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European Technical Assessment Body  
for construction products



## European Technical Assessment

**ETA-25/0988**  
**of 22 October 2025**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

BARTEC Coupler

Product family  
to which the construction product belongs

Couplers for mechanical splices of reinforcing bars

Manufacturer

Debrunner Bewehrungstechnik AG  
Sägereistrasse 20  
CH-8152 Glattbrugg  
SCHWEIZ

Manufacturing plant

Debrunner Bewehrungstechnik AG  
Riedthofstraße 230  
CH-8105 Regensdorf  
SCHWEIZ

This European Technical Assessment  
contains

15 pages including 3 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 160129-00-0301

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## Specific Part

### 1 Technical description of the product

The BARTEC Coupler is used as a mechanical, screwed system for connecting reinforcing bars in reinforced concrete components under static or quasi-static loading.

The product description is given in Annex A.

The characteristic material values, dimensions and tolerances of the BARTEC Coupler not indicated in Annex A shall correspond to the respective values laid down in the technical documentation<sup>[1]</sup> of this European technical assessment.

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

The performances given in Section 3 are only valid if the BARTEC Coupler is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the BARTEC Coupler of at least 100 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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

#### 3.1 Mechanical resistance and stability (BWR 1) <sup>1</sup>

Essential characteristic	Performance
Resistance to static or quasi-static loading	See Annex C
Slip under static or quasi-static load	See Annex C
Slip after static or quasi-static load	See Annex C
Fatigue strength for $N = 2 \cdot 10^6$ load cycles	No performance assessed
Fatigue strength for S-N curve with $k_1$ and $k_2$ according to EN 1992-1-1	No performance assessed
Fatigue strength for S-N curve with specific $k_1$ and $k_2$	No performance assessed
Resistance to low cycle loading (seismic actions)	No performance assessed

#### 3.2 Safety in case of fire (BWR 2) <sup>1</sup>

Essential characteristic	Performance
Reaction to fire	Class A1

<sup>[1]</sup> The technical documentation of this European technical assessment is deposited at the Deutsches Institut für Bautechnik and, as far as relevant for the tasks of the approved bodies involved in the attestation of conformity procedure, is handed over to the approved bodies.

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

In accordance with EAD 160129-00-0301 the applicable European legal act is: 2000/606/EC.

The system to be applied is: 1+

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

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

The following standards are referred to in this European Technical Assessment:

EN 1992-1-1:2004  
+ AC:2010 + A1:2014

Eurocode 2: Design of concrete structures - Part 1-1: General rules and rules for buildings

EN 13501-1:2018

Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests

GB/T 3077:2015

Alloy structure steels

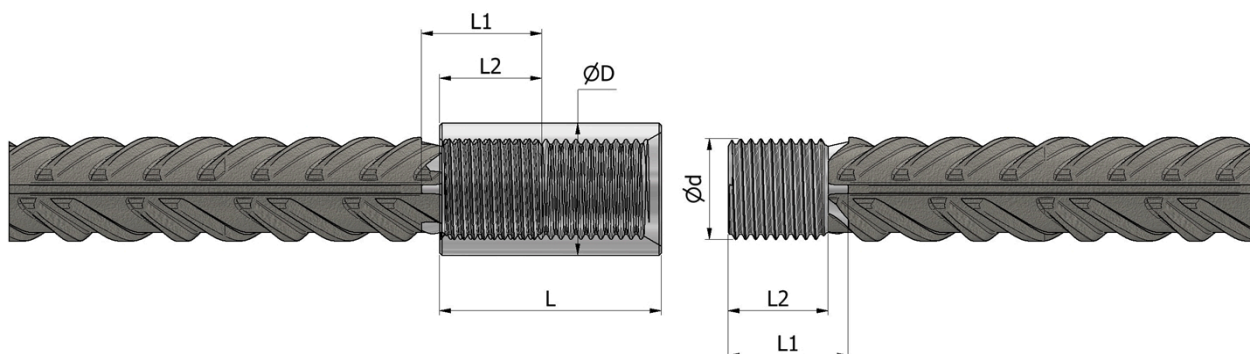
Issued in Berlin on 22 October 2025 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock  
Head of Section

*beglaubigt:*  
Kisan

## A.1 Overview BARTEC Couplers

### A.1.1 LS Rebar Splicing coupler



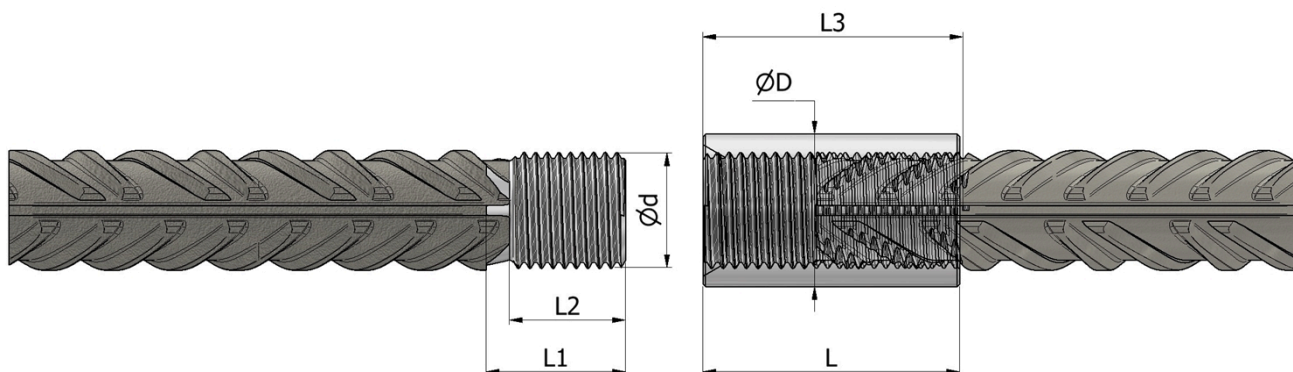
Couplers Ref.	Rebar nominal diameter $\phi$ [mm]	Coupler external diameter D [mm]	Coupler length L [mm]	Thread length L1 [mm]	Thread length L2 [mm]	External thread d [mm]
BTX C12	12	20	33	17	15	14
BTX C14	14	22	37	19	17	16
BTX C16	16	25	46	23	22	20
BTX C18	18	30	50	25	24	22
BTX PI20	20	30	55	28	26	24
BTX C22	22	36	57	29	27	25
BTX C24	24	36	61	31	29	27
BTX C26	25-26	39	68	34	33	30
BTX PI28	28	44	74	37	36	33
BTX C32	30-32	47	81	41	39	36
BTX C40	40	59	100	50	49	45

BARTEC Coupler

Product description – LS Rebar Splicing Coupler

Annex A1

### A.1.2 LSR Rebar Splicing coupler



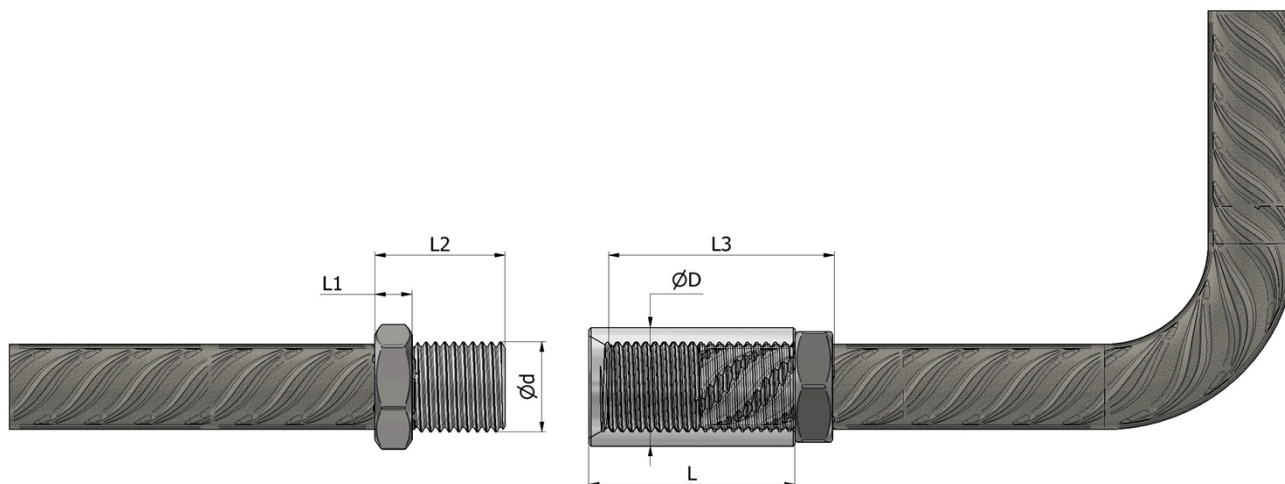
Couplers Ref.	Rebar nominal diameter $\phi$ [mm]	Coupler external diameter D [mm]	Coupler length L [mm]	Thread length L1 [mm]	Thread length L2 [mm]	Thread length L3	External thread d [mm]
BTLX C12	12	20	33	17	15	30	14
BTLX C14	14	22	37	19	17	34	16
BTLX C16	16	25	46	23	22	44	20
BTLX C18	18	30	50	25	24	48	22
BTLX PI20	20	30	55	28	26	52	24
BTLX C22	22	36	57	29	27	54	25
BTLX C24	24	36	61	31	29	58	27
BTLX C26	25-26	39	68	34	33	66	30
BTLX PI28	28	44	74	37	36	72	33
BTLX C32	30-32	47	81	41	39	78	36
BTLX C40	40	59	100	50	49	98	45

BARTEC Coupler

Product description – LSR Rebar Splicing Coupler

Annex A2

### A.1.3 LCE Rebar Splicing coupler



Couplers Ref.	Rebar nominal diameter $\phi$ [mm]	Coupler external diameter D [mm]	Coupler length L [mm]	Nut length L1 [mm]	Thread length L2 [mm]	Thread length L3	External thread d [mm]
BTLX C12	12	20	33	10	25	40	14
BTLX C14	14	22	37	11	28	45	16
BTLX C16	16	25	46	13	35	57	20
BTLX C18	18	30	50	15	39	63	22
BTLX PI20	20	30	55	16	42	68	24
BTLX C22	22	36	57	19	46	73	25
BTLX C24	24	36	61	19	48	77	27
BTLX C26	25-26	39	68	22	55	88	30
BTLX PI28	28	44	74	22	58	94	33
BTLX C32	30-32	47	81	24	63	102	36
BTLX C40	40	59	100	31	80	129	45

### A.2 Materials

Coupler steel: 40Cr according to GB/T 3077, Class A1 according to EN 13501-1

Reinforcing steel: B450C or B500B, Class A1 according to EN 13501-1

BARTEC Coupler

Product description – LCE Rebar Splicing Coupler  
Materials

Annex A3

## B.1 Conditions of use

BARTEC couplers are used as mechanical coupling in accordance with EN 1992-1-1 and annex C for reinforcing steel bars B450C and B500B with a nominal diameter of 12 to 40 mm in accordance with EN 1992-1-1, Clause C.1 for:

- Transmission of static or quasi static tension and compression loads according to EN 1992-1-1, clauses 8.7 and 8.8 (4),
- Limitation of slip according to EN 1992-1-1, clause 7.3,

The rebar connection is primarily used for force transmission in construction joints.

## B.2 Installation requirements

- Joints may be subjected to 100% of the static and quasi-static tensile and compressive load in the same way as a non-lapped bar; DIN EN 1992-1-1, Section 8.7.2(4) applies).
- The same values as for non-lapped bars shall apply to the concrete cover over the outer edge of a coupler as well as to the clear distances between the outer edges of adjacent couplers in accordance with EN 1992-1-1, clauses 4.4.1 and 8.2. The spacing necessary for installation shall remain.
- In case of bent (pre-bent) bars, the planned bending shall not begin until a distance of at least  $5 \phi$  from the end of the coupler ( $\phi$  = nominal diameter of the bent bar). If coupling bars are bent at the manufacturing plant using a special equipment, the distance may be reduced to  $2 \phi$ .
- The couplers shall only be installed by appropriately trained personnel in accordance with the manufacturer's instructions. These installation instructions are part of the accompanying documents.
- Only coupling elements that are marked in accordance with annex A shall be used.
- The coupler system shall be installed in accordance with the manufacturer's instructions, see installation manual Annex B2 to B7.
- The threads of the bars and coupling elements shall be free of rust and contamination.
- Only rebar splices composed of 1<sup>st</sup> and 2<sup>nd</sup> phase threads produced and inspected by BARTEC Group's partners in accordance with BARTEC Group's quality procedures are authorized.

BARTEC Coupler	Annex B1
Intended use – Conditions of use and installation requirements	



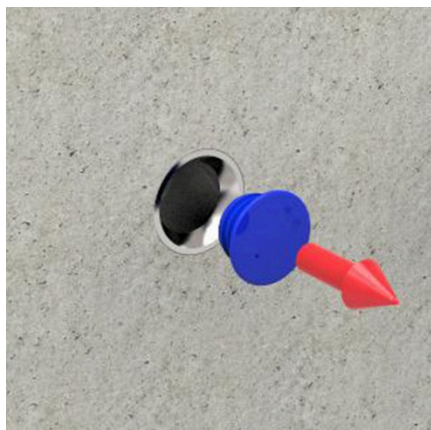
### B.3 Installation manual

#### B.3.1 LS Rebar Splicing coupler

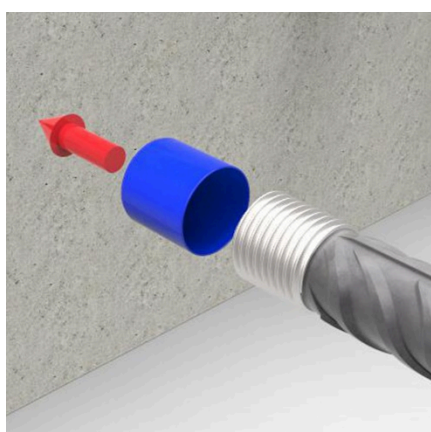


The rebar threaded end is fully engaged inside the coupler.

The coupler plug is correctly installed.



Remove the plug from the coupler.



Remove the protection from the 2<sup>nd</sup> phase rebar.

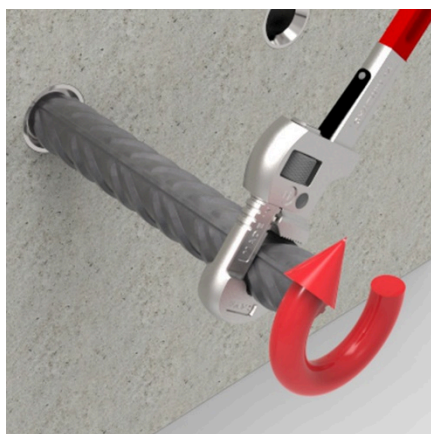
BARTEC Coupler

Intended use – Installation manual - LS Rebar Splicing coupler

Annex B2



Approach the rebar to the coupler and start rotating.



Use a standard wrench to tighten the rebar. For rebar with  $\varnothing \geq 25$  mm, use a minimum lever length of 0,80 m.



When the installation is completed: no threaded portion of the 2<sup>nd</sup> phase rebar is visible outside the coupler.

BARTEC Coupler

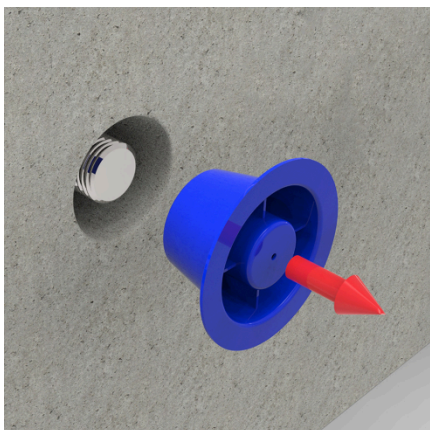
Intended use – Installation manual - LS Rebar Splicing coupler

Annex B3

### B.3.2 LSR Rebar Splicing coupler



The rebar threaded end is properly covered by the spacing plug (RFI).



Remove the RFI plug.



Check that the coupler is fully engaged on the 2nd Phase rebar.

BARTEC Coupler

Intended use – Installation manual - LSR Rebar Splicing coupler

Annex B4





Approach the 2nd Phase Rebar to the 1st Phase Rebar until they are in contact, then start rotating the coupler.



Use a standard wrench to tighten the rebar. For rebar with  $\varnothing \geq 25$  mm, use a minimum lever length of 0,80 m



When the installation is completed, the visible threading length “l” has to fall between the limits below indicated.

Rebar $\varnothing$	12	14	16	18	20	22
l min (mm)	16	18	22	24	27	27
l max (mm)	20	22	28	30	33	33

Rebar $\varnothing$	24	25-26	28	30-32	40
l min (mm)	31	33	33	39	48
l max (mm)	37	40	40	48	58

BARTEC Coupler

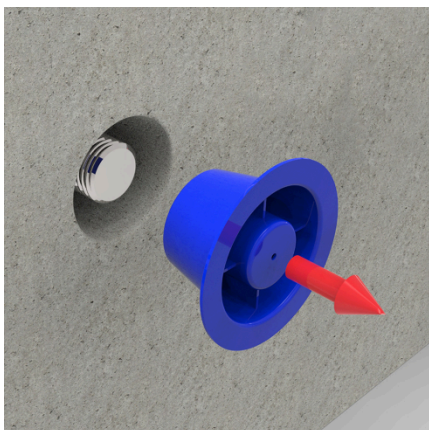
Intended use – Installation manual - LSR Rebar Splicing coupler

Annex B5

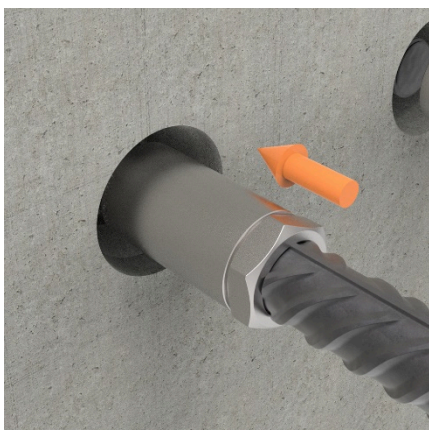
### B.3.3 LCE Rebar Splicing coupler



No visible threads on the rebar outside the lock nut; the spacing plug (RFI) is properly installed.



Remove the RFI plug.

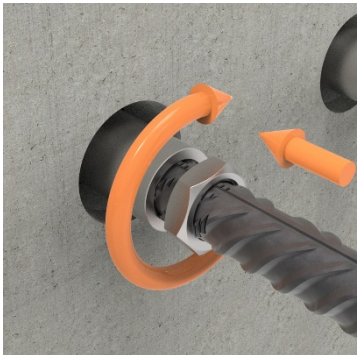


The lock nut is fully engaged on the 2<sup>nd</sup> phase rebar; coupler and lock nut are in contact.

BARTEC Coupler

Intended use – Installation manual - LCE Rebar Splicing coupler

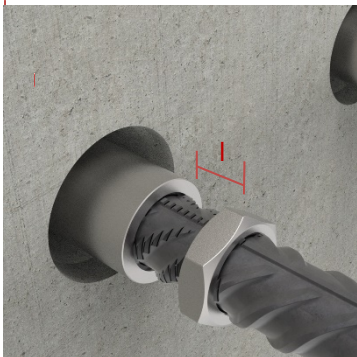
Annex B6



Screwing in the coupler by hand. (Should it ease the operation, a standard wrench may be used.)



Use a standard wrench to tighten the coupler. For rebar with  $\varnothing \geq 25$  mm, use a minimum lever length of 0,80 m



The visible distance "l" between coupler and lock nut (still engaged at the bottom of the long thread) has to fall between the indicated limits.

Rebar $\varnothing$	12	14	16	18	20	22
l min (mm)	16	18	22	24	27	27
l max (mm)	20	22	28	30	33	33

Rebar $\varnothing$	24	25-26	28	30-32	40
l min (mm)	31	33	33	39	48
l max (mm)	37	40	40	48	58



Set the rebar in the correct position and use a standard wrench to tighten the lock nut. For rebar with  $\varnothing \geq 25$  mm, use a minimum lever length of 0,80 m.

BARTEC Coupler	Annex B7
Intended use – Installation manual - LCE Rebar Splicing coupler	

### C Performance parameters – Connection with reinforcing steel B450C/B500B

Rebar nominal diameter $\phi$  [mm]	Resistance to static or quasi-static loading (tension and compression) <sup>1)</sup> B450C/B500B  $f_{u,min}$  [N/mm <sup>2</sup> ]	Slip under static or quasi-static loading <sup>2)</sup>  $s_1$  [mm]	Slip after static or quasi-static loading <sup>3)</sup>  $s_2$  [mm]
12	518/540	0,1	0,1
14			
16			
18			
20			
22			
24			
25-26			
28			
30-32			
40			

<sup>1)</sup>  $f_{u,min} = f_{yk} \cdot 1,08$  with  $f_{yk} = 500$  N/mm<sup>2</sup> for B500B

$f_{u,min} = f_{yk} \cdot 1,15$  with  $f_{yk} = 450$  N/mm<sup>2</sup> for B450C

<sup>2)</sup> Slip within the connection under loading measured at  $0,6 \cdot f_{yk}$

<sup>3)</sup> Slip within the connection under loading measured at  $0,02 \cdot f_{yk}$

BARTEC Coupler

Performance parameters

Annex C