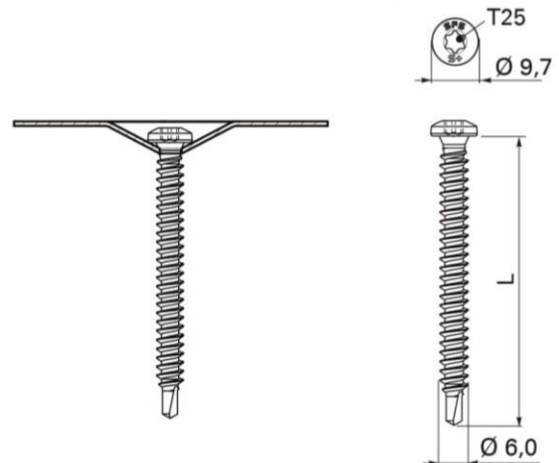
Kombination 59B

Sarnafast SBF-S-6,0 / Sarnafast DTL-70x70

Sarnafast DTL-70x70

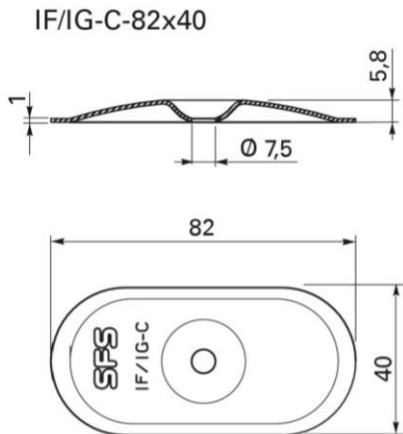


Sarnafast SBF-S-6,0

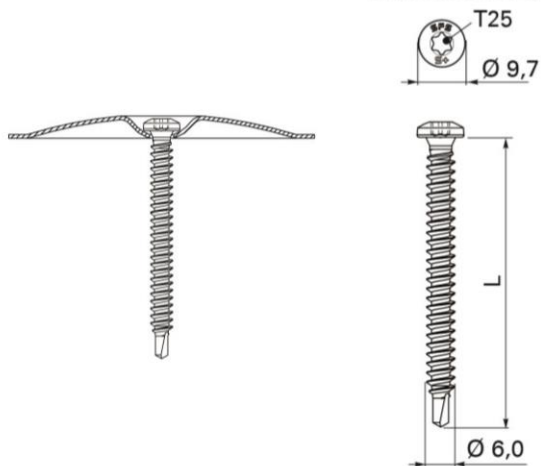


Kombination 60A

Sarnafast SBF-S-6,0 / IF/IG-C-82x40



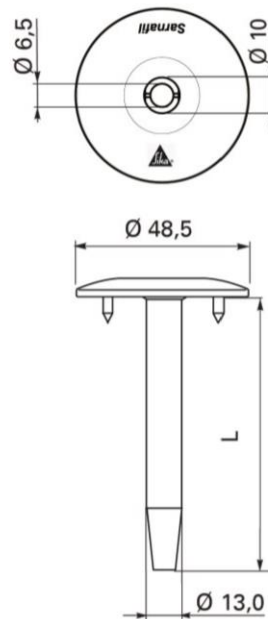
Sarnafast SBF-S-6,0



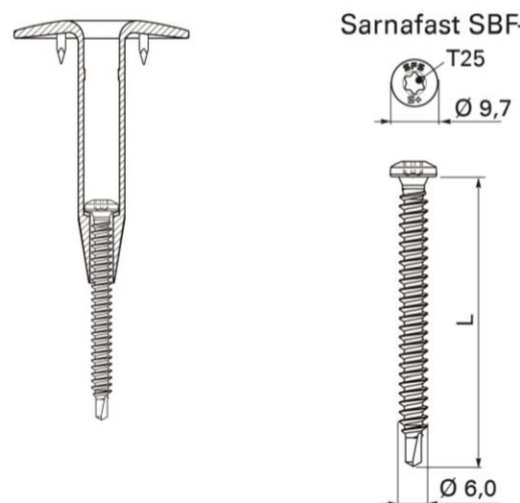
Kombination 60B

Sarnafast SBF-S-6,0 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50



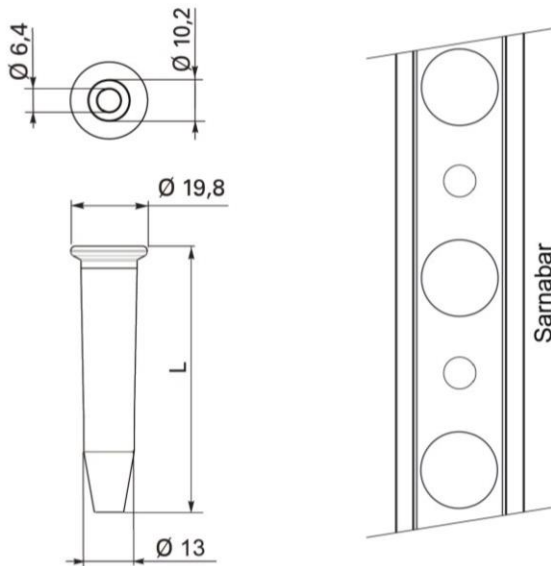
Sarnafast SBF-S-6,0



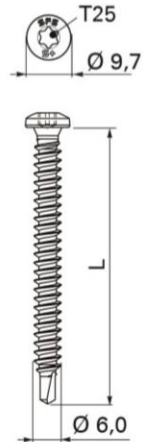
Kombination 61A

Sarnafast SBF-S-6,0 / Sarnabar Tube SBT-20 /
Sarnabar

Sarnabar Tube SBT-20



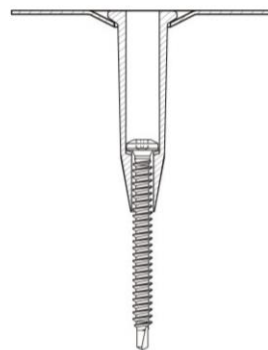
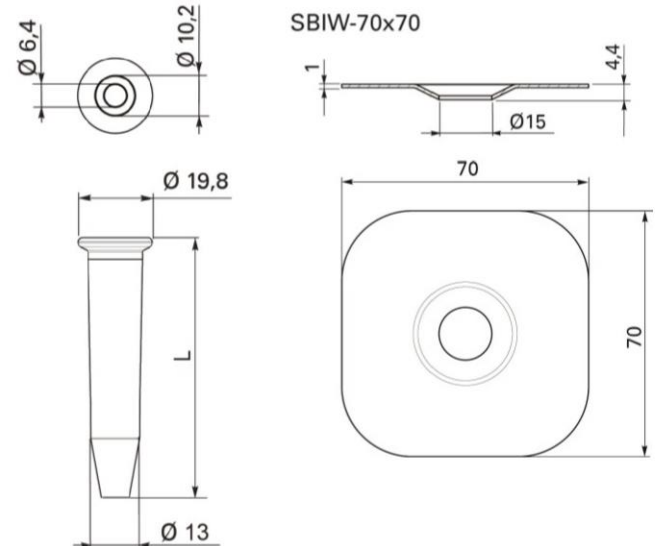
Sarnafast SBF-S-6,0



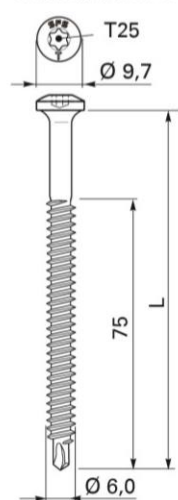
Kombination 61B

Sarnafast SBF-6,0 / SBIW-70x70 /
Sarnabar Tube SBT-20

Sarnabar Tube SBT-20

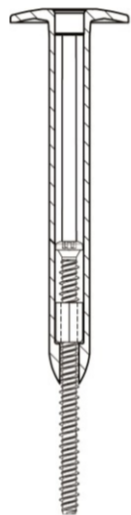
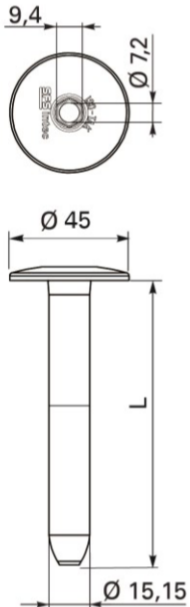


Sarnafast SBF-6,0

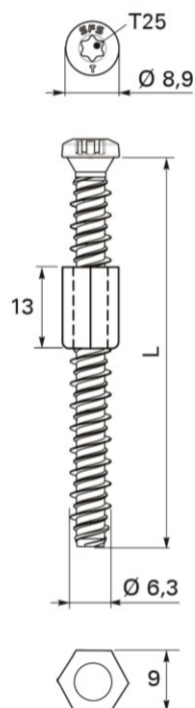


Kombination 62A
TIF-N-6,3 / RH45

RH45

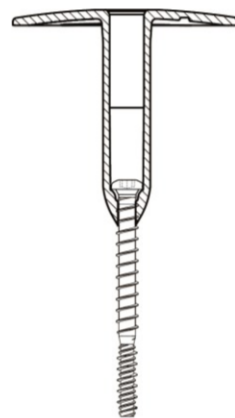
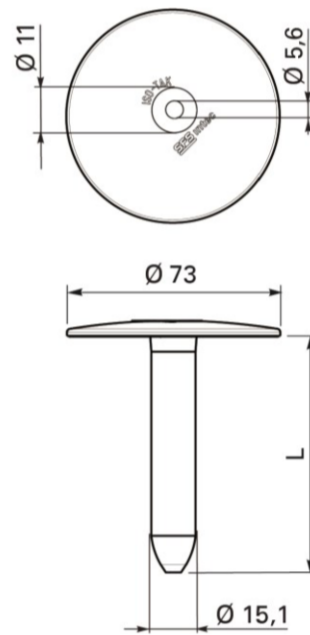


TIF-N-6,3

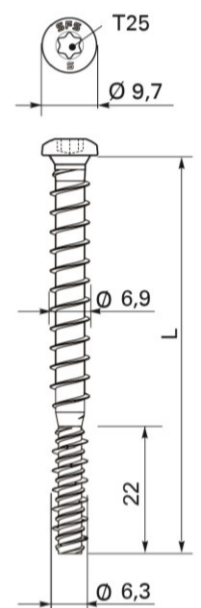


Kombination 62B
TIA-T25-6,3 / R75

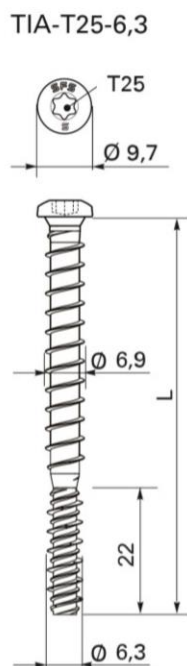
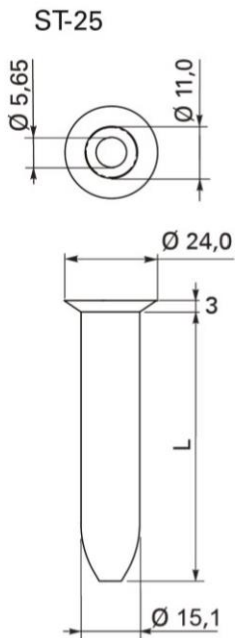
R75



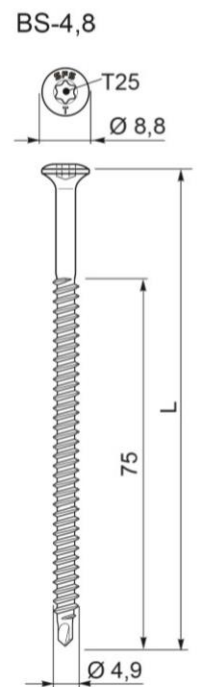
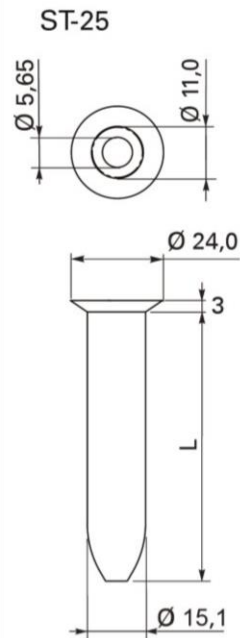
TIA-T25-6,3



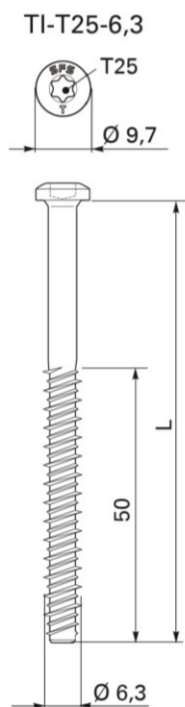
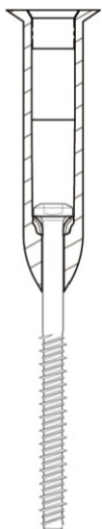
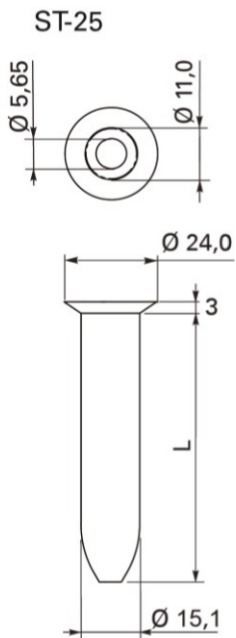
Kombination 63A
TIA-T25-6,3 / ST-25



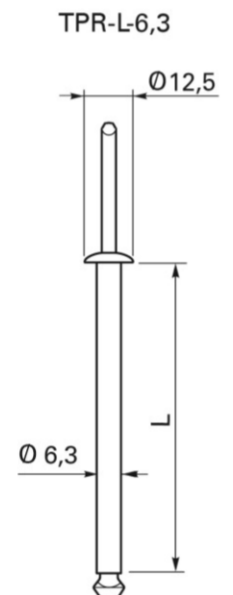
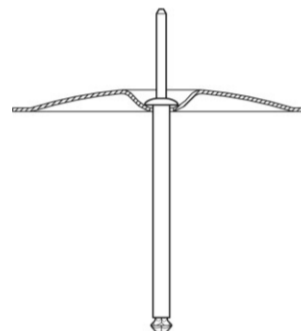
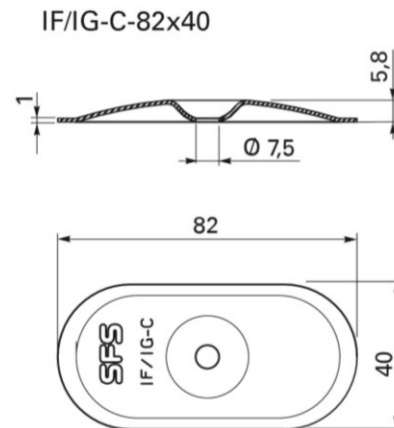
Kombination 63B
BS-4,8 / ST-25

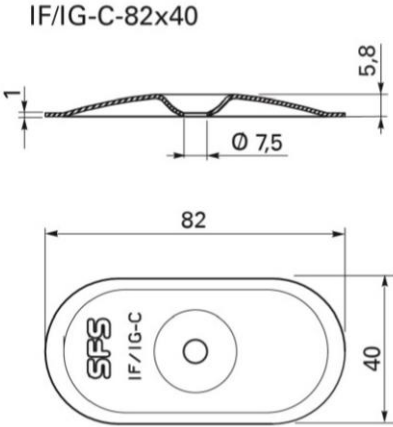
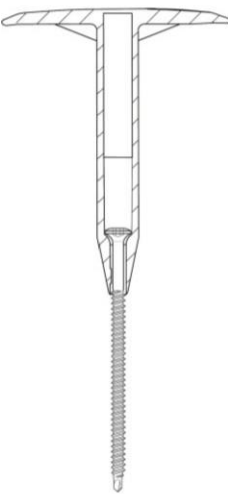
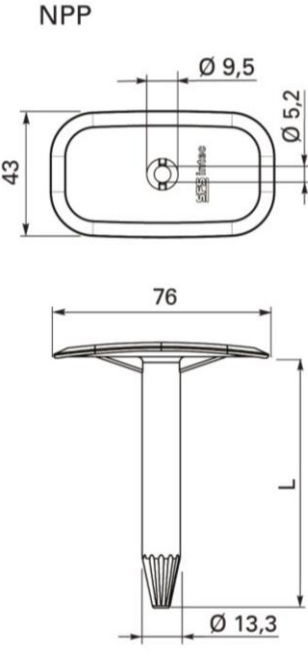
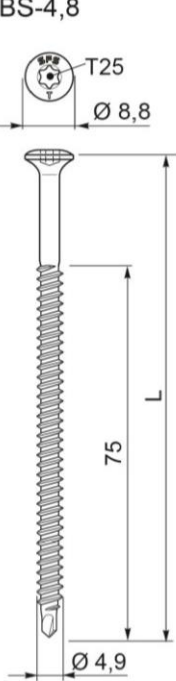


Kombination 64A
TI-T25-6,3 / ST-25

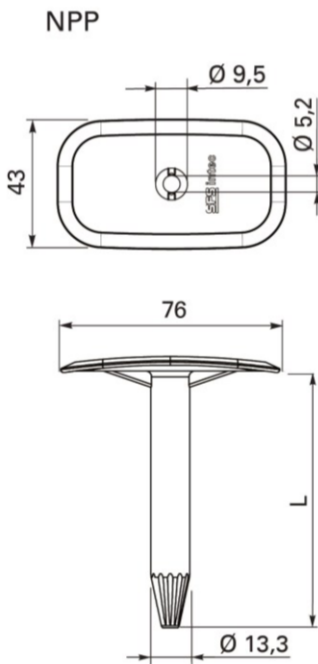


Kombination 64B
TPR-L-6,3 / IF/IG-C-82x40

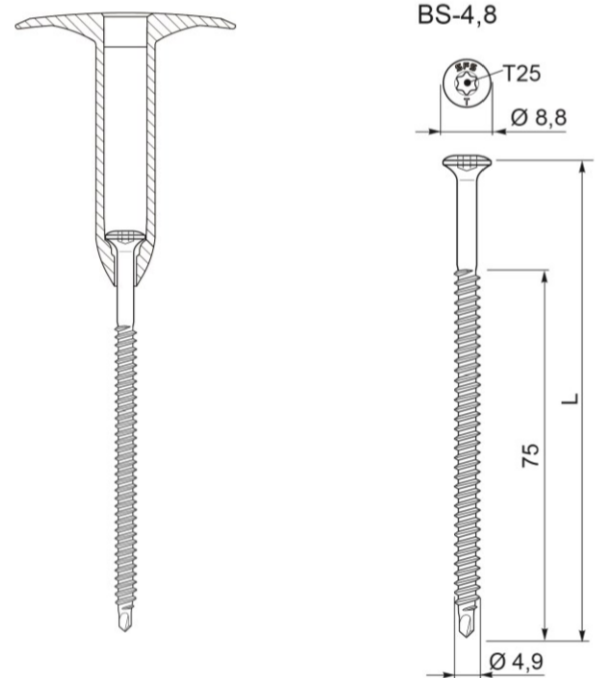
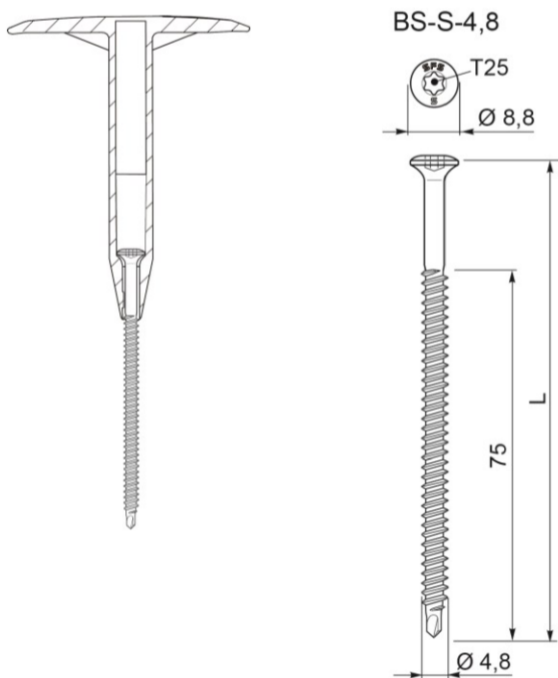
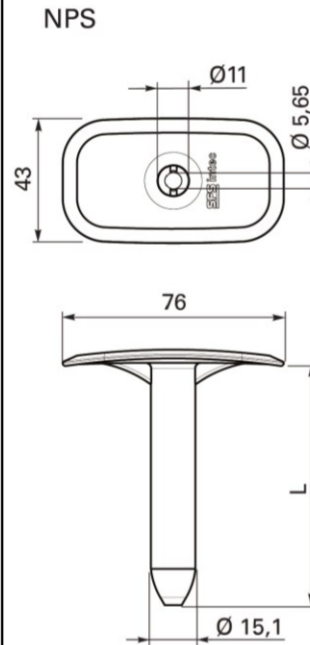


Kombination 65A LBS-S-T25-8,0 / IF/IG-C-82x40	Kombination 65B BS-4,8 / NPP
IF/IG-C-82x40  LBS-S-T25-8,0  BS-4,8 	NPP  BS-4,8 
SFS intec Flachdachbefestigungselemente	Anhang 65

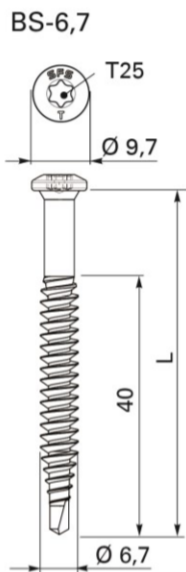
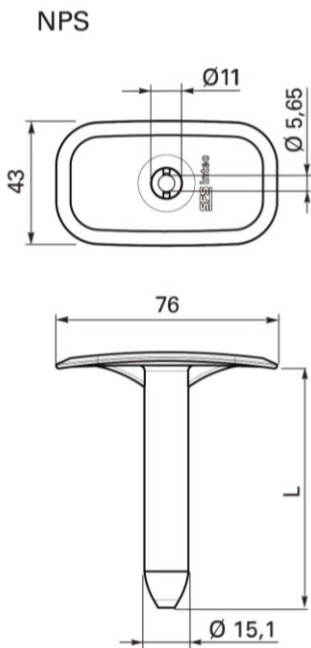
Kombination 66A
BS-S-4,8 / NPP



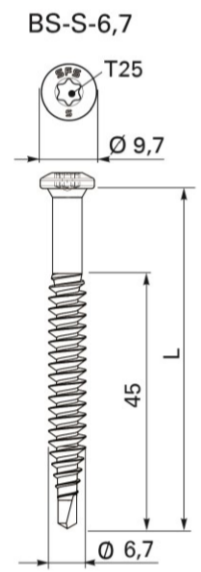
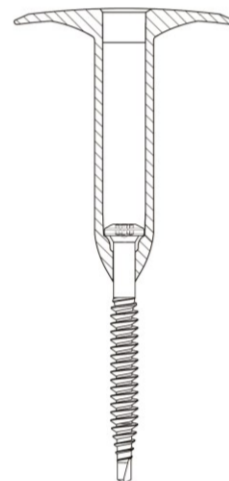
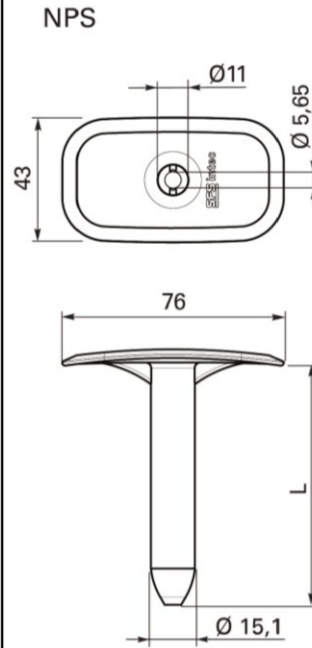
Kombination 66B
BS-4,8 / NPS



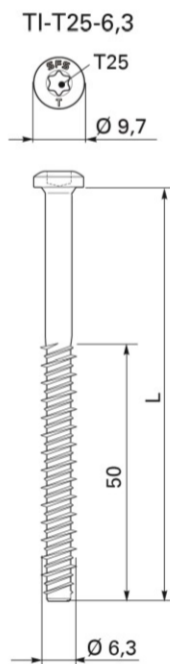
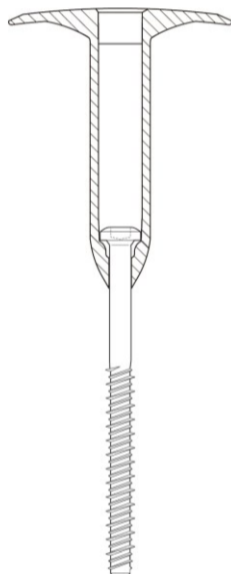
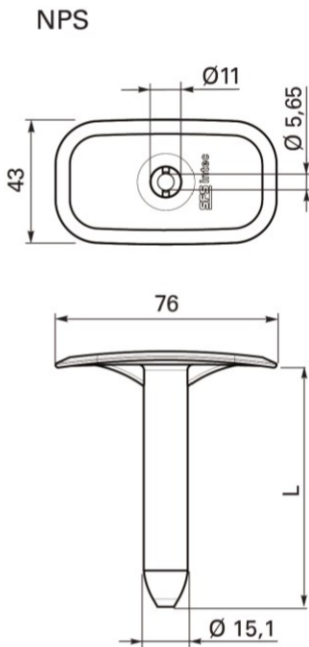
Kombination 67A
BS-6,7 / NPS



Kombination 67B
BS-S-6,7 / NPS

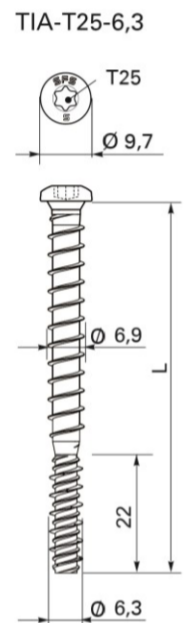
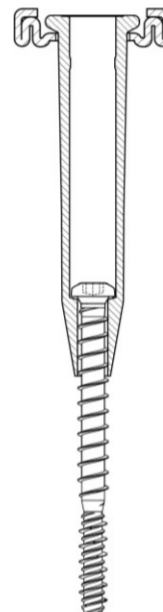
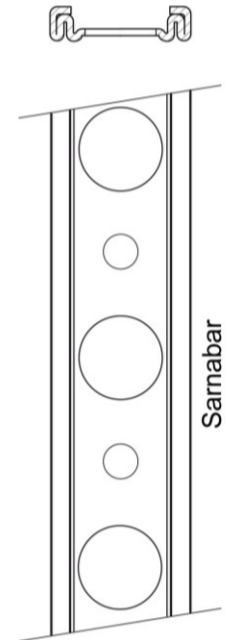
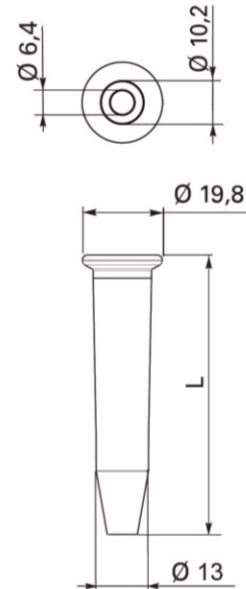


Kombination 68A
TI-T25-6,3 / NPS

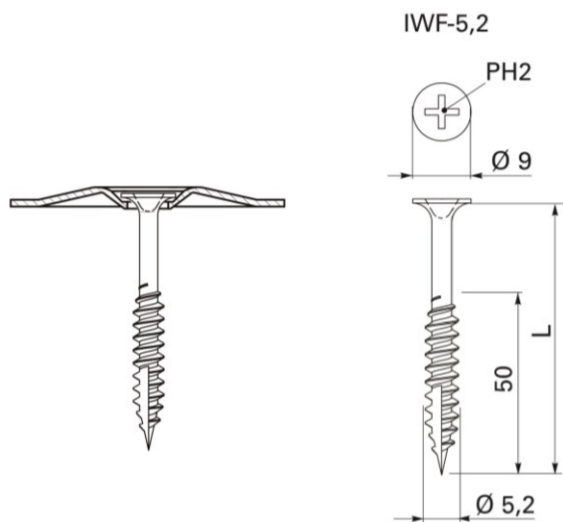
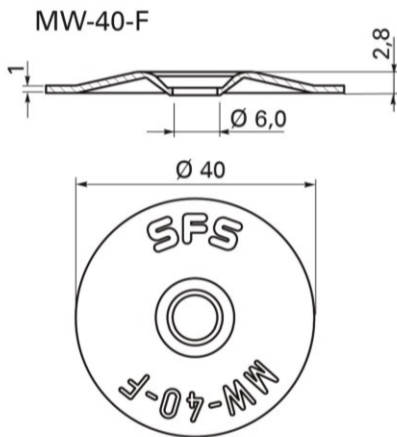


Kombination 68B
TIA-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar

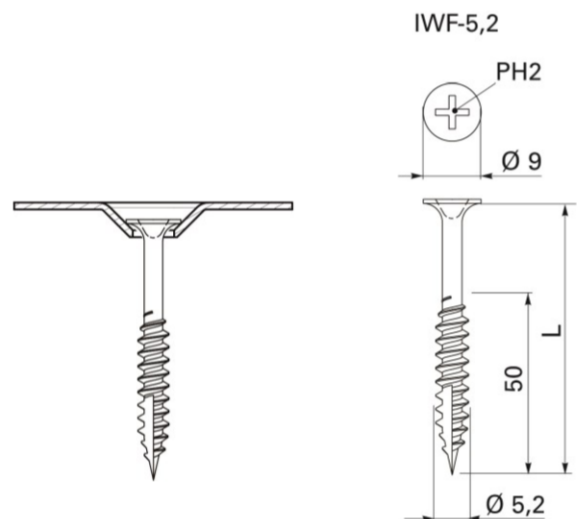
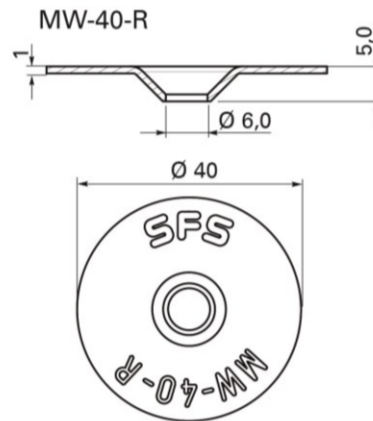
Sarnabar Tube SBT-20



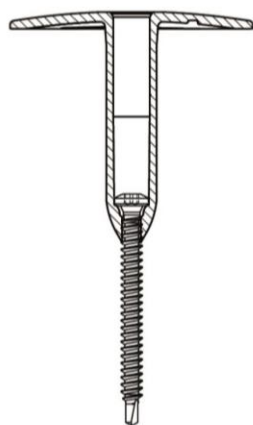
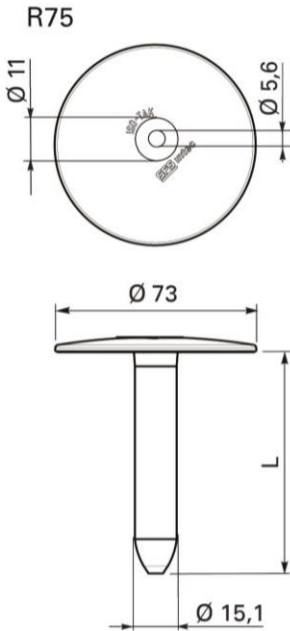
Kombination 69A
IWF-5,2 / MW-40-F



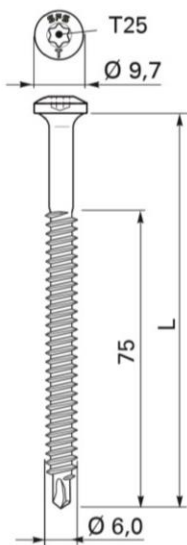
Kombination 69B
IWF-5,2 / MW-40-R



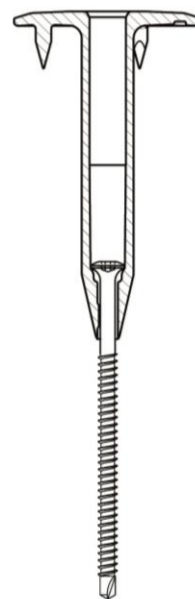
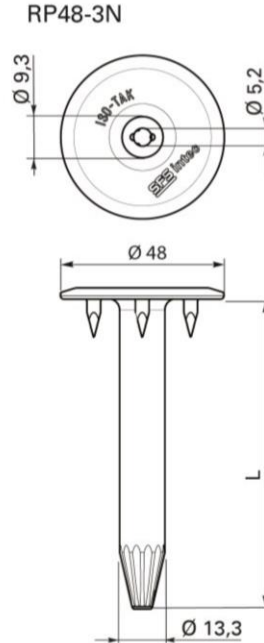
Kombination 70A
Sarnafast SBF-6,0 / R75



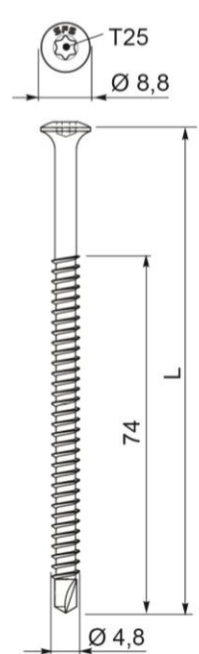
Sarnafast SBF-6,0



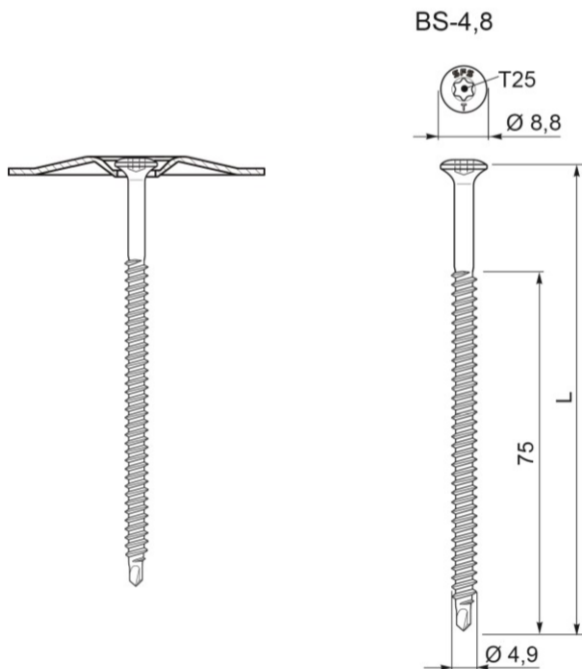
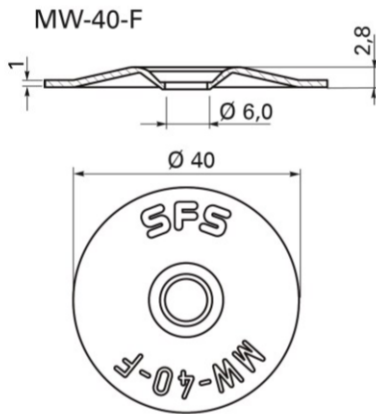
Kombination 70B
BS3-4,8 / RP48-3N



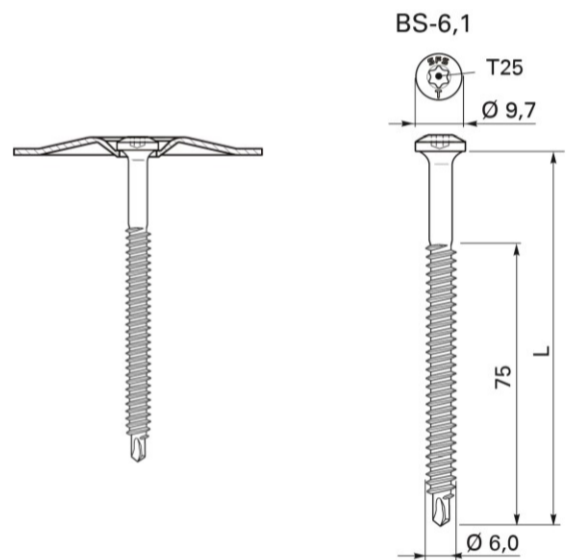
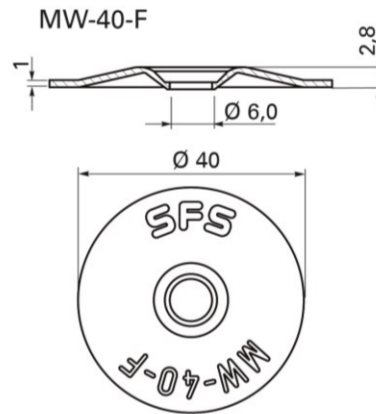
BS3-4,8



Kombination 71A
BS-4,8 / MW-40-F

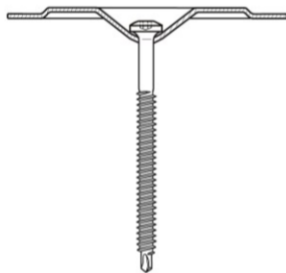
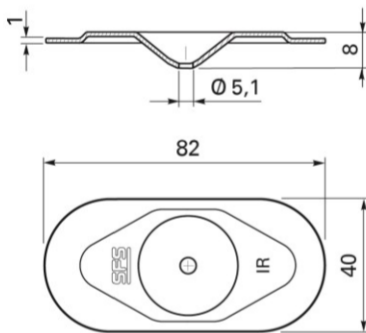


Kombination 71B
BS-6,1 / MW-40-F

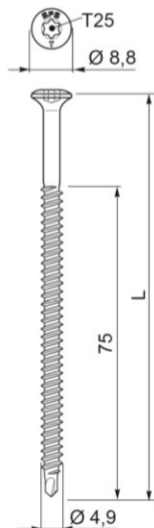


Kombination 72A
BS-4,8 / IR-82x40

IR-82x40

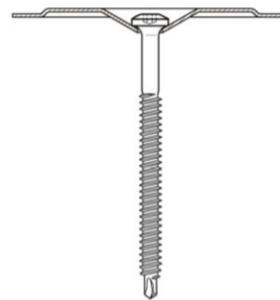
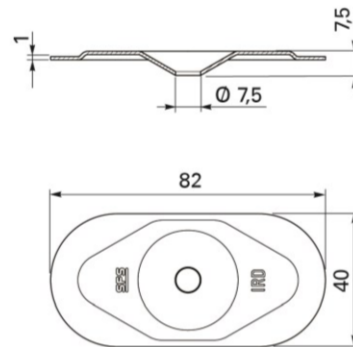


BS-4,8

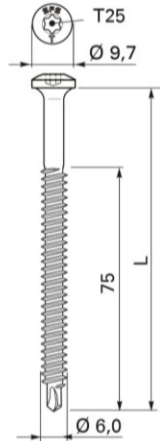


Kombination 72B
BS-6,1 / IRD-82x40

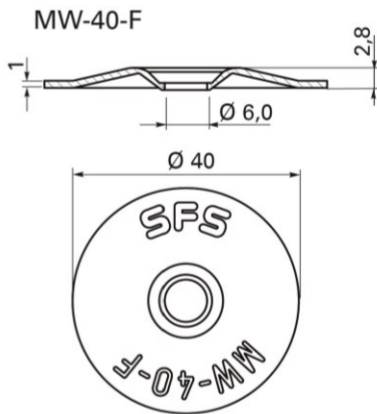
IRD-82x40



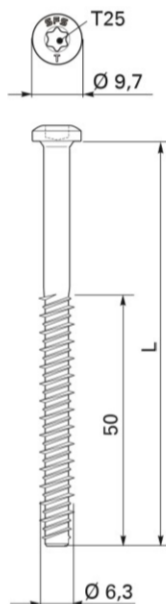
BS-6,1



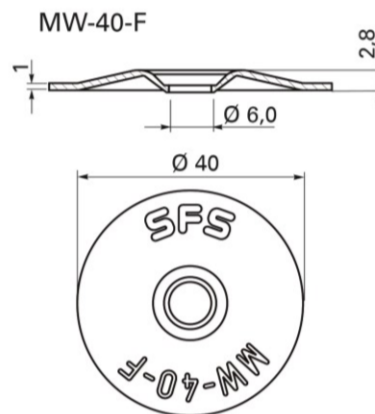
Kombination 73A
TI-T25-6,3 / MW-40-F



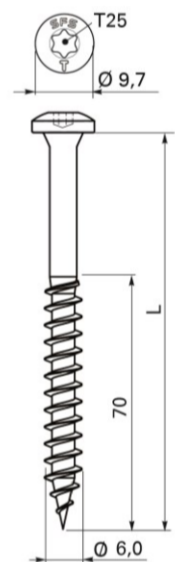
TI-T25-6,3



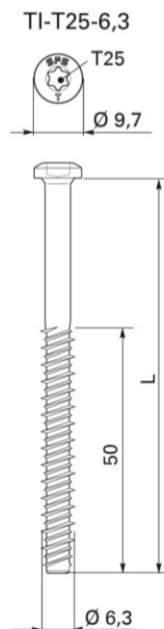
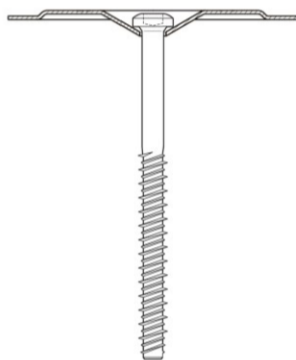
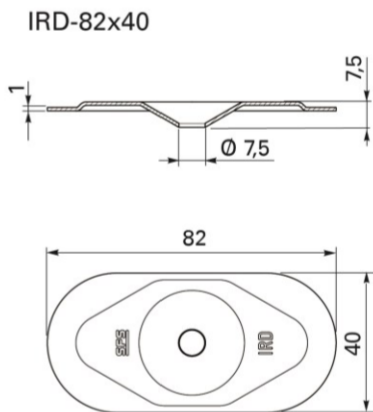
Kombination 73B
TS-T25-6,0 / MW-40-F



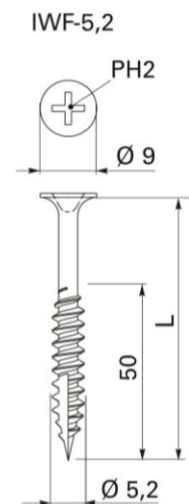
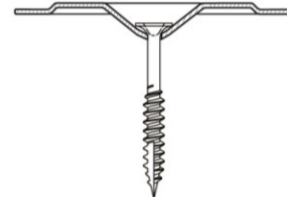
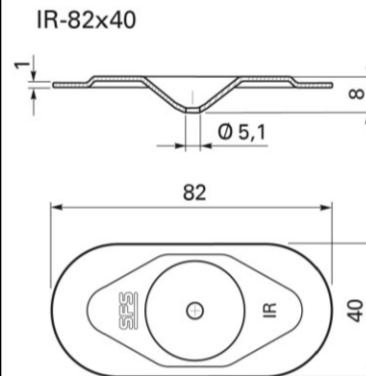
TS-T25-6,0



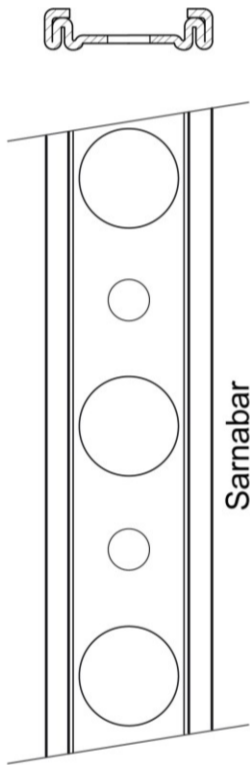
Kombination 74A
TI-T25-6,3 / IRD-82x40



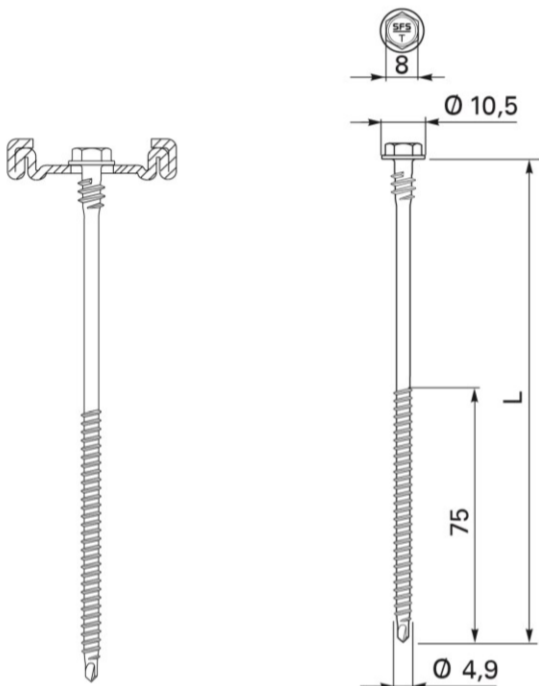
Kombination 74B
IWF-5,2 / IR-82x40



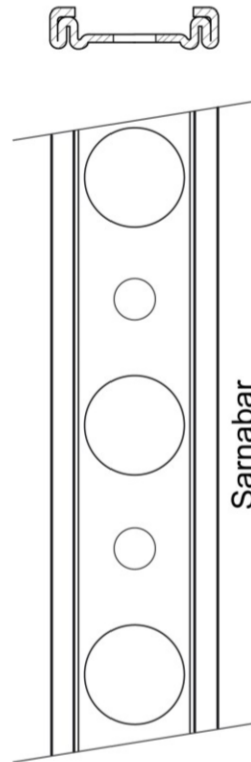
Kombination 75A
Sarnafast SF-4,8 / Sarnabar



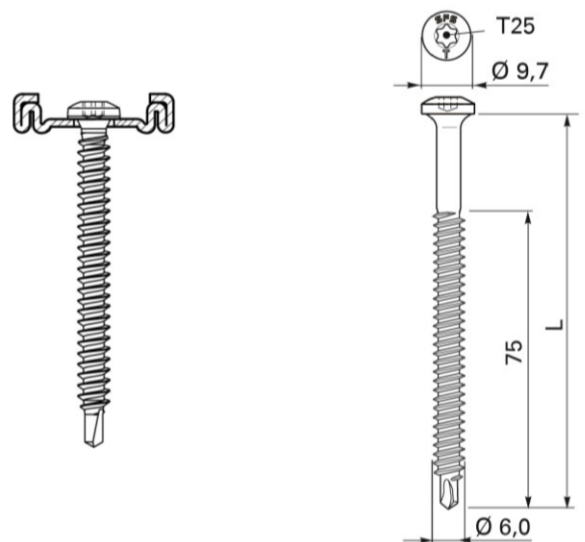
Sarnafast SF-4,8



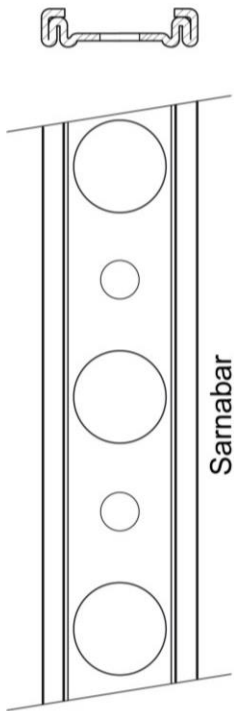
Kombination 75B
Sarnafast SBF-6,0 / Sarnabar



Sarnafast SBF-6,0

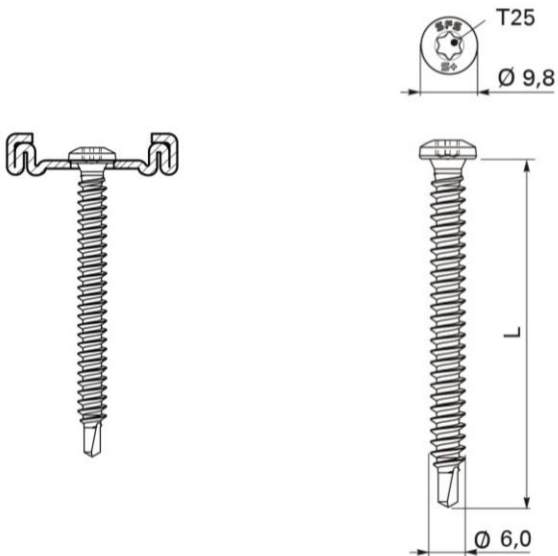


Kombination 76A
Sarnafast SBF-S-6,0 / Sarnabar

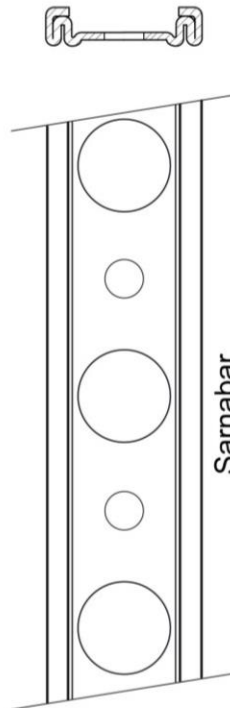


Sarnabar

Sarnafast SBF-S-6,0

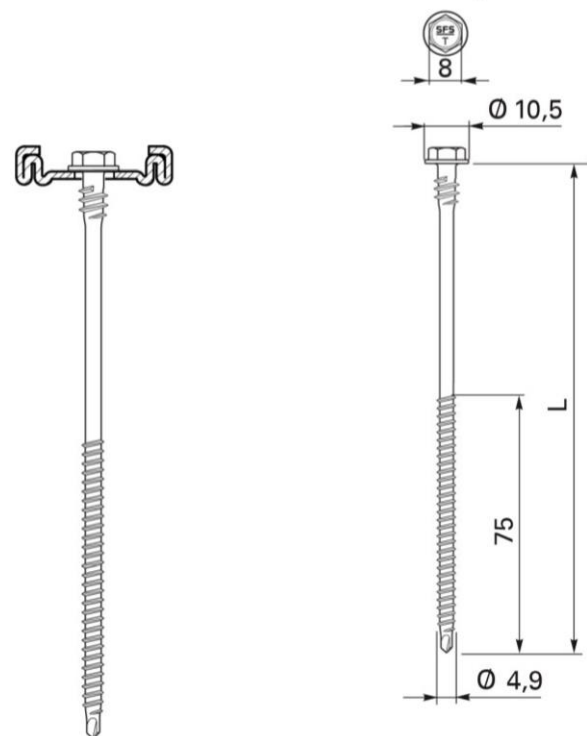


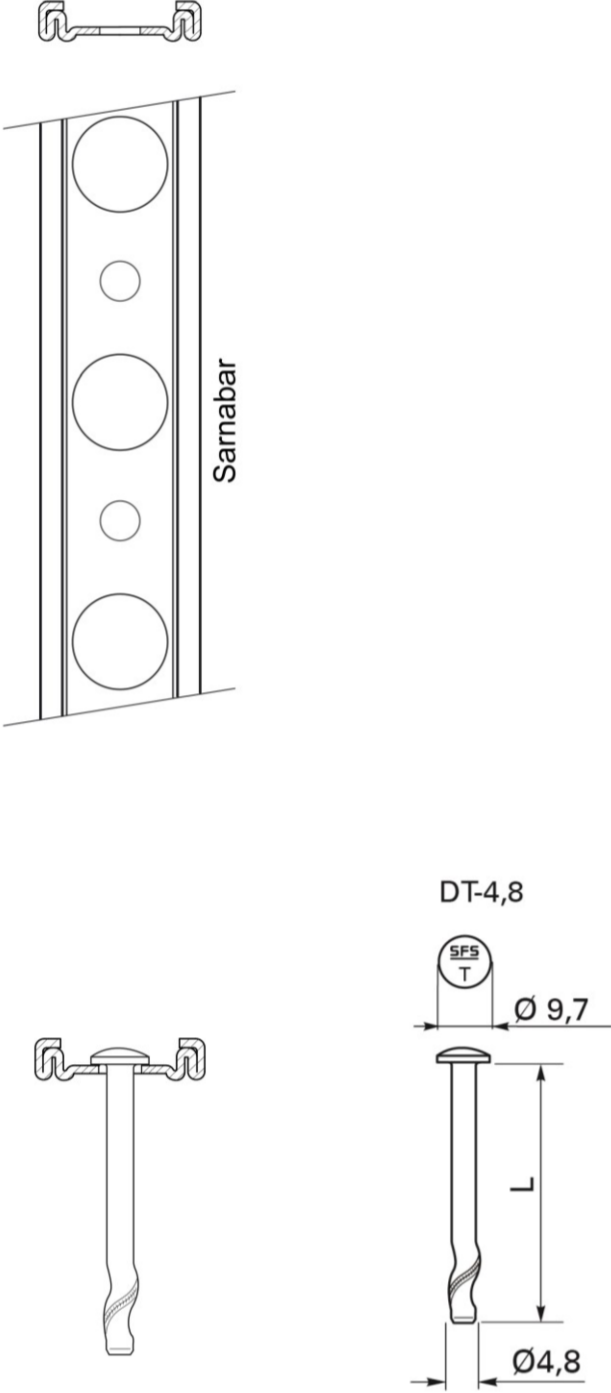
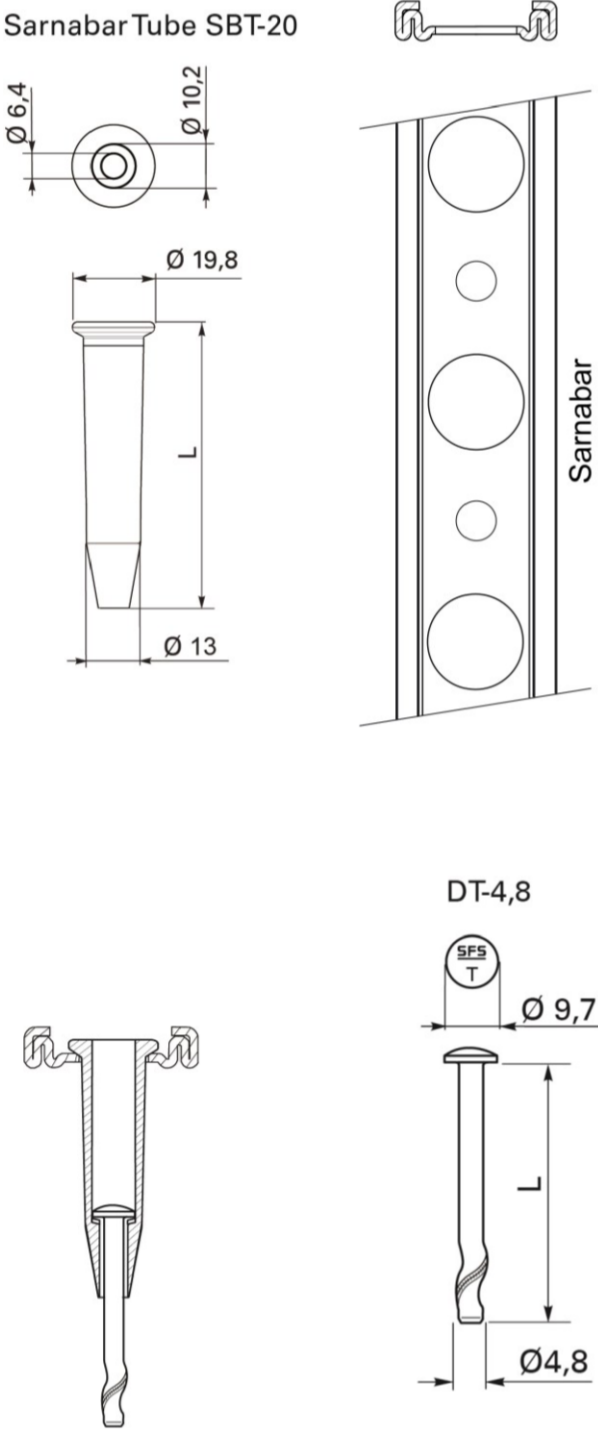
Kombination 76B
IR2-4,8 / Sarnabar

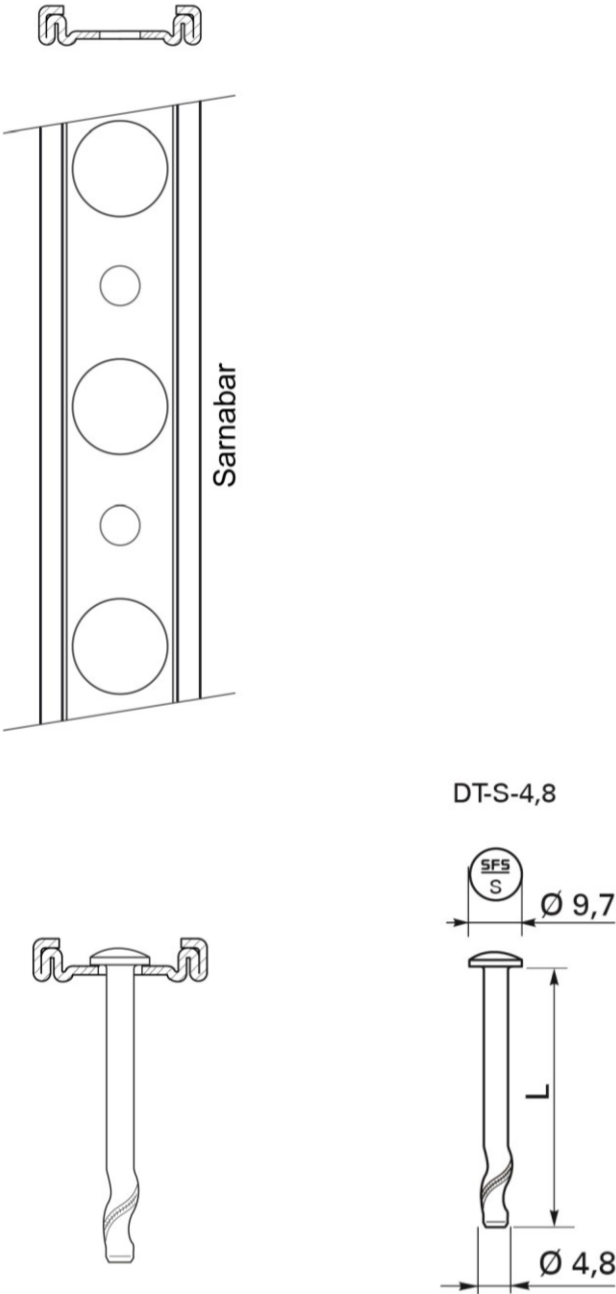
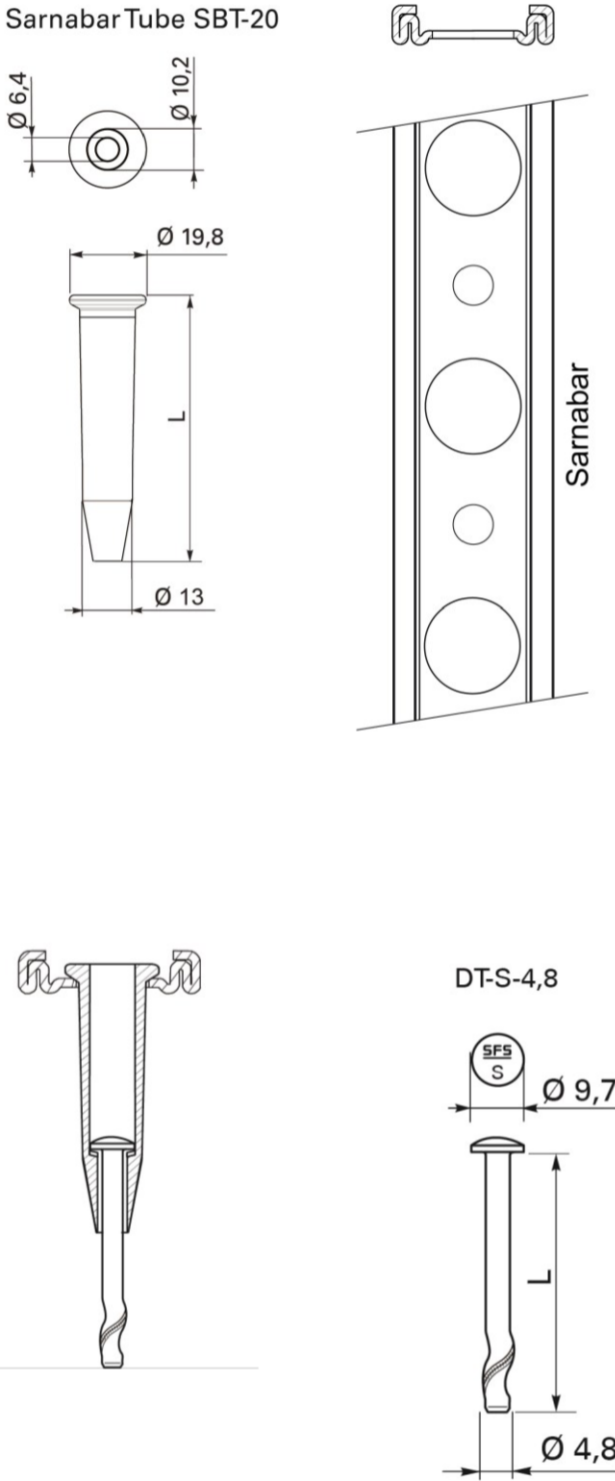


Sarnabar

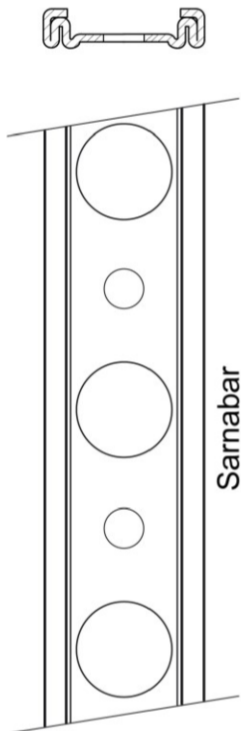
IR2-4,8



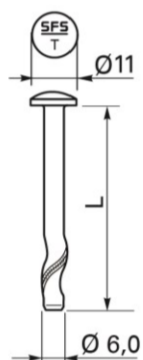
Kombination 77A DT-4,8 / Sarnabar	Kombination 77B DT-4,8 / Sarnabar Tube SBT-20 / Sarnabar
 The drawing shows the Sarnabar profile and the DT-4,8 anchor. The Sarnabar profile is a vertical channel with four circular holes. The DT-4,8 anchor is a vertical rod with a hexagonal head and a threaded section. The head has a diameter of $\varnothing 9,7$ and the threaded section has a diameter of $\varnothing 4,8$. The length of the threaded section is labeled L.	 The drawing shows the Sarnabar Tube SBT-20 and the DT-4,8 anchor. The Sarnabar Tube SBT-20 is a vertical tube with a hexagonal head and a threaded section. The head has a diameter of $\varnothing 19,8$ and the threaded section has a diameter of $\varnothing 13$. The length of the threaded section is labeled L. The DT-4,8 anchor is shown in cross-section, with a diameter of $\varnothing 9,7$ and a threaded section of $\varnothing 4,8$. The length of the threaded section is labeled L.
SFS intec Flachdachbefestigungselemente	Anhang 77

Kombination 78A DT-S-4,8 / Sarnabar	Kombination 78B DT-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar
 Technical drawing showing the Sarnabar profile and the DT-S-4,8 anchor. The Sarnabar profile is a vertical channel with four circular holes. The DT-S-4,8 anchor is a vertical rod with a diameter of $\varnothing 4,8$ and a length L. The top of the anchor has a diameter of $\varnothing 9,7$ and is marked with 'SFS S'.	 Technical drawing showing the Sarnabar Tube SBT-20 and the DT-S-4,8 anchor. The Sarnabar Tube SBT-20 is a vertical tube with a diameter of $\varnothing 19,8$ and a length L. The top of the tube has a diameter of $\varnothing 10,2$ and a height of $\varnothing 6,4$. The bottom of the tube has a diameter of $\varnothing 13$. The DT-S-4,8 anchor is shown inserted into the tube. The anchor has a diameter of $\varnothing 4,8$ and a length L. The top of the anchor has a diameter of $\varnothing 9,7$ and is marked with 'SFS S'.
SFS intec Flachdachbefestigungselemente	Anhang 78

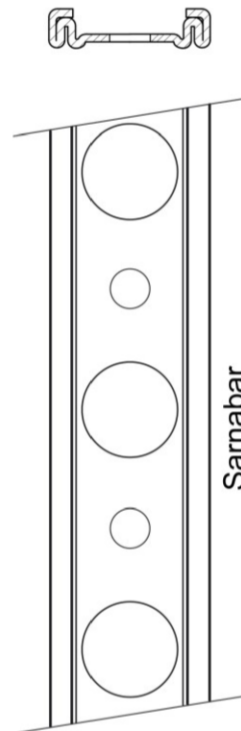
Kombination 79A
DT-6,3 / Sarnabar



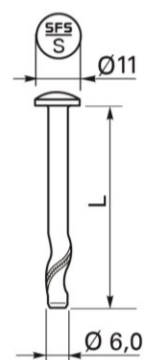
DT-6,3

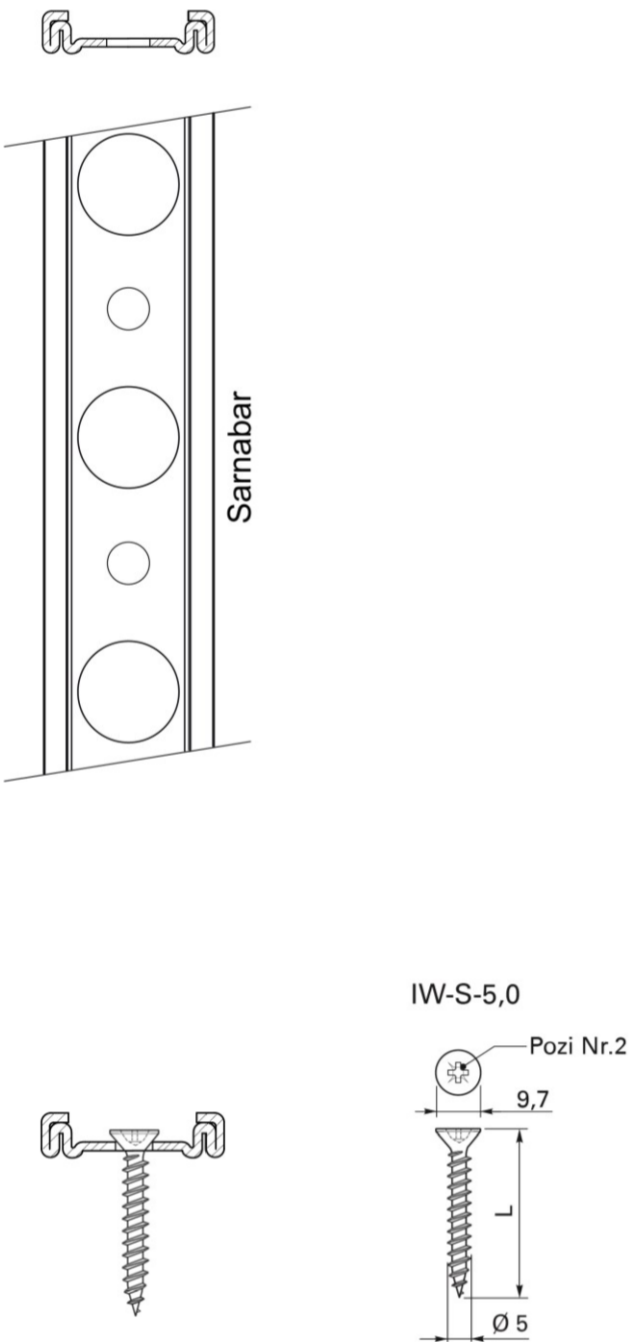
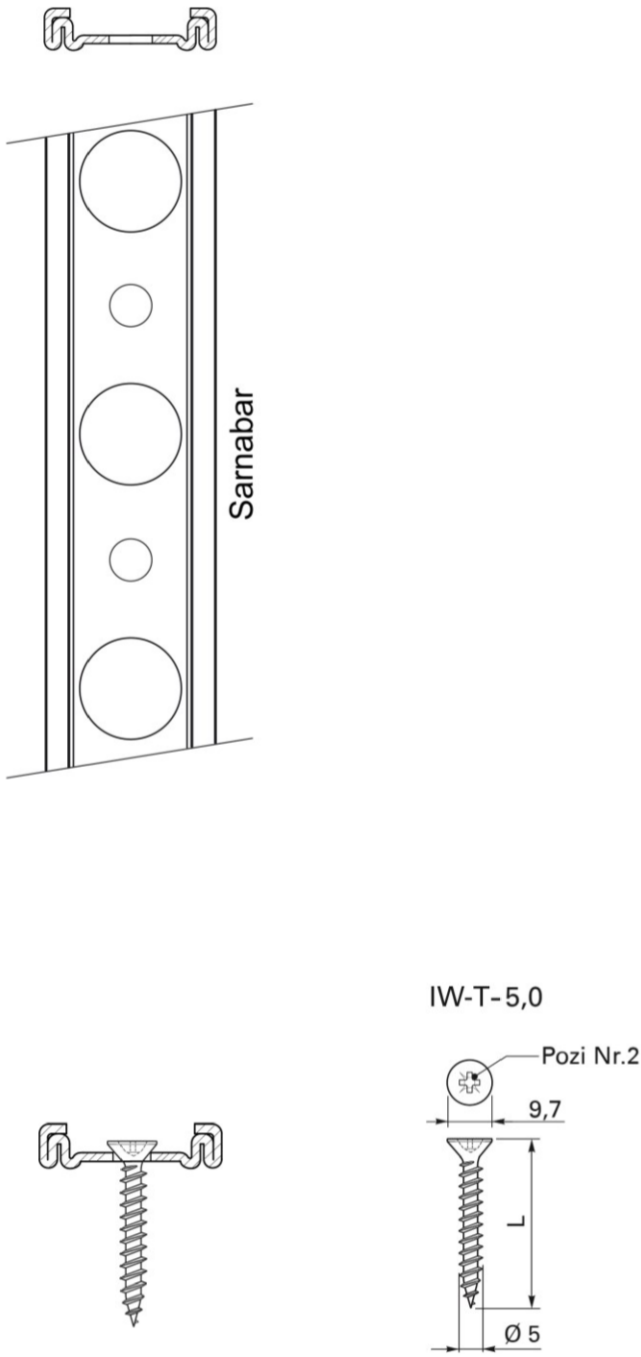


Kombination 79B
DT-S-6,3 / Sarnabar

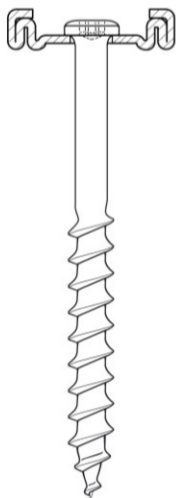
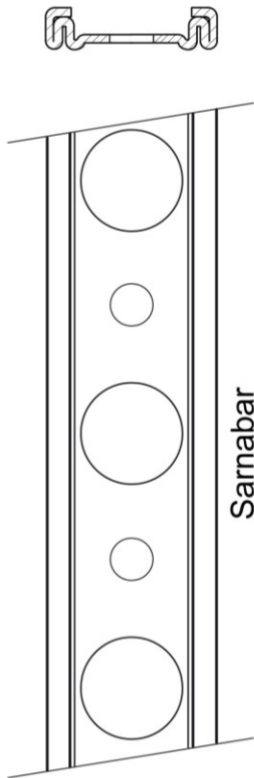


DT-S-6,3

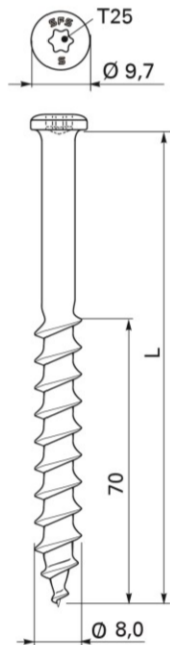


Kombination 80A IW-S-5,0 / Sarnabar	Kombination 80B IW-T-5,0 / Sarnabar
	
SFS intec Flachdachbefestigungselemente	Anhang 80

Kombination 81A
LBS-S-T25-8,0 / Sarnabar

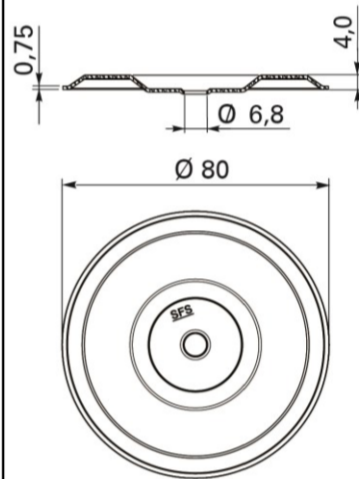


LBS-S-T25-8,0

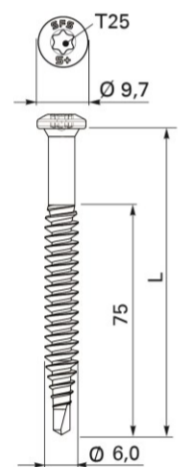


Kombination 81B
BS-S-6,1 / FI-P-6,8

FI-P-6,8

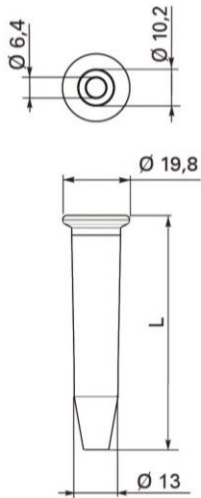


BS-S-6,1

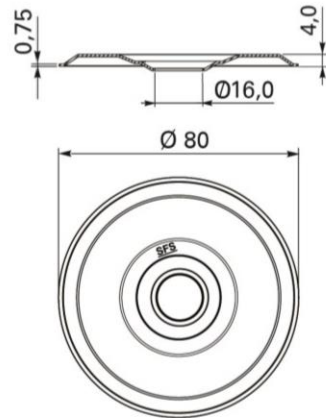


Kombination 82A
BS-S-6,1 / FI-P-16,0 / FI-R-20

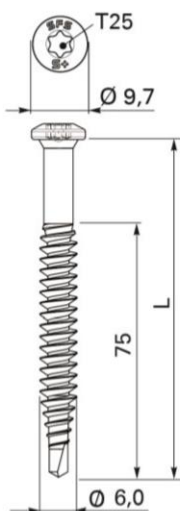
FI-R-20



FI-P-16,0

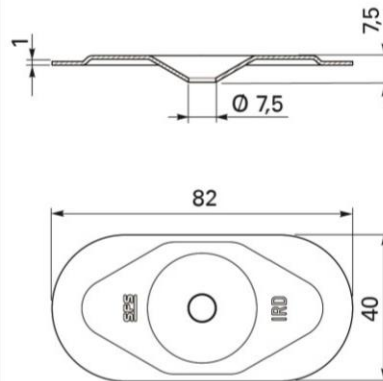


BS-S-6,1

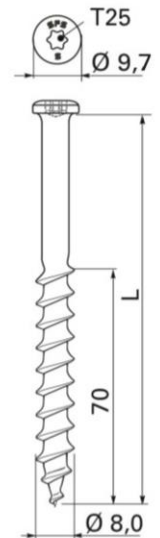


Kombination 82B
LBS-S-T25-8,0 / IRD-82x40

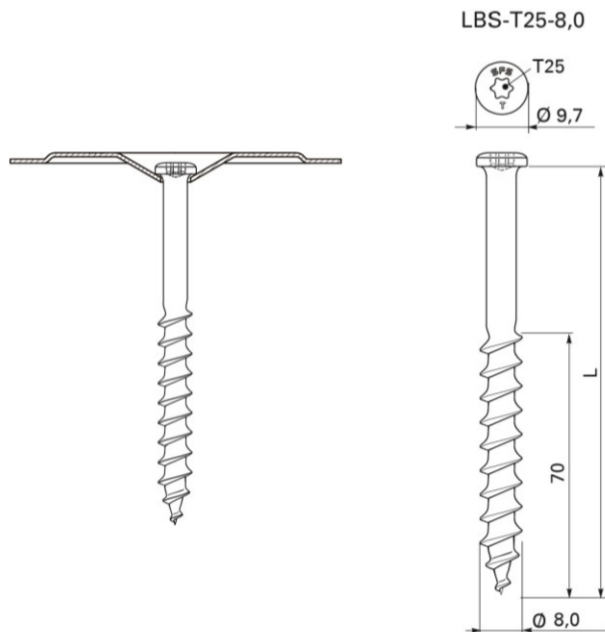
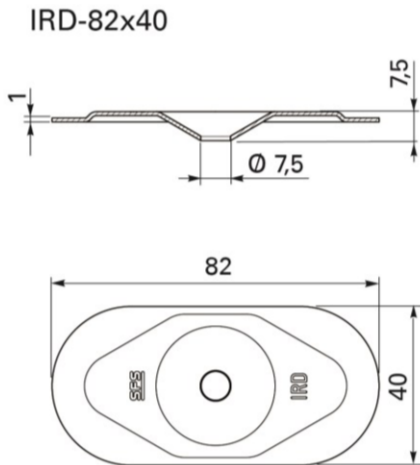
IRD-82x40



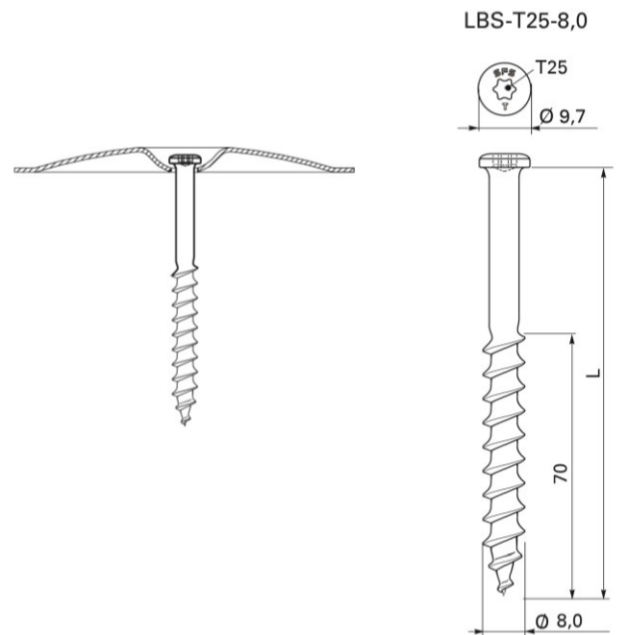
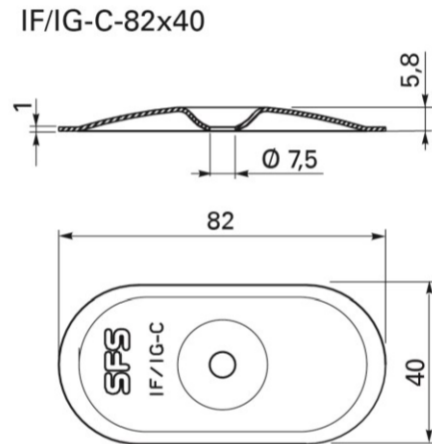
LBS-S-T25-8,0



Kombination 83A
LBS-T25-8,0 / IRD-82x40

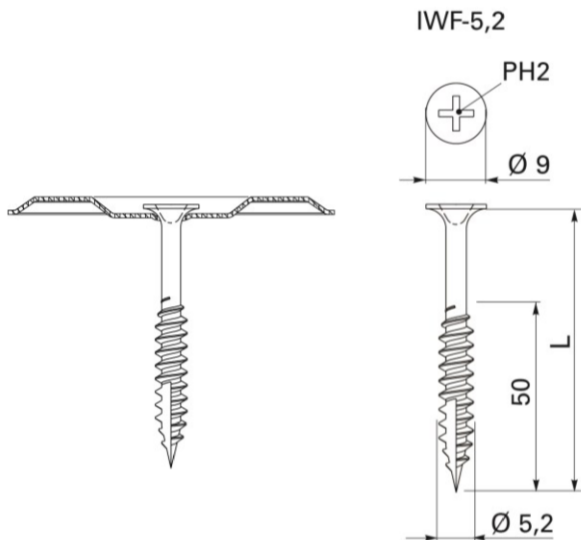
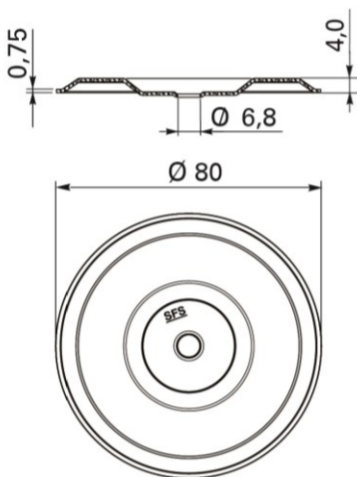


Kombination 83B
LBS-T25-8,0 / IF/IG-C-82x40



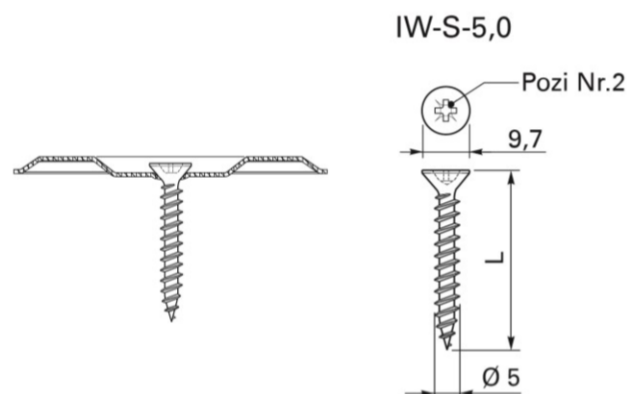
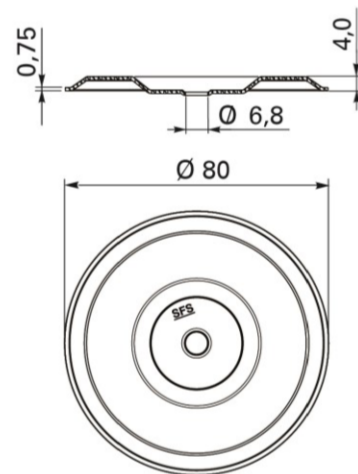
Kombination 84A
IWF-5,2 / FI-P-6,8

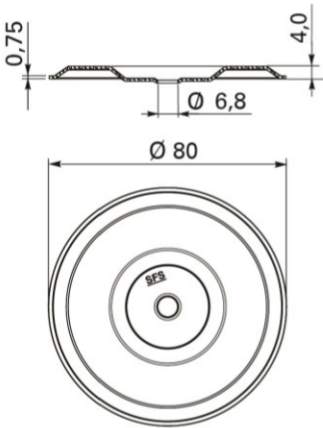
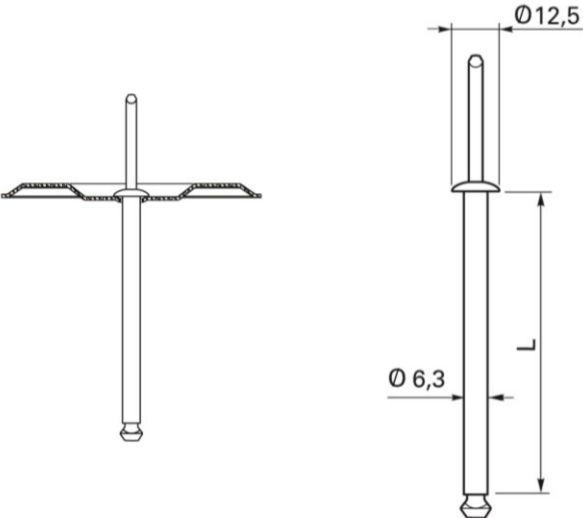
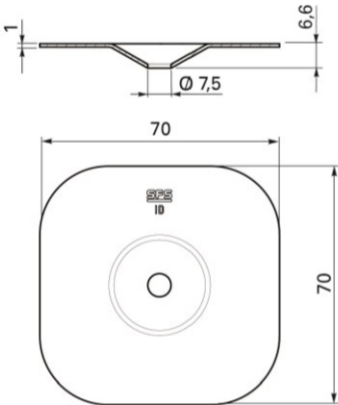
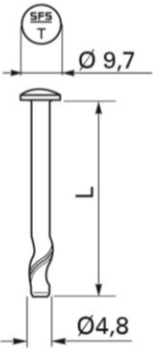
FI-P-6,8

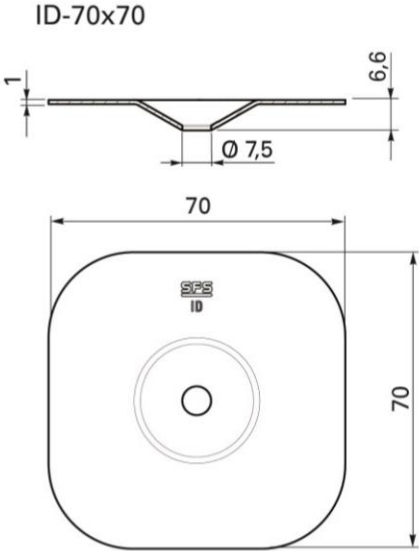
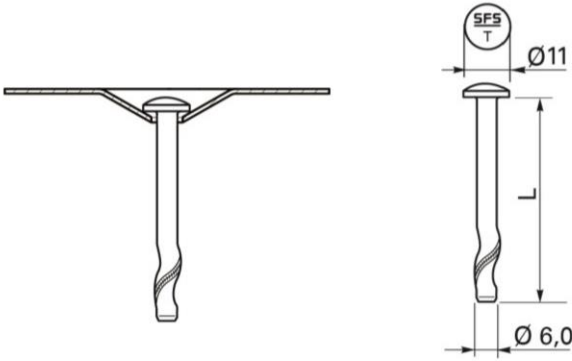
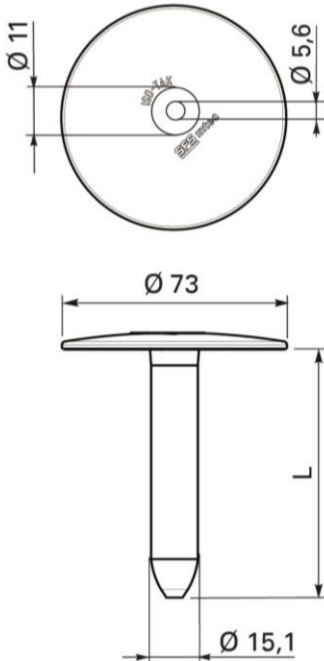
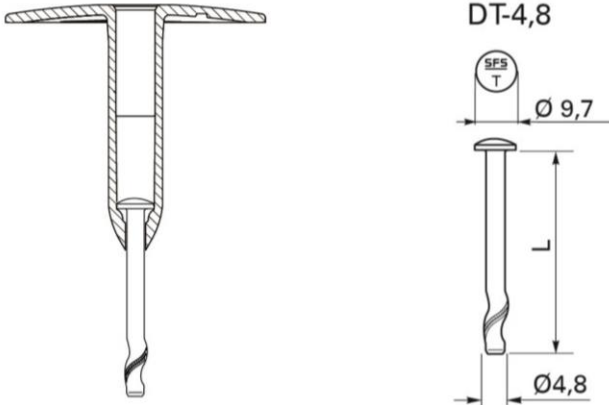


Kombination 84B
IW-S-5,0 / FI-P-6,8

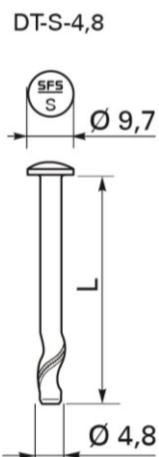
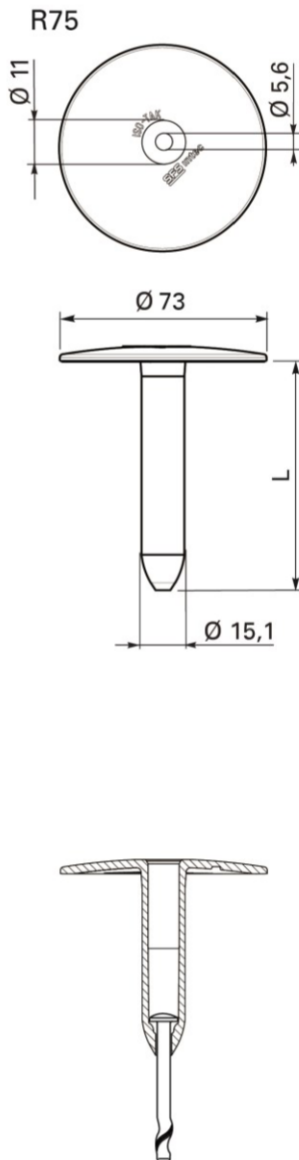
FI-P-6,8



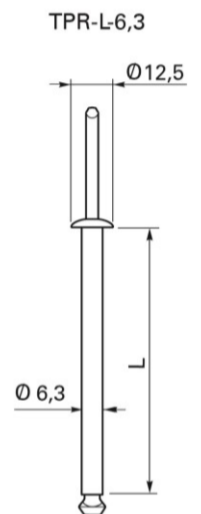
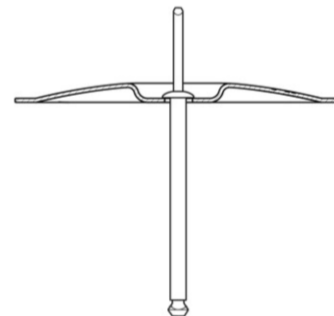
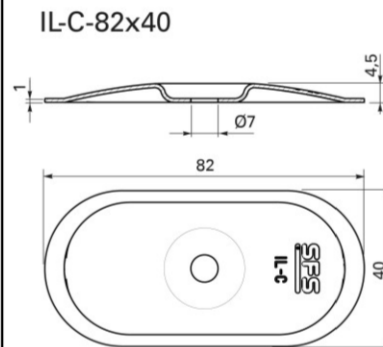
Kombination 85A TPR-L-6,3 / FI-P-6,8	Kombination 85B DT-4,8 / ID-70x70
FI-P-6,8  TPR-L-6,3 	ID-70x70  DT-4,8 
SFS intec Flachdachbefestigungselemente	
Anhang 85	

Kombination 86A DT-6,3 / ID-70x70	Kombination 86B DT-4,8 / R75
ID-70x70  DT-6,3 	R75  DT-4,8 
SFS intec Flachdachbefestigungselemente	
Anhang 86	

Kombination 87A
DT-S-4,8 / R75

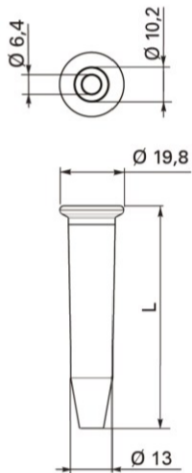


Kombination 87B
TPR-L-6,3 / IL-C-82x40

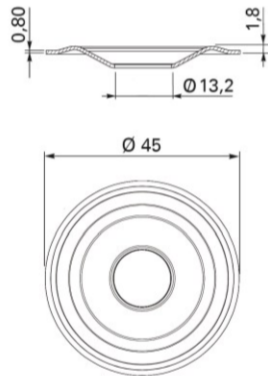


Kombination 88A
BS-4,8 / IPF45 / FI-R-20

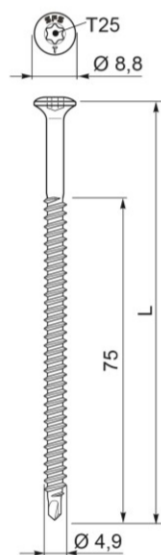
FI-R-20



IPF45

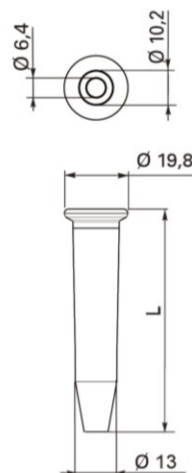


BS-4,8

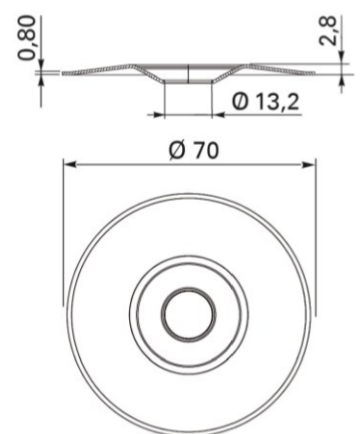


Kombination 88B
BS-4,8 / IPF70 / FI-R-20

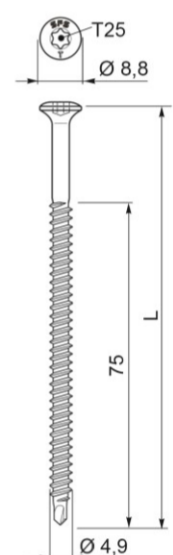
FI-R-20



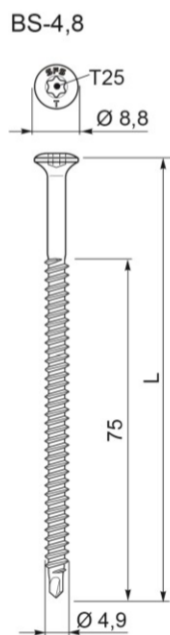
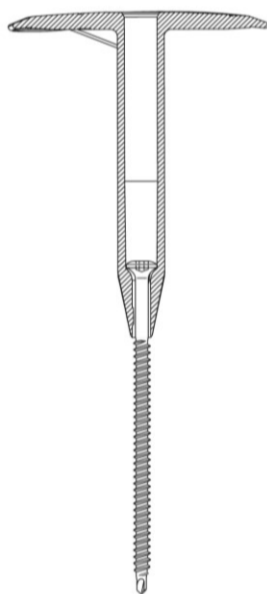
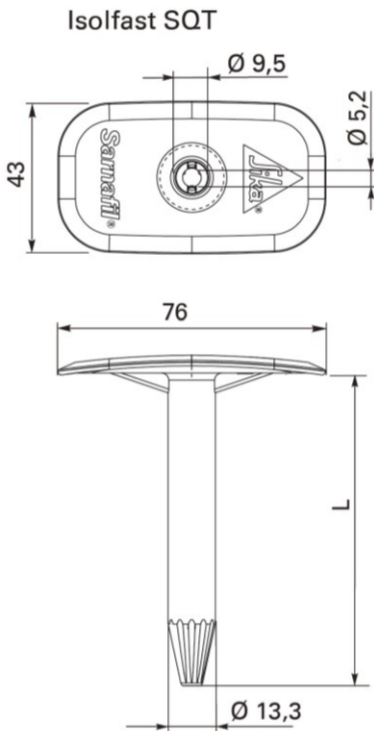
IPF70



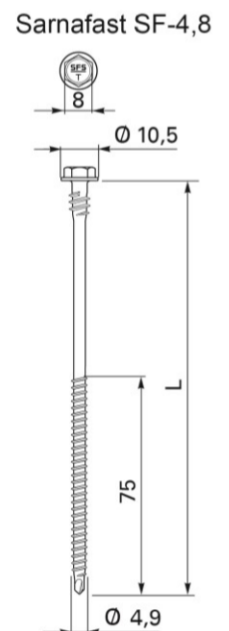
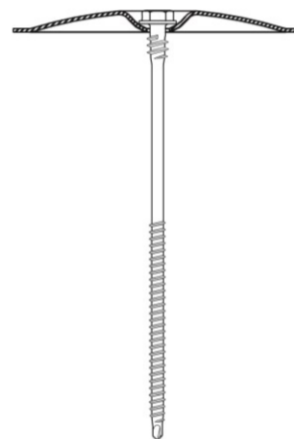
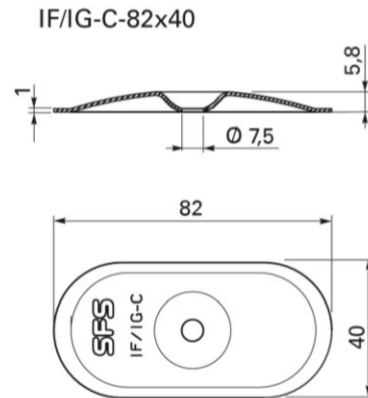
BS-4,8



Kombination 89A
BS-4,8 / Isolfast SQT



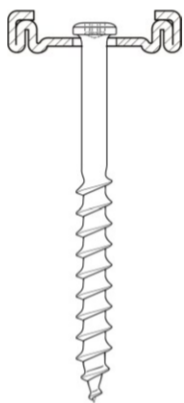
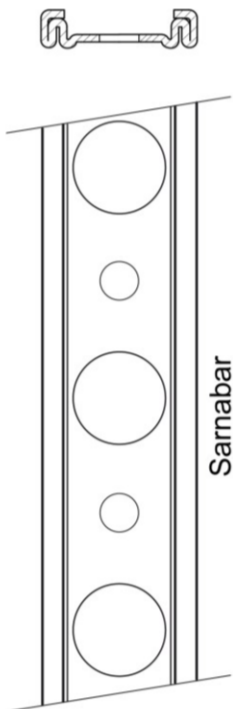
Kombination 89B
Sarnafast SF-4,8 / IF/IG-C-82x40



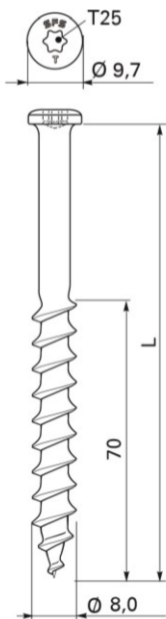
SFS intec Flachdachbefestigungselemente

Anhang 89

Kombination 90A
LBS-T25-8,0 / Sarnabar

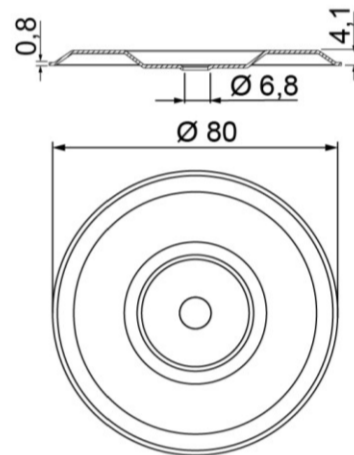


LBS-T25-8,0

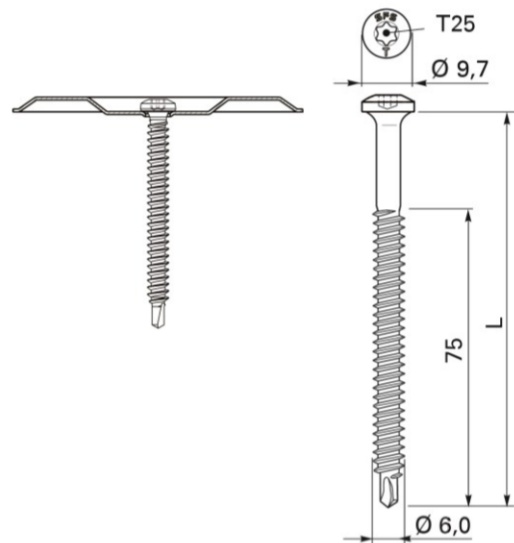


Kombination 90B
Sarnafast SBF-6,0 / Sarnaweld disc 6,8

Sarnaweld disc 6,8



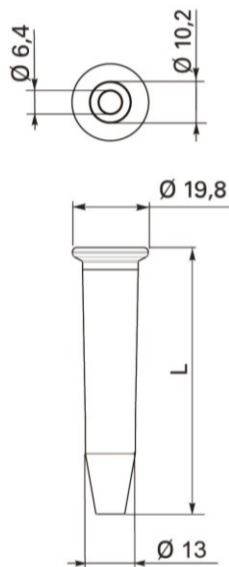
Sarnafast SBF-6,0



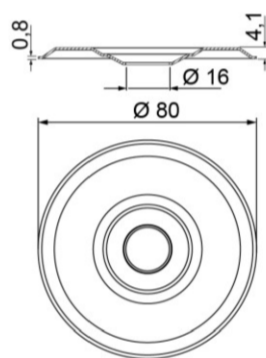
Kombination 91A

Sarnafast SBF-6,0 / Sarnaweld disc 16 /
Sarnabar Tube SBT-20

Sarnabar Tube SBT-20



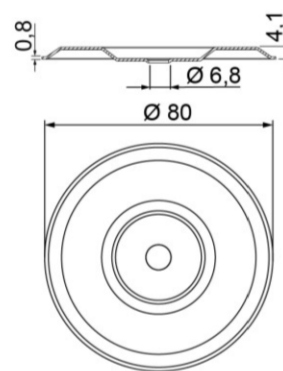
Sarnaweld disc 16



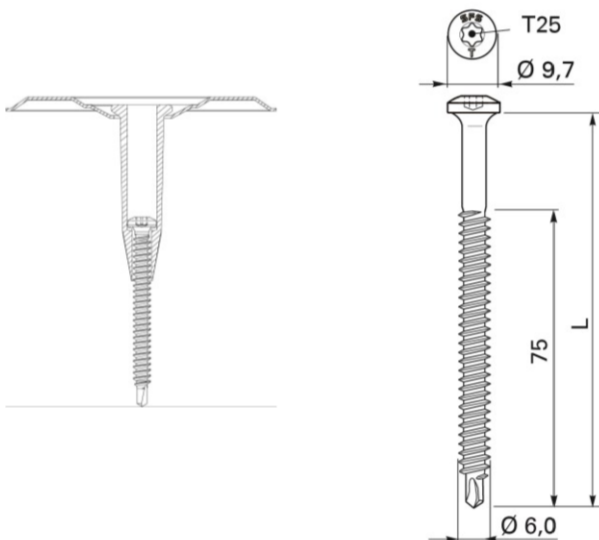
Kombination 91B

Sarnafast SBF-S-6,0 / Sarnaweld disc 6,8

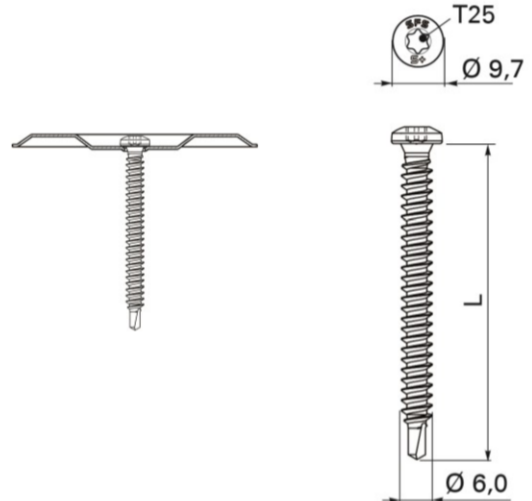
Sarnaweld disc 6,8



Sarnafast SBF-6,0

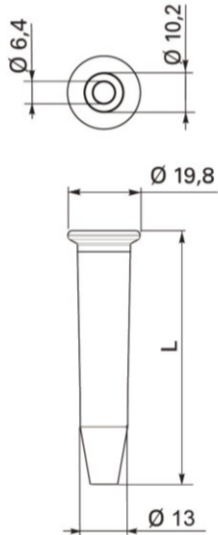


Sarnafast SBF-S-6,0

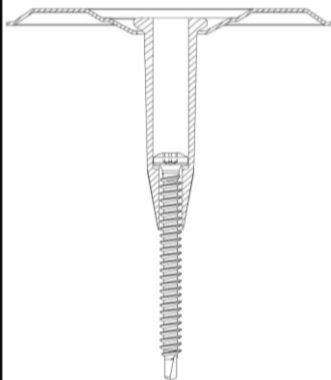
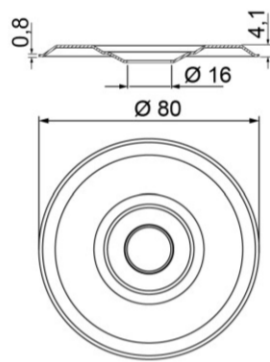


Kombination 92A
Sarnafast SBF-S-6,0 / Sarnaweld disc 16 /
Sarnabar Tube SBT-20

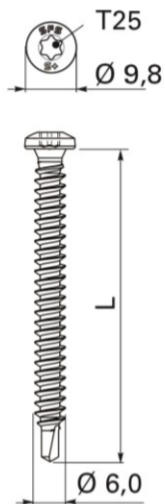
Sarnabar Tube SBT-20



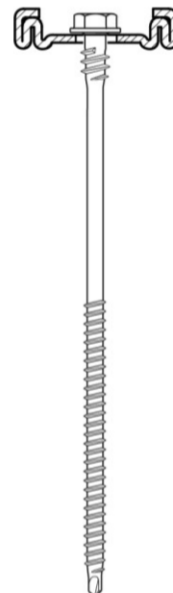
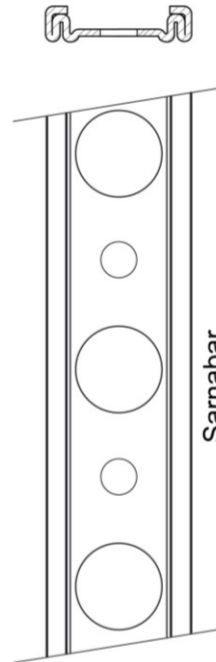
Sarnaweld disc 16



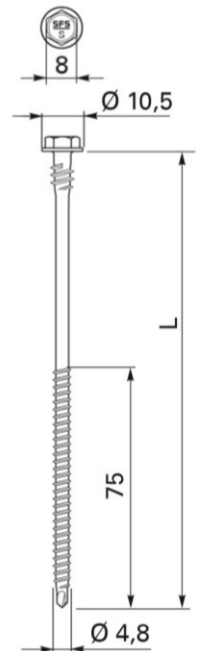
Sarnafast SBF-S-6,0



Kombination 92B
IR2-S-4,8 / Sarnabar



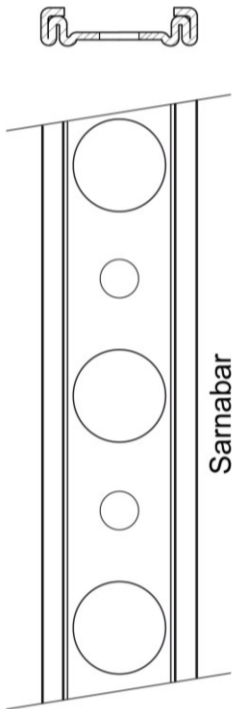
IR2-S-4,8



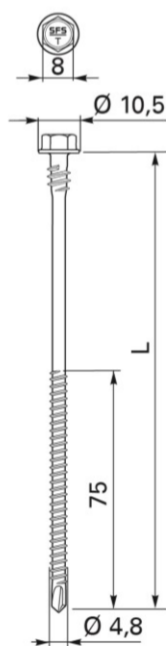
SFS intec Flachdachbefestigungselemente

Anhang 92

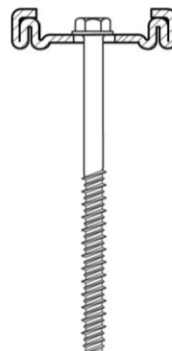
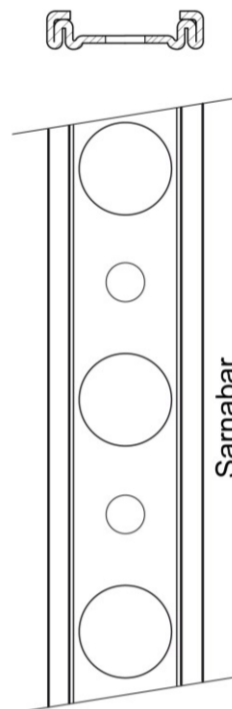
Kombination 93A
IR3-4,8 / Sarnabar



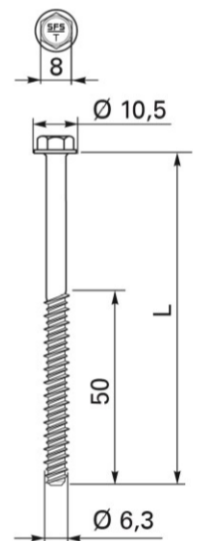
IR3-4,8



Kombination 93B
TI-6,3 / Sarnabar

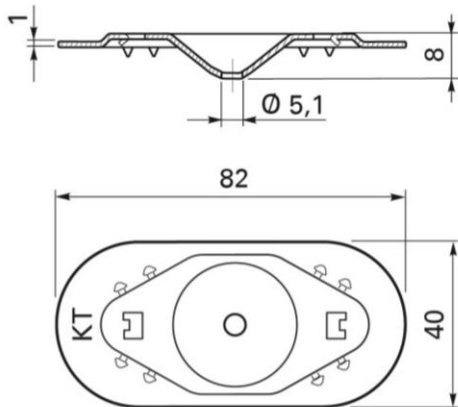


TI-6,3

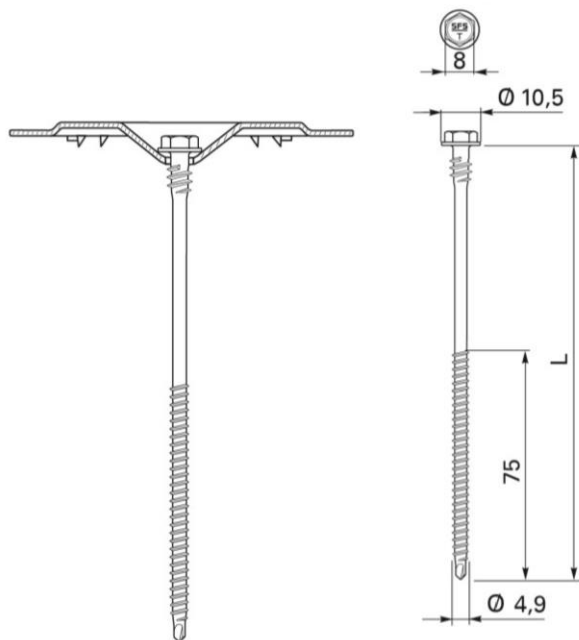


Kombination 94A
IR2-4,8 / Sarnafast KT-82x40

Sarnafast KT-82x40

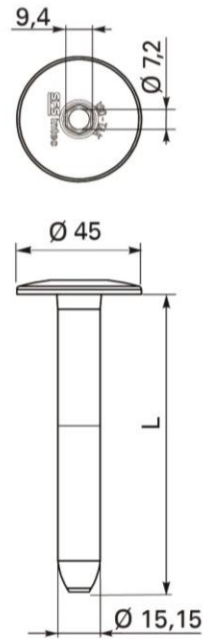


IR2-4,8

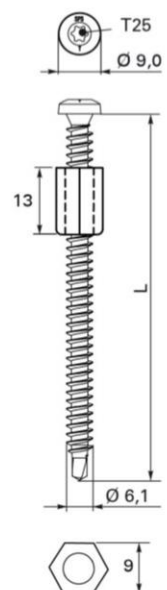


Kombination 94B
BSF-N-6,1 / RH45

RH45



BSF-N-6,1



Kombination		SFS intec Flachdachbefestiger		Charakteristischer Längszugwiderstand N _{Rk} [kN] für metallische Unterkonstruktionen															
				Stahlblech S320GD ¹⁾ EN 10346 t ≥ [mm]										Stahlblech S350GD EN 10346 t ≥ [mm]		Stahlblech S420GD EN 10346 t ≥ [mm]		Perforiertes Stahlblech S320GD EN 10346	Aluminiumblech R _m ≥ 195 N/mm ²
				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	Schraube	IR2-4,8	Haltebolzen / Tülle / Leiste	-	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⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden															

SFS intec Flachdachbefestigungselemente

Anhang 95

¹⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden

SFS intec Flachdachbefestiger			Charakteristischer Längszugwiderstand N _{Rk} [kN] für metallische Unterkonstruktionen														
Kombination	Schraube	Halteteiler / Tülle / Leiste	Stahlblech S320GD ¹⁾ EN 10346 t ≥ [mm]								Stahlblech S350GD EN 10346 t ≥ [mm]		Stahlblech S420GD EN 10346 t ≥ [mm]		Perforiertes Stahlblech S320GD EN 10346 t ≥ 0,75 mm	Aluminiumblech R _m ≥ 195 N/mm ² t ≥ 0,60 mm	
			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
11A	BS-6,7	R75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11B	BS-6,7	TPS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12A	BS-S-6,7	R45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12B	BS-S-6,7	R75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13A	BS-S-6,7	TPS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	1,66	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	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	1,66	1,66	-	-	-	-	-	-
30A	BS-S-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	0,87	1,09	1,24	1,38	1,61	1,96	1,96	1,96	-	-	-	-	-	-
30B	Sarnafast SF-4,8	Sarnafast KT-82x40	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	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	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	1,66	-	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	2,10	-	1,58	2,10	1,57	1,92	-
35A	IF2-6,1	IRD-82x40	-	1,11	-	-	-	-	1,16	1,16	1,16	-	-	-	-	-	-
35B	IF2-6,1	ID-70x70	-	1,11	-	-	-	-	1,16	1,16	1,16	-	-	-	-	-	-
39A	BS-4,8	FI-P-6,8	-	1,09	1,34	1,52	1,67	1,91	2,27	2,29	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	1,96	1,96	-	-	-	-	-	-
40B	BS-6,1	FI-P-6,8	-	1,17	1,38	1,53	1,63	1,80	2,04	2,83	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	2,83	-	1,58	2,19	1,57	1,92	-

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¹⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden

²⁾ Vorbohrdurchmesser = 7,0 mm

Kombination		SFS intec Flachdachbefestiger		Charakteristischer Längszugwiderstand N_{Rk} [kN] für metallische Unterkonstruktionen												Perforiertes Stahlblech S320GD EN 10346 $t \geq 0,75$ mm		Aluminiumblech $R_m \geq 195$ N/mm ² $t \geq 0,60$ mm	
		Schraube	Halteteller / Tülle / Leiste	Stahlblech S320GD ¹⁾ EN 10346 $t \geq$ [mm]												Stahlblech S350GD EN 10346 $t \geq$ [mm]	Stahlblech S420GD EN 10346 $t \geq$ [mm]		
				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			
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⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden
²⁾ dreieckiges Lochraster, Lochdurchmesser 5,0 mm, Lochabstand 12,5 mm

Kombination		SFS intec Flachdachbefestiger		Charakteristischer Längszugwiderstand N _{Rk} [kN] für metallische Unterkonstruktionen																			
				Stahlblech S320GD ¹⁾ EN 10346 t ≥ [mm]												Stahlblech S350GD EN 10346 t ≥ [mm]		Stahlblech S420GD EN 10346 t ≥ [mm]		Perforiertes Stahlblech S320GD EN 10346 t ≥ 0,75 mm		Aluminiumblech R _m ≥ 195 N/mm ² t ≥ 0,60 mm	
				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							
59A	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-	-	-			
59B	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-	-	-			
60A	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-	-	-	-			
60B	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,66	1,66	1,66	-	-	-	-	-	-	-	-	-	-			
61A	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,10	-	-	-	-	-	-	-	-	-	-			
61B	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	0,99 ³⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,69 ³⁾	-			
65B	BS-4,8	NPP	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	0,87	1,09	1,24	1,38	1,45	1,45	-	-	-	-	-	-	-	-	-	-			
66B	BS-4,8	NPS	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87 ²⁾	-	-	-			
67B	BS-S-6,7	NPS	Sarnafast SBF-S-6,0	-	-	-	-	-	-	-	-	-	-	-	-	-	0,87 ²⁾	-	-	-			
70A	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	-	-	-	-	-	1,16	1,16	1,16	-	-	-	-	-	-	-	-			
71A	BS-4,8	MW-40-F	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	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	Sarnafast SBF-S-6,0	-	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	IR-82x40	Sarnafast SBF-S-6,0	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	-	1,58	2,19	1,57	1,92	-	-	-	-			
75A	Schraube	Halteblech / Tülle / Leiste	Sarnafast SBF-S-6,0	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-	-	-	-			

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¹⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden
²⁾ dreieckiges Lochraster, Lochdurchmesser 5,0 mm, Lochabstand 12,5 mm
³⁾ Vorbohrdurchmesser = 7,0 mm

Kombination		SFS intec Flachdachbefestiger		Charakteristischer Längszugwiderstand N _{R,k} [kN] für metallische Unterkonstruktionen														
		Schraube	Halteelement / Tülle / Leiste	Stahlblech S320GD ¹⁾ EN 10346 t ≥ [mm]										Stahlblech S350GD EN 10346 t ≥ [mm]	Stahlblech S420GD EN 10346 t ≥ [mm]	Perforiertes Stahlblech S320GD EN 10346 t ≥ 0,75 mm	Aluminiumblech R _m ≥ 195 N/mm ² t ≥ 0,60 mm	
				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		
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	0,99 ²⁾	FI-P-6,8	0,99 ²⁾	-	-	-	-	-	-	-	-	-	-	-	-	0,69 ²⁾	
87B	TPR-L-6,3	0,99 ²⁾	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)

für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden

2)

Vorbohrdurchmesser = 7,0 mm

SFS intec Flachdachbefestigungselemente

Anhang 99

¹⁾ für Stahlblech S280GD müssen die Werte auf 92% abgemindert werden

²⁾ Vorbohrdurchmesser = 7,0 mm

Charakteristischer Längszugwiderstand N _{Rk} [kN] für nichtmetallische Unterkonstruktionen																
Kombination	SFS intec Flachdachbefestiger			Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520		
				OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0	Setztiefe ≥ [mm]	Vorbohr- durchmesser [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	-	-	-
15A	IWF-5,2		MW-40-FH	1,35	1,74	1,74	-	-	-	-	-	-	-	-	-	-

1) effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm

2) effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm

3) effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindesttrohdichte = 400 kg/m³

SFS intec Flachdachbefestigungselemente

Anhang

¹⁾ effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm

²⁾ effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm

³⁾ effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindesttrohdichte = 400 kg/m³

Charakteristischer Längszugwiderstand $N_{R,k}$ [kN] für nichtmetallische Unterkonstruktionen													
Kombination	SFS intec Flachdachbefestiger		Holz				Beton EN 206-1				Porenbeton DIN 4223-1		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorböhr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0
15B	Schraube	IW-T-5,0	1,08	1,12	2,12	-	-	-	-	-	-	-	-
16A		IW-S-5,0	1,08	1,12	2,04	-	-	-	-	-	-	-	-
16B		LBS-T25-8,0	-	-	-	-	-	-	-	0,93	1,43	60	-
17A		LBS-T25-8,0	-	-	-	-	-	-	-	0,93	1,44	60	-
17B		LBS-T25-8,0	-	-	-	-	-	-	-	0,93	1,43	60	-
18A		LB45	-	-	-	-	-	-	-	1,44	1,44	65 ⁴⁾	-
18B		FB-S-T25-7,5	-	-	-	-	-	-	-	-	-	-	0,59
19A		DT-4,8	-	-	-	2,40	2,56	25	4,8	-	-	-	-
19B		DT-4,8	-	-	-	2,40	2,68	25	4,8	-	-	-	-
20A		DT-4,8	-	-	-	2,40	3,34	25	4,8	-	-	-	-
20B		DT-4,8	-	-	-	1,39	1,39	25	4,8	-	-	-	-
21A		DT-S-4,8	-	-	-	2,56	2,56	25	4,8	-	-	-	-
21B		DT-S-4,8	-	-	-	2,65	2,68	25	4,8	-	-	-	-
22A		DT-S-4,8	-	-	-	1,39	1,39	25	4,8	-	-	-	-
22B		DT-6,3	-	-	-	2,93	3,68	32	6,3	-	-	-	-
23A		DT-6,3	-	-	-	2,93	4,07	32	6,3	-	-	-	-
23B		DT-S-6,3	-	-	-	2,23	3,10	32	6,3	-	-	-	-
24A		DT-S-6,3	-	-	-	2,23	3,10	32	6,3	-	-	-	-
24B		TI-6,3	-	-	-	1,83	1,83	20	5,0	-	-	-	-

¹⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm
²⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm
³⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindesttrochichte = 400 kg/m³
⁴⁾ Vorbohrdurchmesser = 15 mm

Charakteristischer Längszugwiderstand $N_{R,k}$ [kN] für nichtmetallische Unterkonstruktionen																
SFS intec Flachdachbefestiger				Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520		
				OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]
Kombination	Schraube	Halteelement / Tülle / Leiste														
25A	TI-6,3	IF/IG-C-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-	-
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	TI-A-T25-6,3	R45	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	-
						1,42	1,42	20								
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⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm																
²⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm																
³⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³																

SFS intec Flachdachbefestigungselemente

Anhang 102

Charakteristischer Längszugwiderstand N _{Rk} [kN] für nichtmetallische Unterkonstruktionen																
Kombination	SFS intec Flachdachbefestiger		Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520			
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]	
32A	Sarnafast SBF-6,0	Halteblech / Tülle / Leiste	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) effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm

2) effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm

3) effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³

SFS intec Flachdachbefestigungselemente

Anha

¹⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm

²⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm

³⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindesttrohdichte = 400 kg/m³

Charakteristischer Längszugwiderstand N_{Rk} [kN] für nichtmetallische Unterkonstruktionen																
SFS intec Flachdachbefestiger			Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520			
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe z [mm]	LAC 6, D 1,0	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	
Kombination	Schraube	Halteblech / Tülle / Leiste														
40A	TI-T25-6,3	FI-P-6,8	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-	-
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	-	-	-	-
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	-	-	-	-	-	-	-
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) effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm 2) effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm 3) effektive Mindesteinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³																

SFS intec Flachdachbefestigungselemente

Anhang 104

Charakteristischer Längszugwiderstand N _{R,k} [kN] für nichtmetallische Unterkonstruktionen															
SFS intec Flachdachbefestiger			Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorböhr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0	Setztiefe ≥ [mm]	Vorböhr- durchmesser [mm]
Kombination	Schraube	Halteelement / Tülle / Leiste													
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⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm															
²⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm															
³⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³															

SFS intec Flachdachbefestigungselemente

Anhang 105

SFS intec Flachdachbefestiger				Charakteristischer Längszugwiderstand N _{R,k} [kN] für nichtmetallische Unterkonstruktionen											
Kombination		Holz			Beton EN 206-1				Porenbeton DIN 4223-1				Bimsleichtbeton EN 1520		
Schraube	Haltereller / Tülle / Leiste	OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	p 3.3	p 4.4	Setztiefe z [mm]	UAC 6, D 1,0	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	
62A	TIF-N-6,3	-	-	-	1,54	1,54	20	5,0	-	-	-	-	-	-	
62B	TIA-T25-6,3	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
63A	TIA-T25-6,3	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
63B	BS-4,8	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-	
64A	TI-T25-6,3	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
					1,42	1,42	30								
65A	LBS-S-T25-8,0	-	-	-	-	-	-	-	0,93	1,44	60	-	-	-	
65B	BS-4,8	1,45	1,32	1,45	-	-	-	-	-	-	-	-	-	-	
66A	BS-S-4,8	1,28	1,45	1,45	-	-	-	-	-	-	-	-	-	-	
66B	BS-4,8	1,38	1,32	1,38	-	-	-	-	-	-	-	-	-	-	
68A	TI-T25-6,3	-	-	-	1,42	1,42	20	5,0	-	-	-	-	-	-	
					1,42	1,42	30								
68B	TIA-T25-6,3	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-	-	
69A	IWF-5,2	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-	
69B	IWF-5,2	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-	-	
70A	Sarnafast SBF-6,0	1,32	1,42	1,42	0,72	1,42	32	5,0	0,35	0,58	75	-	-	-	
71A	BS-4,8	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
71B	BS-6,1	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	
72A	BS-4,8	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-	-	
72B	BS-6,1	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-	-	

¹⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm

²⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm

³⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³

SFS intec Flachdachbefestigungselemente

Anhang 106

Charakteristischer Längszugwiderstand N_{Rk} [kN] für nichtmetallische Unterkonstruktionen														
Kombination	SFS intec Flachdachbefestiger		Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520	
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe z [mm]	LAC 6, D 1,0	Vorbohr- durchmesser [mm]
73A	TI-T25-6,3	MW-40-F	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-
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	-	-
74A	TI-T25-6,3	IRD-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-
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⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm
²⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm
³⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³

Charakteristischer Längszugwiderstand N _{R,k} [kN] für nichtmetallische Unterkonstruktionen															
SFS intec Flachdachbefestiger			Holz			Beton EN 206-1				Porenbeton DIN 4223-1			Bimsleichtbeton EN 1520		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe z [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe z [mm]	LAC 6, D 1,0	Setztiefe z [mm]	Vorbohr- durchmesser [mm]
Kombination	Schraube	Haltehalter / Tülle / Leiste	81B	BS-S-6,1	FI-P-6,8	1,25	2,02	2,22	-	-	-	-	-	-	-
	BS-S-6,1	FI-P-16,0 / FI-R-20	82A	BS-S-6,1		1,25	2,02	2,17	-	-	-	-	-	-	-
	LBS-S-T25-8,0	IRD-82x40	82B			-	-	-	-	-	0,93	1,44	60	-	-
	LBS-T25-8,0	IRD-82x40	83A			-	-	-	-	-	0,93	1,44	60	-	-
	LBS-T25-8,0	IF/IG-C-82x40	83B			-	-	-	-	-	0,93	1,44	60	-	-
	IWF-5,2	FI-P-6,8	84A			1,35	1,94	2,20	-	-	-	-	-	-	-
	IWF-S-5,0	FI-P-6,8	84B			1,08	1,12	2,04	-	-	-	-	-	-	-
	DT-4,8	ID-70x70	85B			-	-	-	2,40	2,56	-	-	-	-	-
	DT-6,3	ID-70x70	86A			-	-	-	2,93	3,68	-	-	-	-	-
	DT-4,8	R75	86B			-	-	-	1,39	1,39	-	-	-	-	-
	DT-S-4,8	R75	87A			-	-	-	1,39	1,39	-	-	-	-	-
	BS-4,8	IPF45 / FI-R-20	88A			1,45	1,32	2,18	-	-	-	-	-	-	-
	BS-4,8	IPF45 / FI-R-20	88B			1,45	1,32	2,18	-	-	-	-	-	-	-
	BS-4,8	Isolfast SQT	89A			1,45	1,32	1,45	-	-	-	-	-	-	-
	Sarnafast SF-4,8	IF/IG-C-82x40	89B			1,45	1,32	2,18	-	-	-	-	-	-	-
	LBS-T25-8,0	Sarnabar	90A			-	-	-	-	-	0,93	1,44	60	-	-
	Sarnafast SBF-6,0	Sarnaweld disc 6,8	90B			1,32	2,16	2,11	0,72	1,45	0,35	0,58	75	-	-
	Sarnafast SBF-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	91A			1,32	2,16	2,11	0,72	1,45	0,35	0,58	75	-	-
	Sarnafast SBF-S-6,0	Sarnaweld disc 6,8	91B			1,25	2,02	2,22	0,42	0,84	0,82	1,37	75	-	-
	Sarnafast SBF-S-6,0	Sarnaweld disc 16 / Sarnabar Tube SBT-20	92A			1,25	2,02	2,17	0,42	0,84	0,82	1,37	75	-	-
			¹⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm												
			²⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm												
			³⁾ effektive Mindestinschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindesttrohdichte = 400 kg/m³												

SFS intec Flachdachbefestigungselemente

Anhang 108

Charakteristischer Längszugwiderstand N_{Rk} [kN] für nichtmetallische Unterkonstruktionen													
Kombination	SFS intec Flachdachbefestiger		Holz				Beton EN 206-1				Porenbeton DIN 4223-1		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Bauholz EN 338 / C24 t ≥ 22 mm ²⁾	Sperrholz EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	Setztiefe ≥ [mm]	Vorbohr- durchmesser [mm]	P 3.3	P 4.4	Setztiefe ≥ [mm]	LAC 6, D 1,0
92B	Schraube	IR2-S-4,8	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⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm ²⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 22 mm ³⁾ effektive Mindestschraubtiefe (Einschraubtiefe des Gewindes) ≥ 18 mm; Mindestrohrdicke = 400 kg/m³													