

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-08/0262
of 17 October 2017

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Trade name of the construction product

Product family
to which the construction product belongs

Manufacturer

Manufacturing plant

This European Technical Assessment
contains

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

This version replaces

Deutsches Institut für Bautechnik

SFS intec Flat Roof Fasteners

Fasteners for flexible roof waterproofing systems

SFS intec AG
FasteningSystems
Rosenbergsastraße 10
9435 HEERBRUGG
SCHWEIZ

Factory 1 to factory 15, factory 18 to factory 23

114 pages including 109 annexes which form an integral
part of this assessment

ETAG 006,
used as EAD according to Article 66 Paragraph 3 of
Regulation (EU) No 305/2011.

ETA-08/0262 issued on 25 April 2013

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Specific Part

1 Technical description of the product

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

The fasteners are shown in the Annexes to this ETA.

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

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

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

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

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

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

3.1 Characteristics of the product

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

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

The material properties, dimensions and tolerances not indicated in Annexes 1 to 94 shall correspond to the information laid down in the technical information¹ to this European technical assessment.

3.2 Safety and accessibility in use (BWR 4)

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

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

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

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

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

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

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

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

3.3 Indications concerning installation

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

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

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

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

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

The system to be applied is: 2+

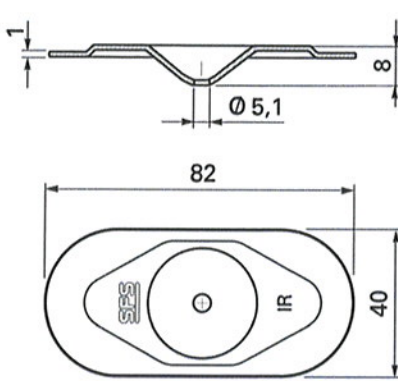
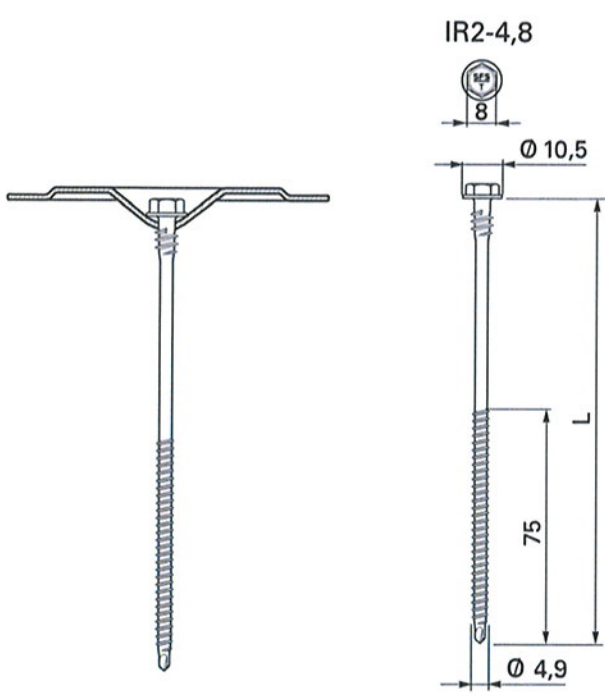
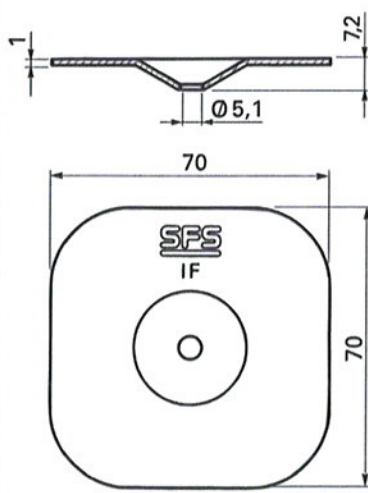
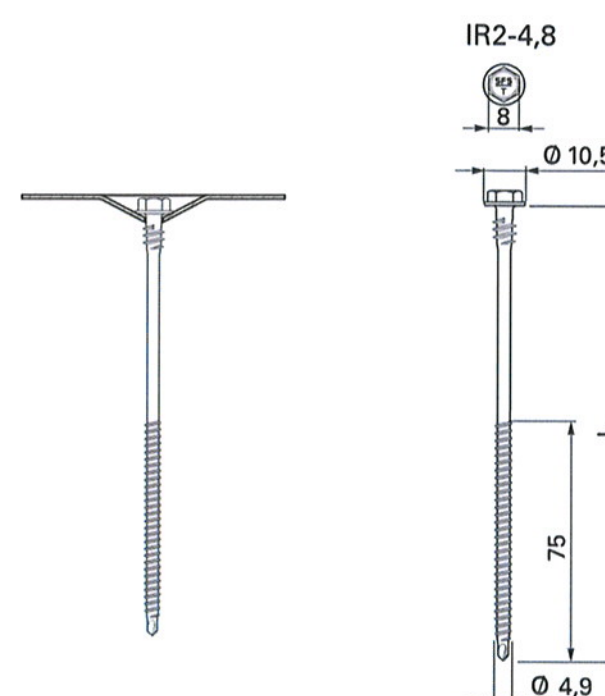
5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

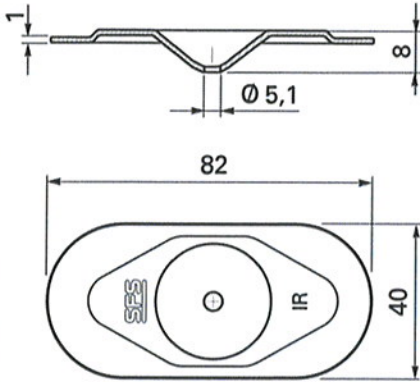
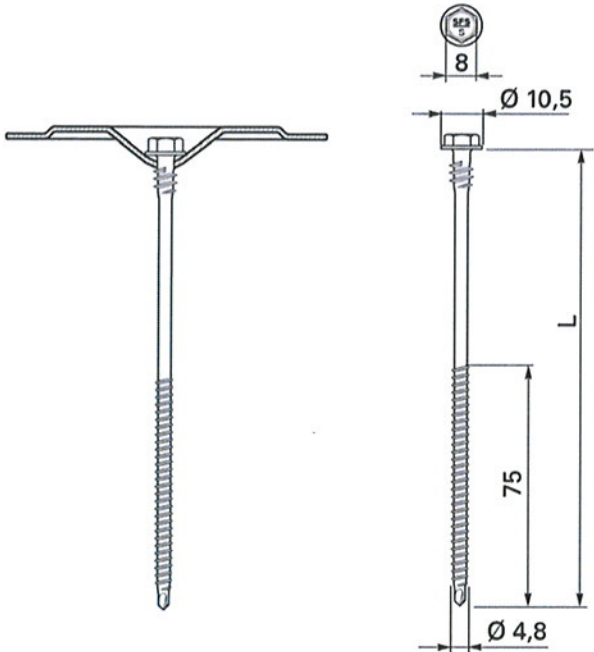
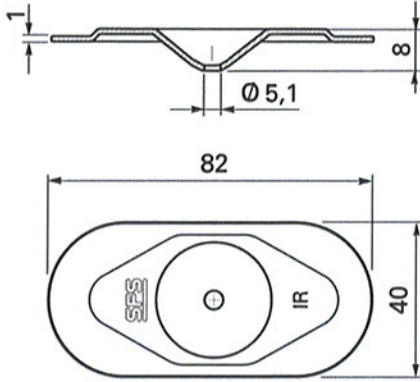
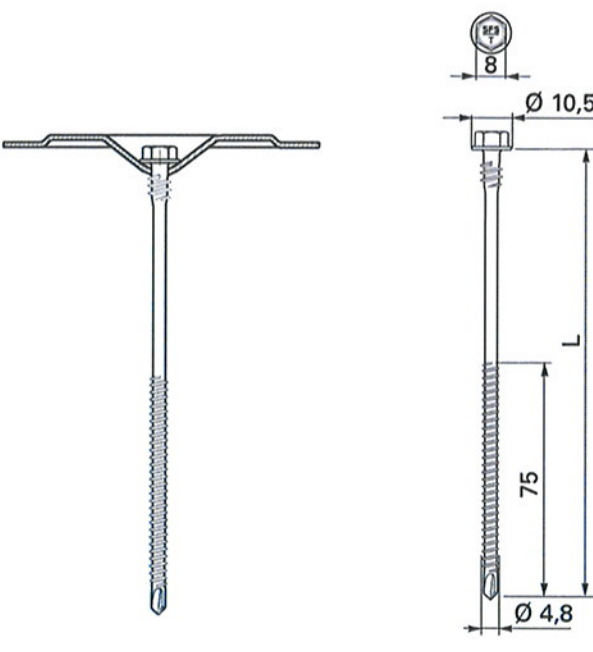
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

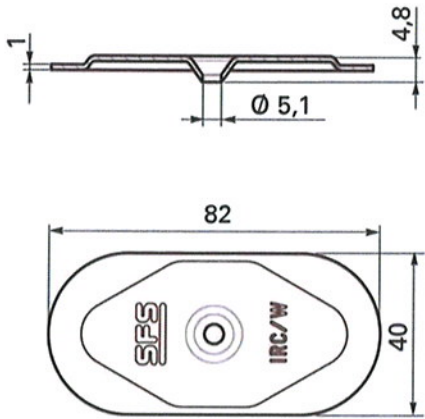
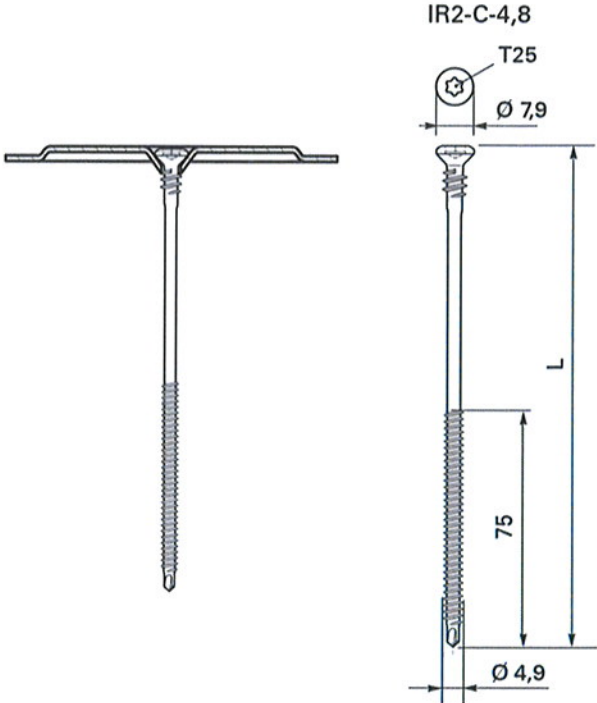
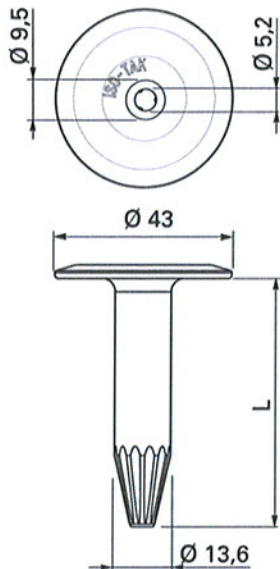
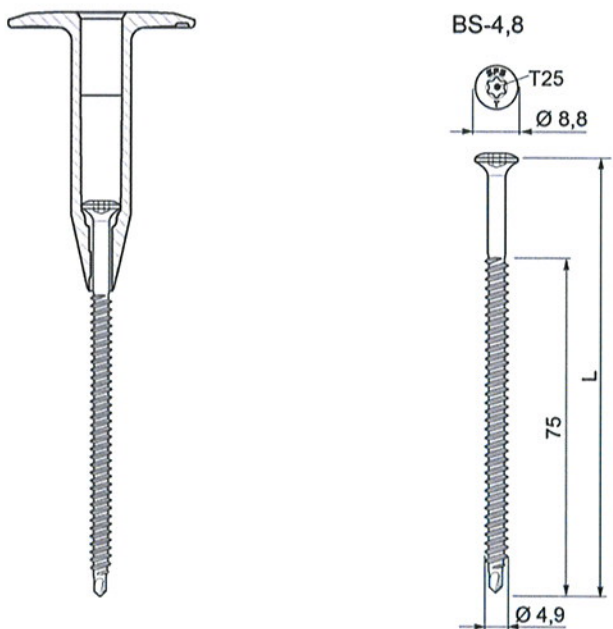
Issued in Berlin on 17 October 2017 by Deutsches Institut für Bautechnik

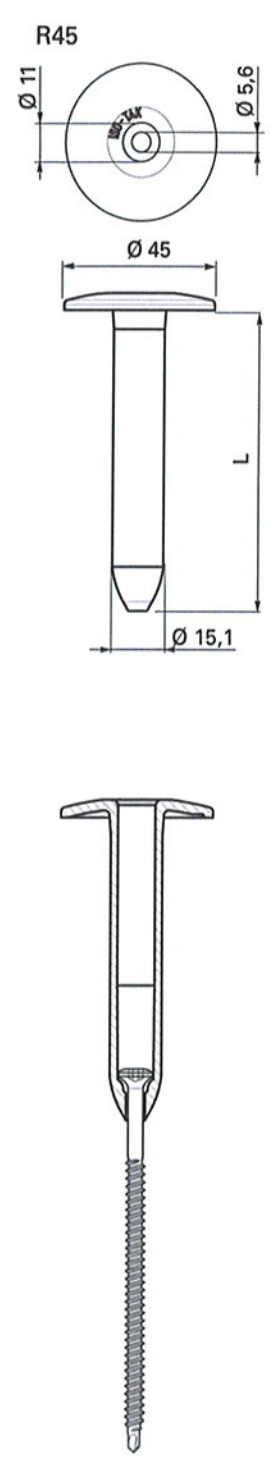
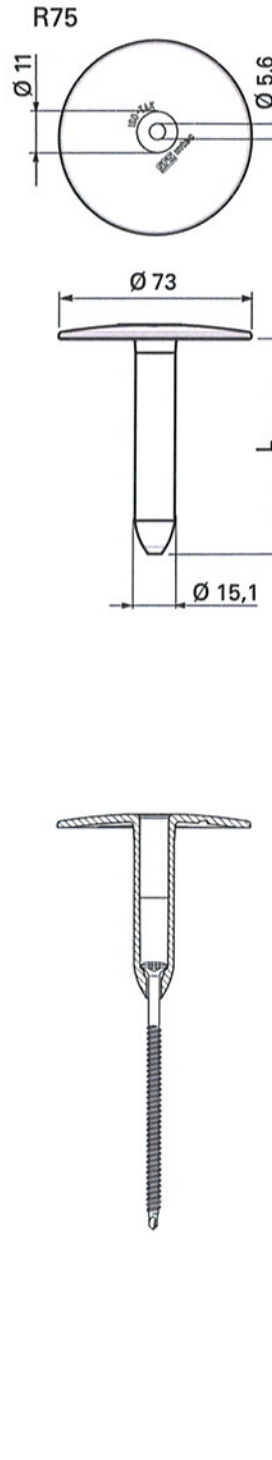
Dr.-Ing. Lars Eckfeldt
p. p. Head of Department

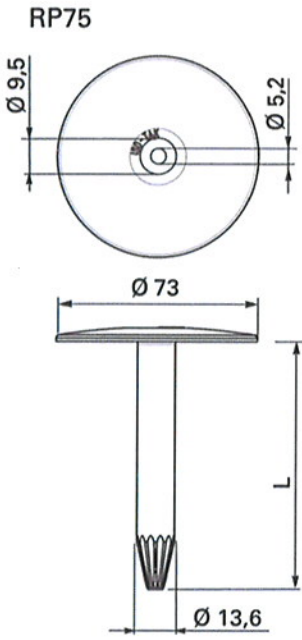
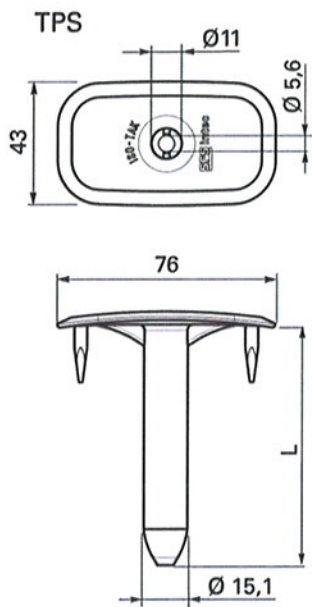
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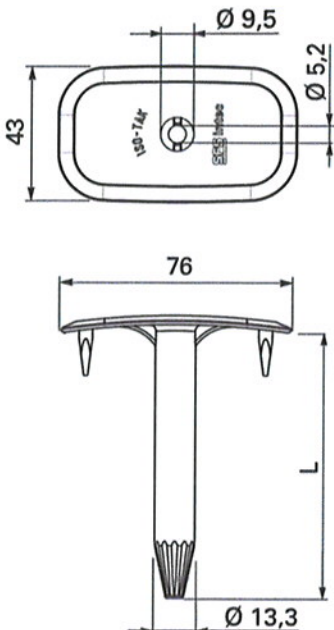
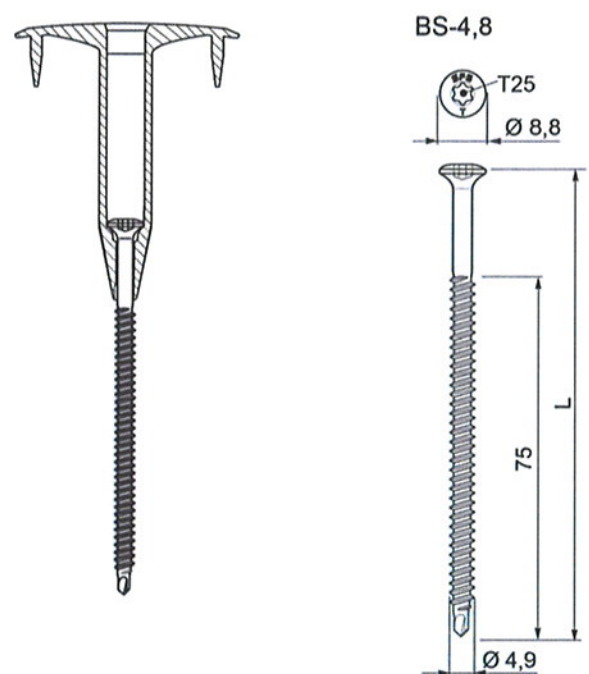
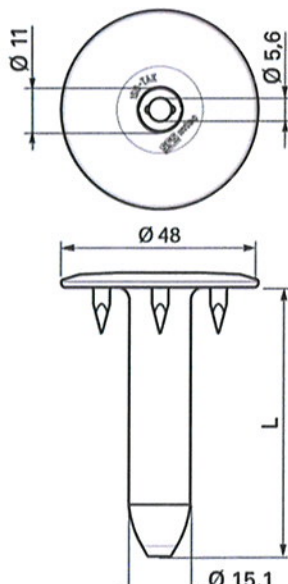
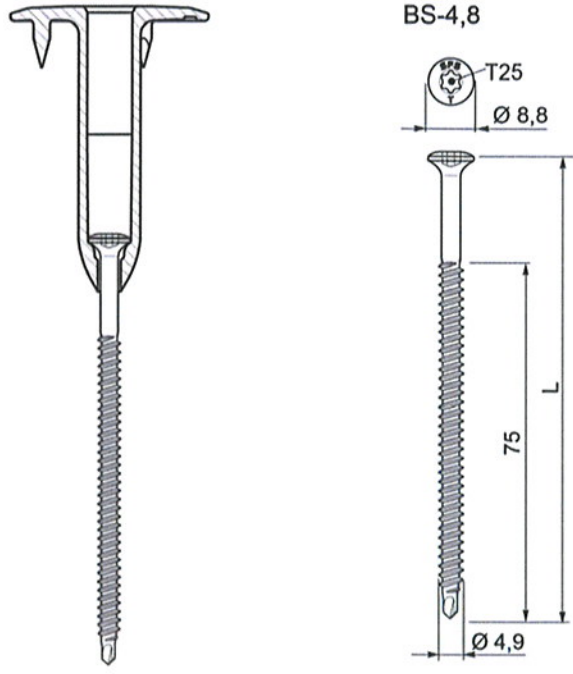
Combination 1A IR2-4,8 / IR-82x40	Combination 1B IR2-4,8 / IF-70x70
IR-82x40  	IF-70x70  
SFS intec flat roof fasteners	Annex 1

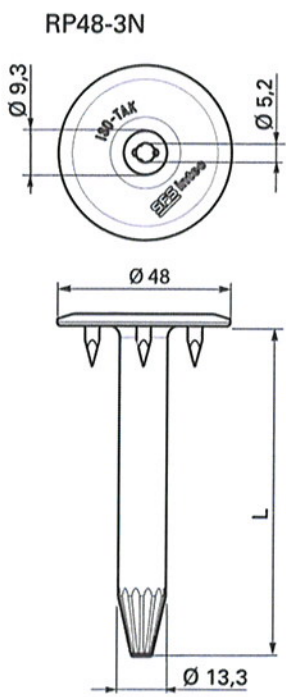
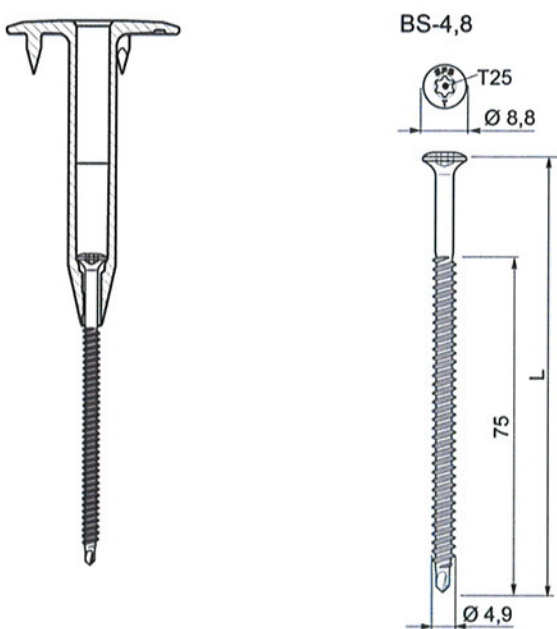
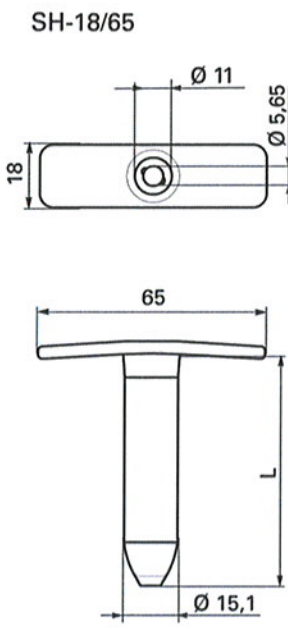
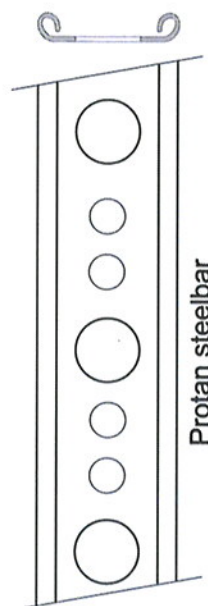
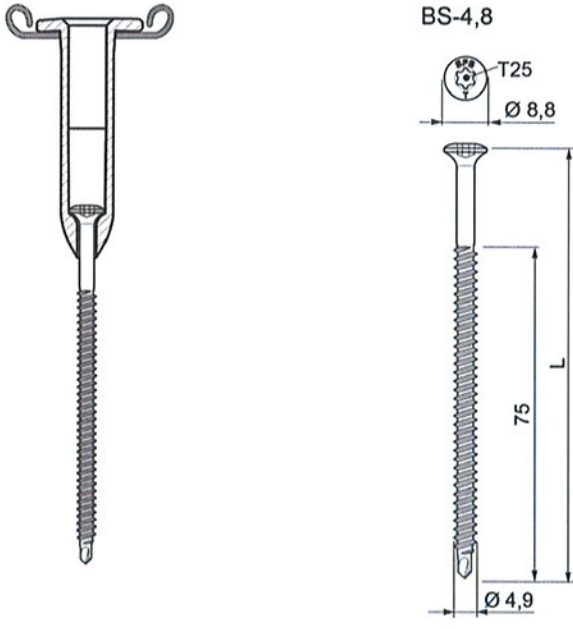
Combination 2A IR2-S-4,8 / IR-82x40	Combination 2B IR3-4,8 / IR-82x40
IR-82x40  IR2-S-4,8 	IR-82x40  IR3-4,8 
SFS intec flat roof fasteners	
Annex 2	

Combination 3A IR2-C-4,8 / IRC/W-82x40	Combination 3B BS-4,8 / RP45
IRC/W-82x40  	RP45  
SFS intec flat roof fasteners	Annex 3

Combination 4A BS-4,8 / R45	Combination 4B BS-4,8 / R75
 R45 Ø 11 5,6 Ø 45 L Ø 15,1 BS-4,8 T25 Ø 8,8 75 L Ø 4,9	 R75 Ø 11 5,6 Ø 73 L Ø 15,1 BS-4,8 T25 Ø 8,8 75 L Ø 4,9
SFS intec flat roof fasteners	
Annex 4	

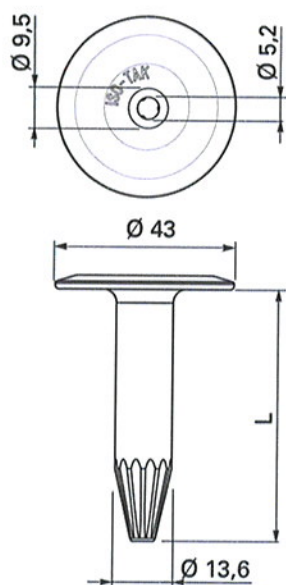
Combination 5A BS-4,8 / RP75	Combination 5B BS-4,8 / TPS
 RP75 Ø 9,5 Ø 5,2 Ø 73 L Ø 13,6  BS-4,8 T25 Ø 8,8 75 L Ø 4,9	 TPS Ø 11 43 Ø 5,6 76 L Ø 15,1  BS-4,8 T25 Ø 8,8 75 L Ø 4,9
SFS intec flat roof fasteners	
Annex 5	

Combination 6A BS-4,8 / TPP	Combination 6B BS-4,8 / R48-3N
TPP  	R48-3N  
SFS intec flat roof fasteners	
Annex 6	

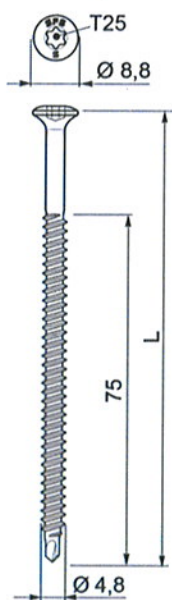
Combination 7A BS-4,8 / RP48-3N	Combination 7B BS-4,8 / SH-18/65 / Protan steelbar
RP48-3N  BS-4,8 	SH-18/65  Protan steelbar  BS-4,8 
SFS intec flat roof fasteners	
Annex 7	

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

RP45

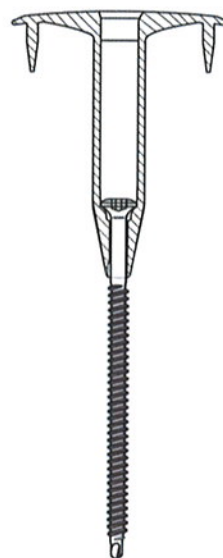
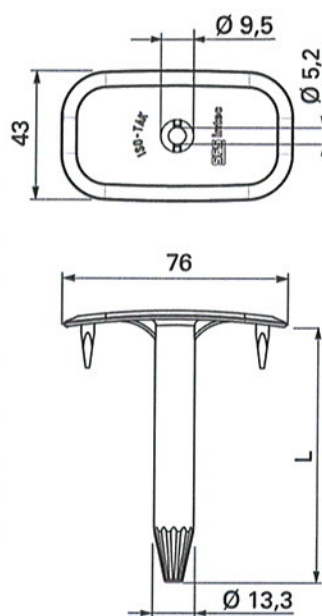


BS-S-4,8

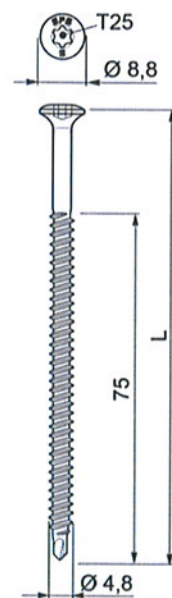


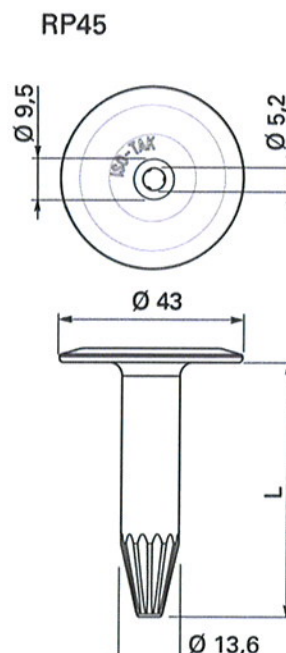
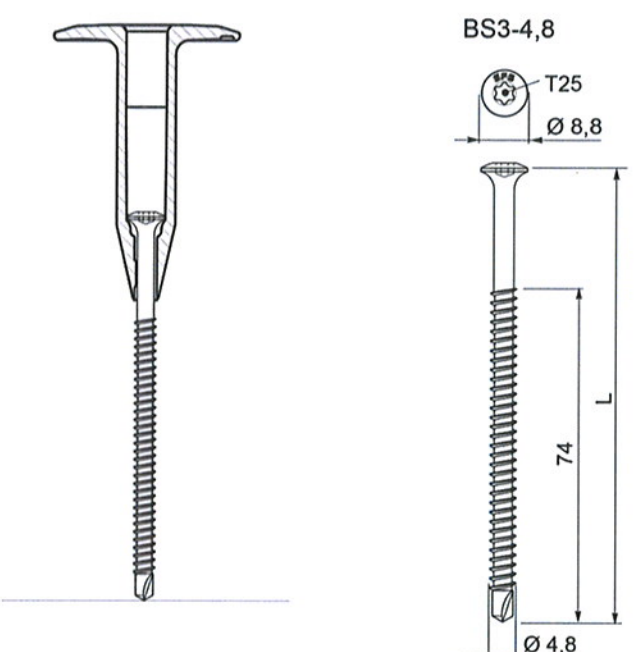
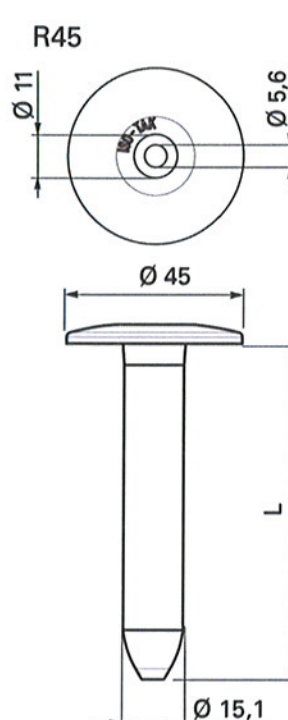
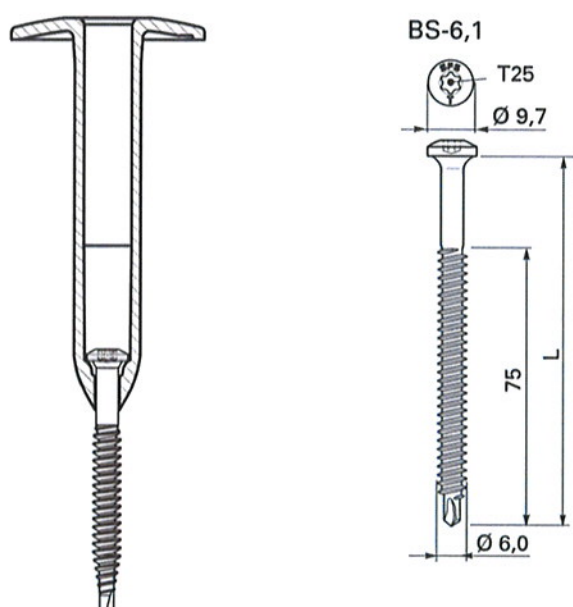
Combination 8B
BS-S-4,8 / TPP

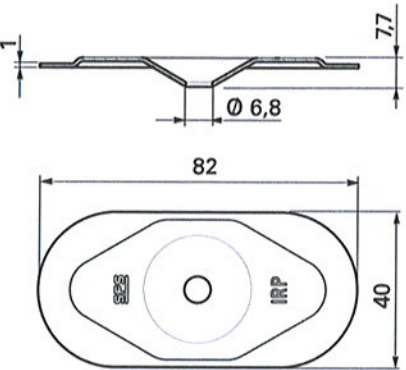
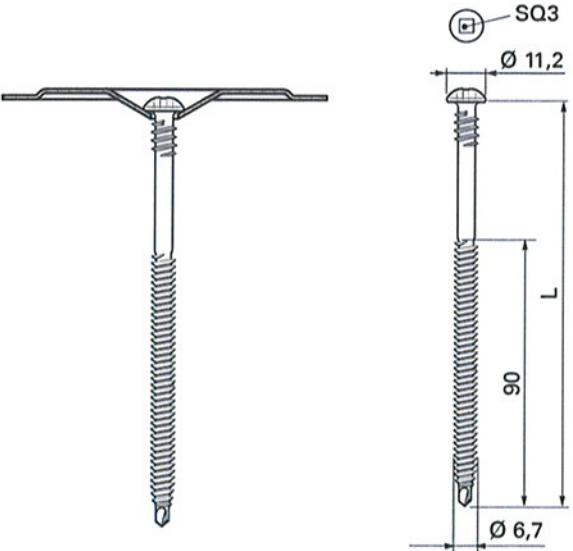
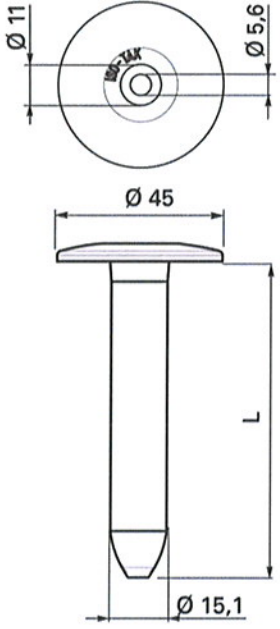
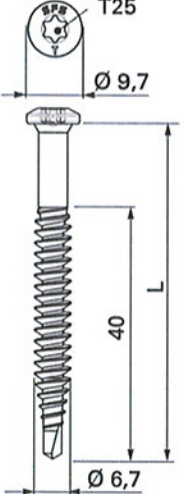
TPP

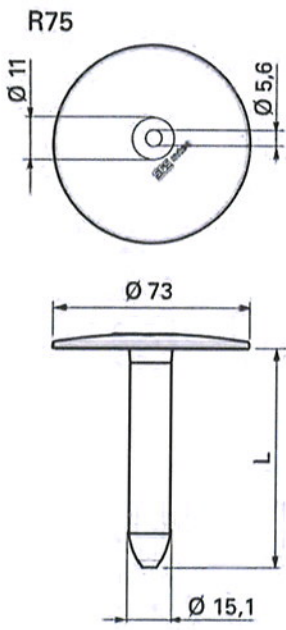
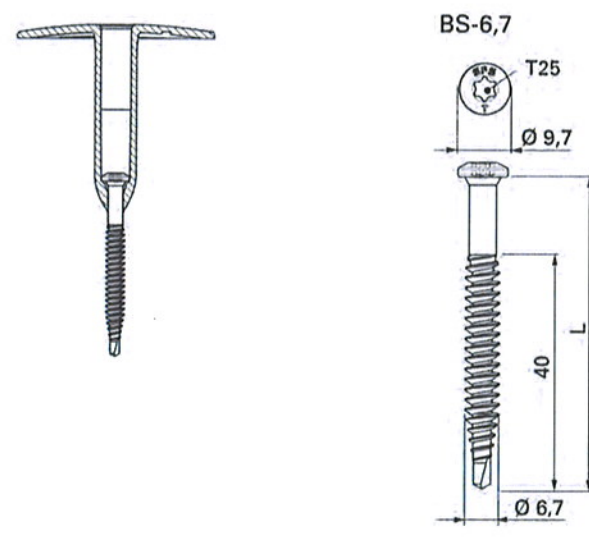
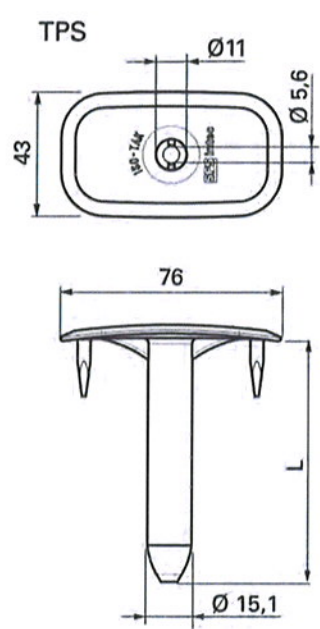
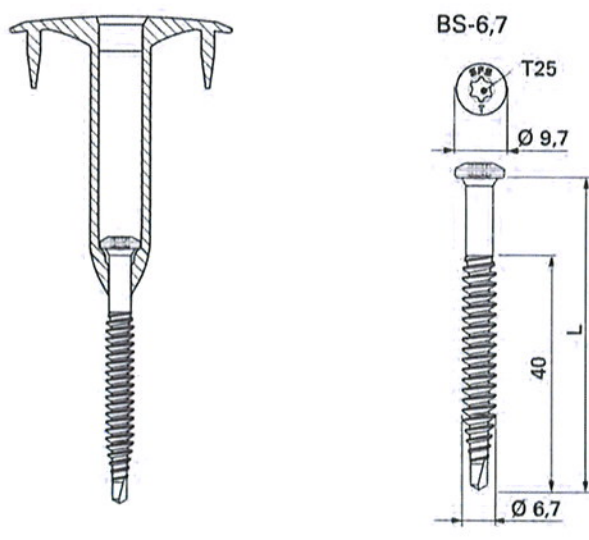


BS-S-4,8

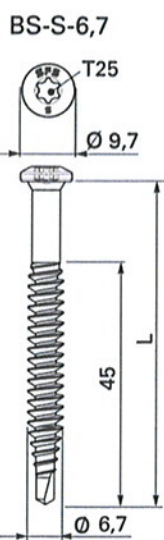
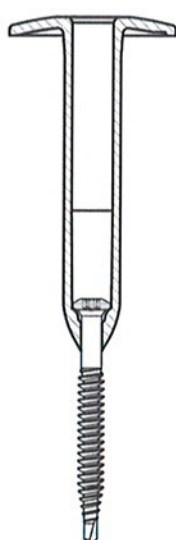
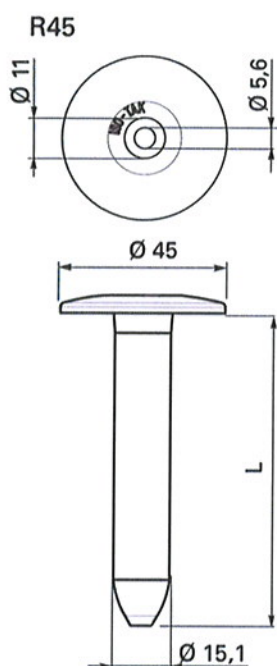


Combination 9A BS3-4,8 / RP45	Combination 9B BS-6,1 / R45
RP45  BS3-4,8 	R45  BS-6,1 
SFS intec flat roof fasteners	
Annex 9	

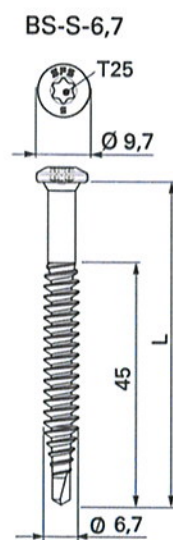
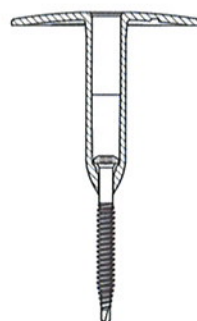
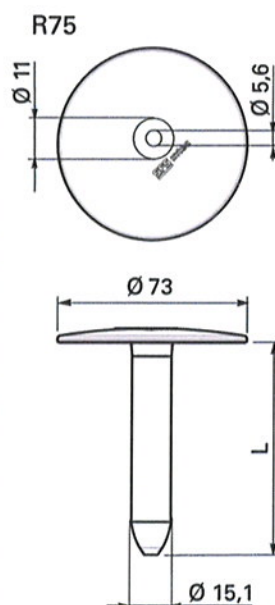
Combination 10A IFP2-6,7 / IRP-82x40	Combination 10B BS-6,7 / R45
IRP-82x40  IFP2-6,7 	R45  BS-6,7 
SFS intec flat roof fasteners	Annex 10

Combination 11A BS-6,7 / R75	Combination 11B BS-6,7 / TPS
 Technical drawing of the R75 fastener head and profile. The head is circular with a diameter of $\varnothing 73$ and a central hole with a diameter of $\varnothing 11$. The thickness of the head is $\varnothing 5,6$. The profile shows a stem with a diameter of $\varnothing 15,1$ and a total length L.  Technical drawing of the BS-6,7 fastener head and profile. The head is circular with a diameter of $\varnothing 9,7$ and a central hole with a diameter of $\varnothing 6,7$. The thickness of the head is $\varnothing 6,7$. The profile shows a stem with a diameter of $\varnothing 6,7$ and a total length L. The fastener is labeled T25.	 Technical drawing of the TPS fastener head and profile. The head is rectangular with a width of 43 and a height of 76. The central hole has a diameter of $\varnothing 11$. The thickness of the head is $\varnothing 5,6$. The profile shows a stem with a diameter of $\varnothing 15,1$ and a total length L.  Technical drawing of the BS-6,7 fastener head and profile. The head is circular with a diameter of $\varnothing 9,7$ and a central hole with a diameter of $\varnothing 6,7$. The thickness of the head is $\varnothing 6,7$. The profile shows a stem with a diameter of $\varnothing 6,7$ and a total length L. The fastener is labeled T25.
SFS intec flat roof fasteners	
Annex 11	

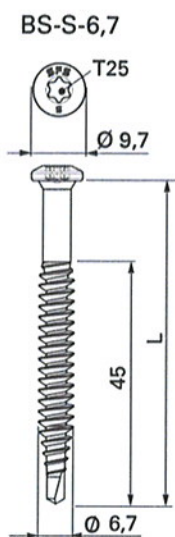
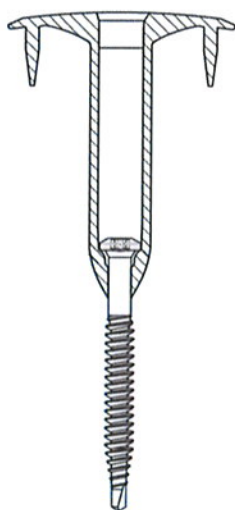
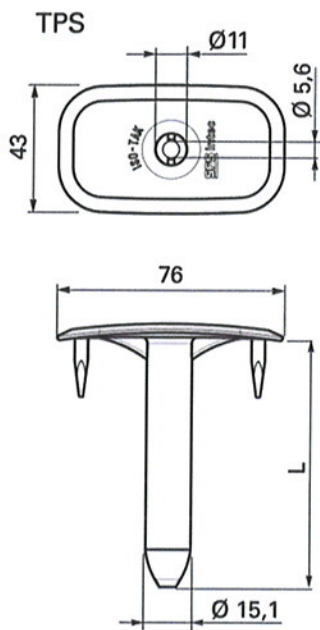
Combination 12A
BS-S-6,7 / R45



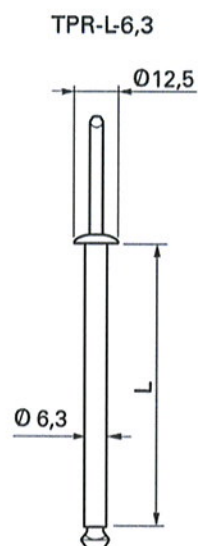
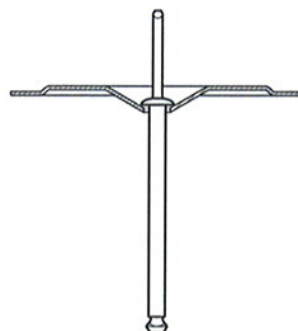
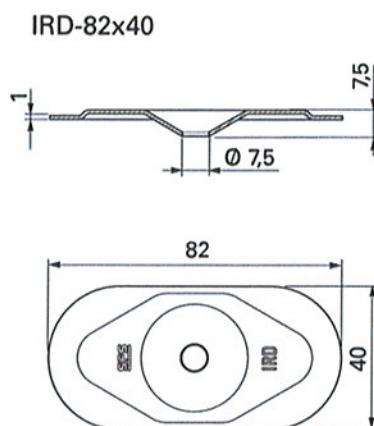
Combination 12B
BS-S-6,7 / R75



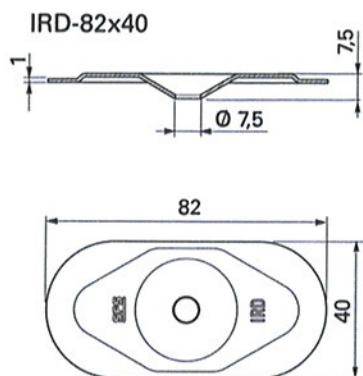
Combination 13A
BS-S-6,7 / TPS



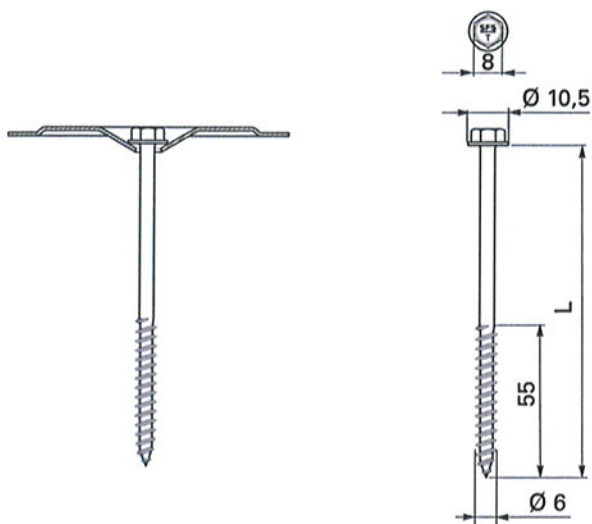
Combination 13B
TPR-L-6,3 / IRD-82x40



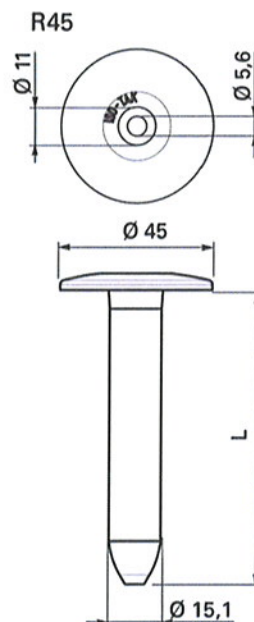
Combination 14A
IG-6,0 / IRD-82x40



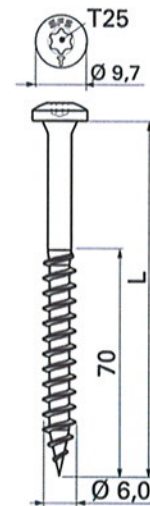
IG-6,0



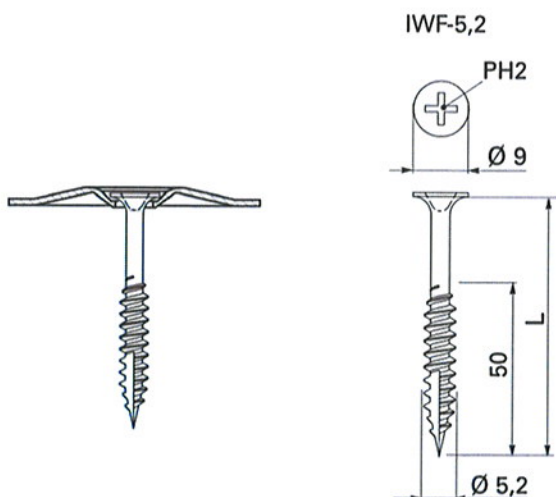
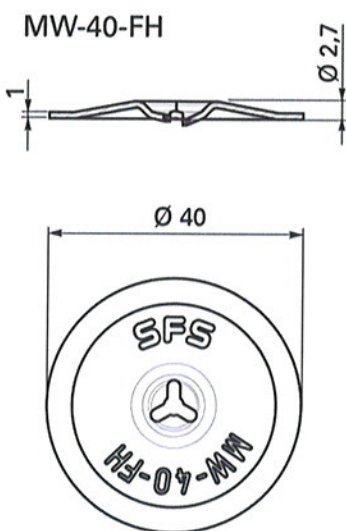
Combination 14B
TS-T25-6,0 / R45



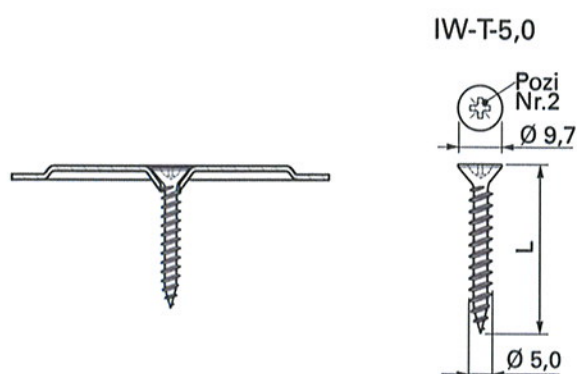
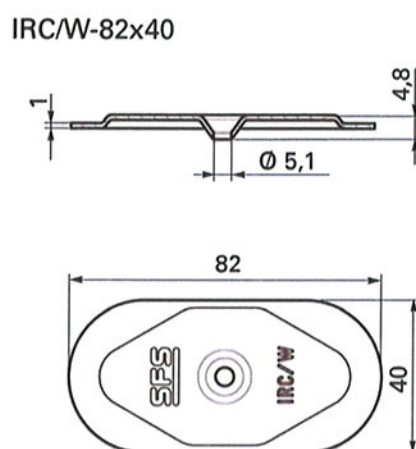
TS-T25-6,0

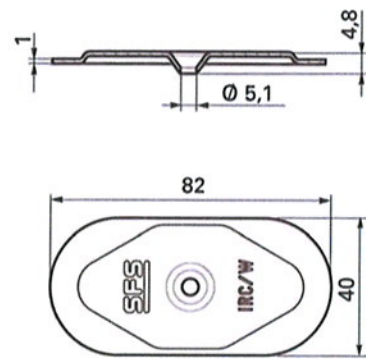
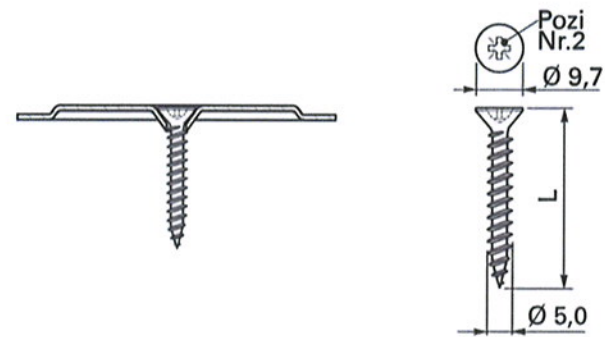
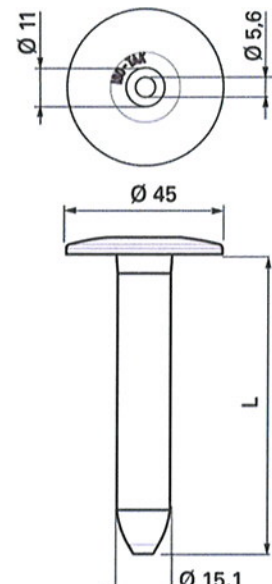
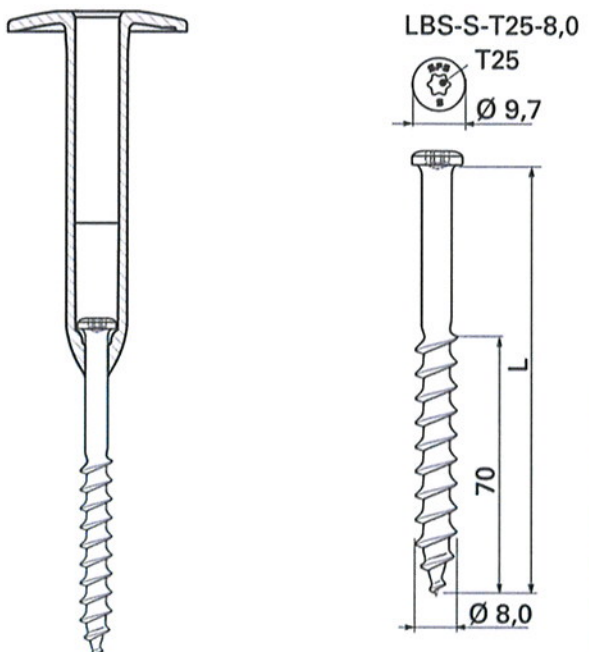


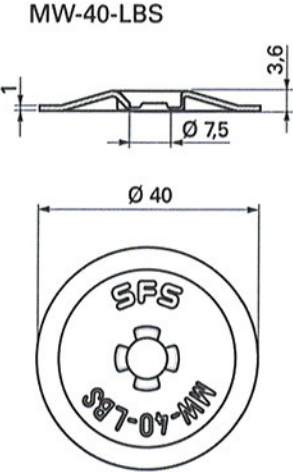
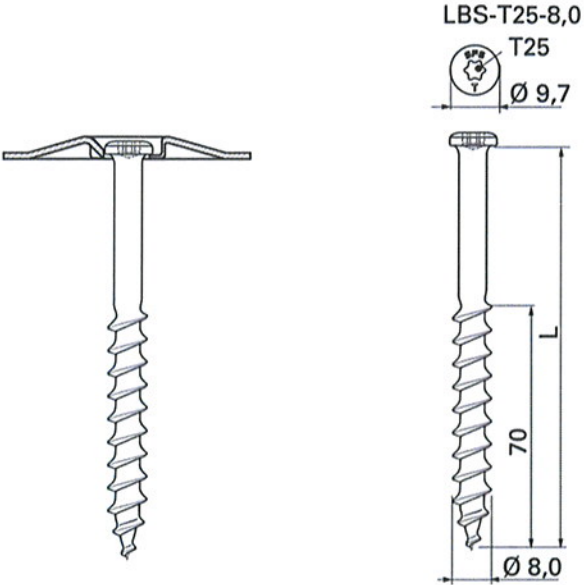
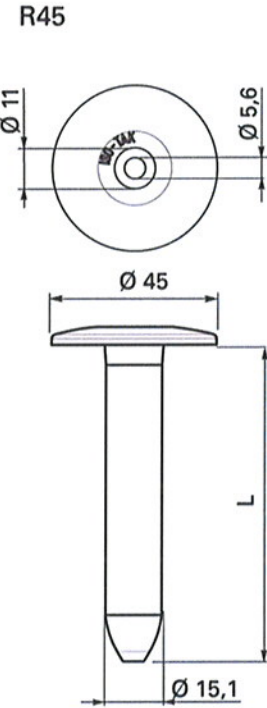
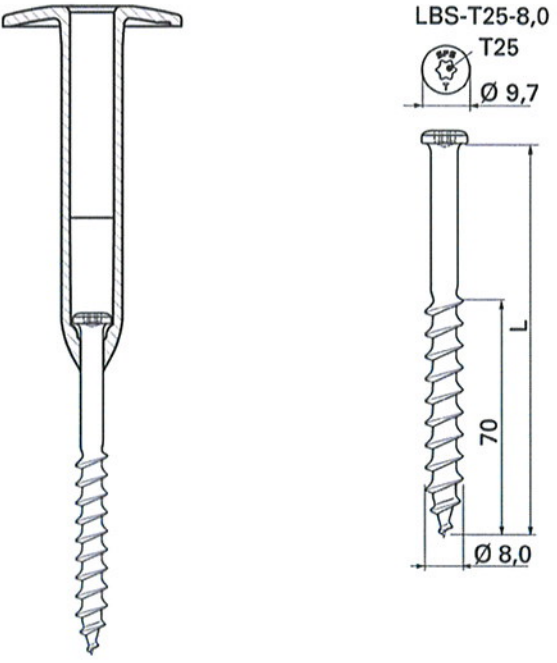
Combination 15A
IWF-5,2 / MW-40-FH

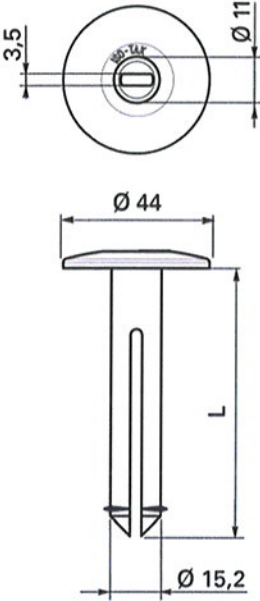
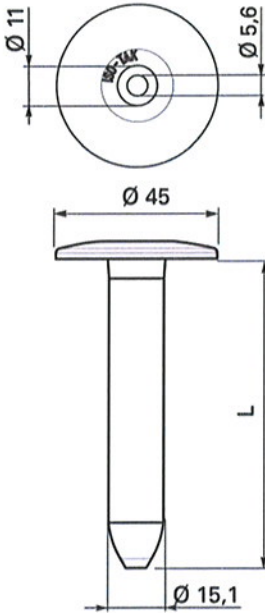
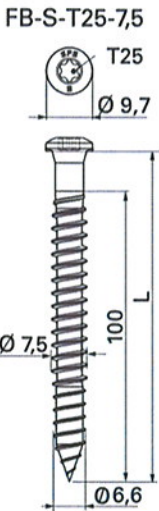


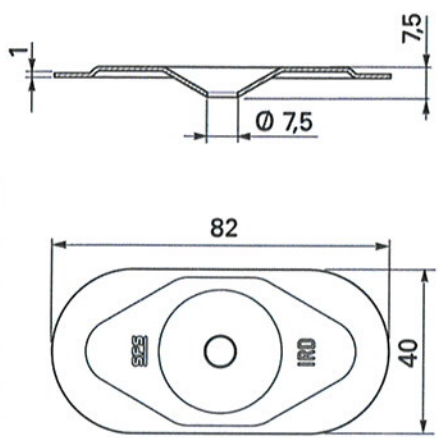
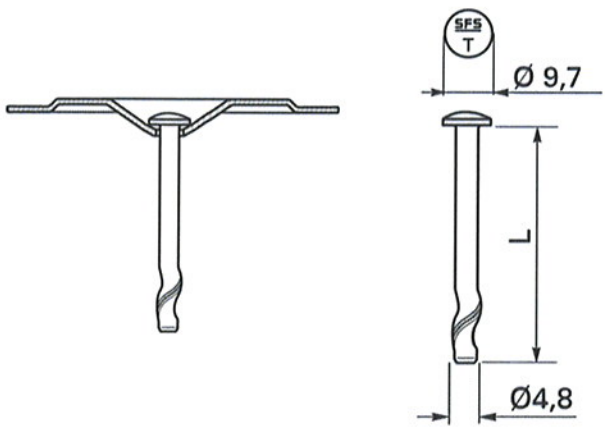
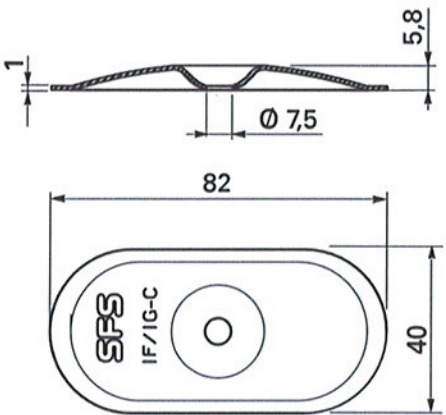
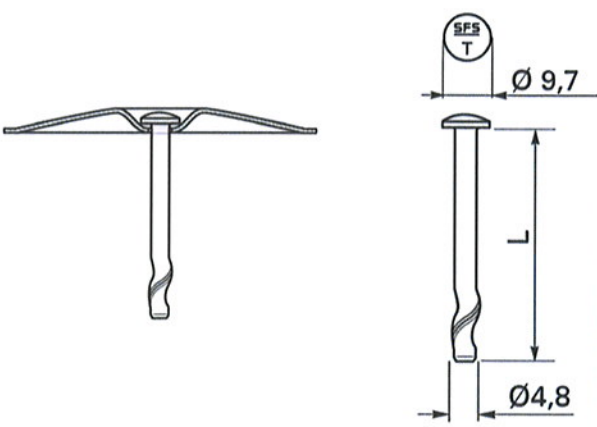
Combination 15B
IW-T-5,0 / IRC/W-82x40

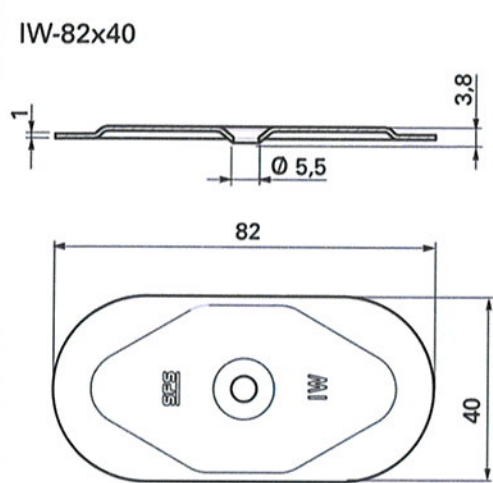
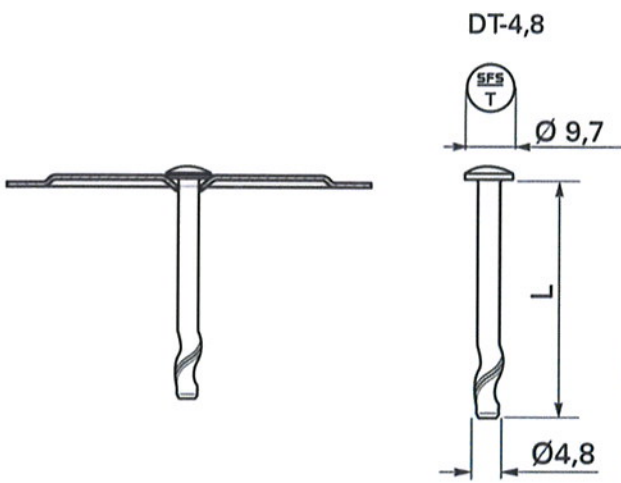
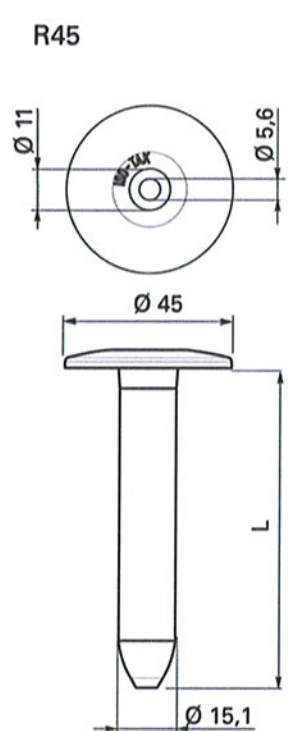
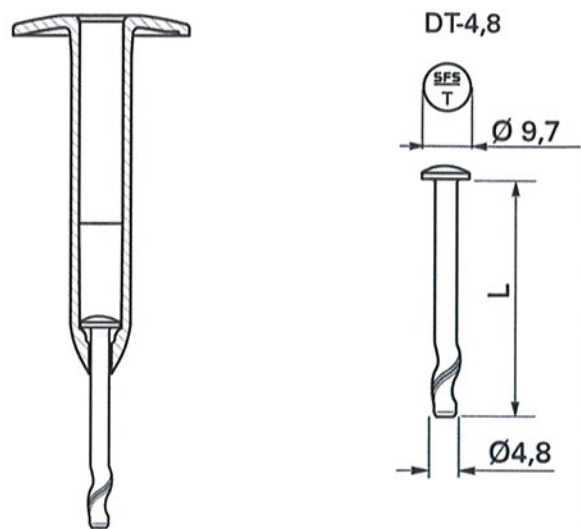


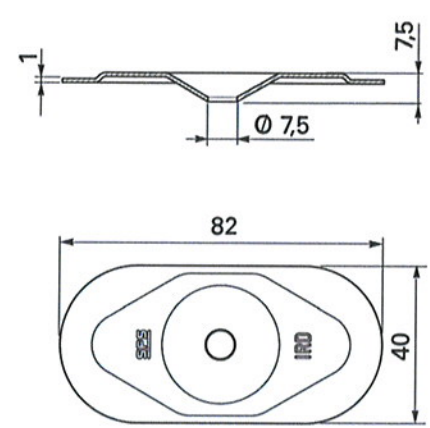
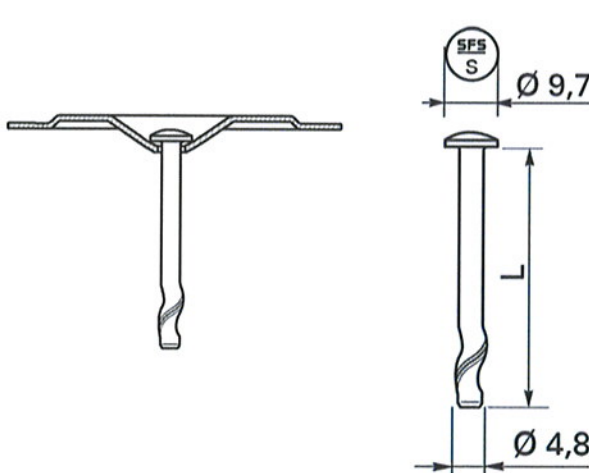
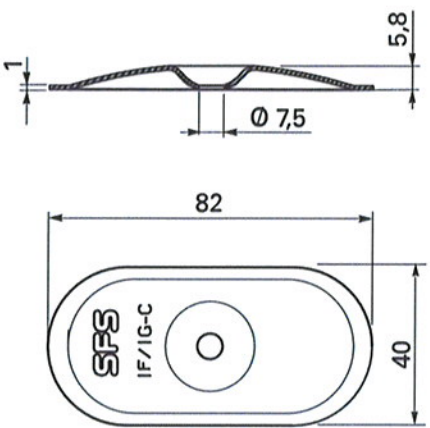
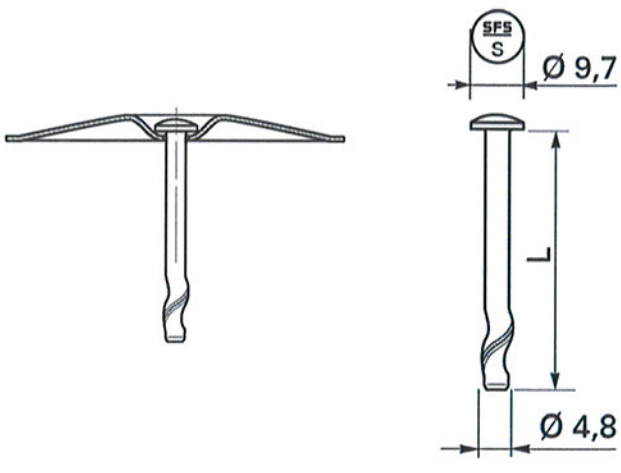
Combination 16A IW-S-5,0 / IRC/W-82x40	Combination 16B LBS-S-T25-8,0 / R45
IRC/W-82x40  IW-S-5,0 	R45  LBS-S-T25-8,0 
SFS intec flat roof fasteners	Annex 16

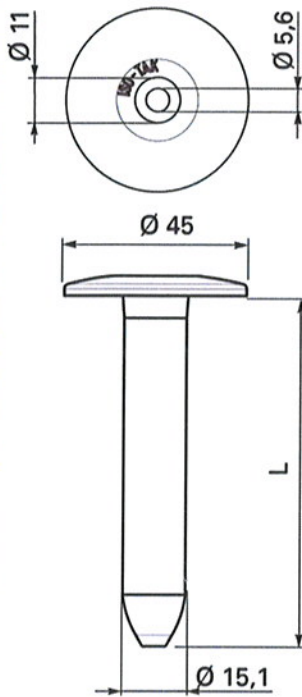
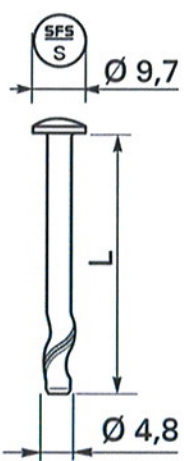
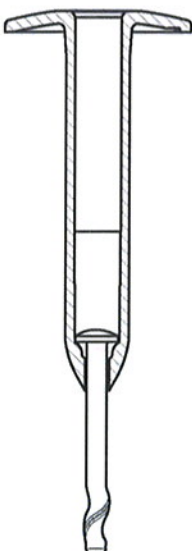
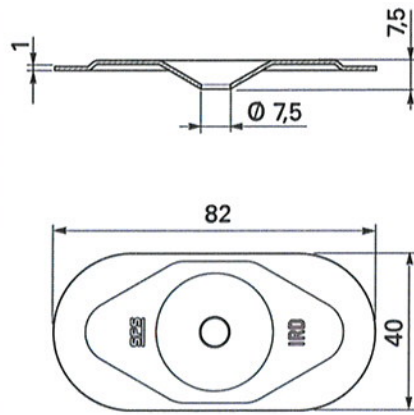
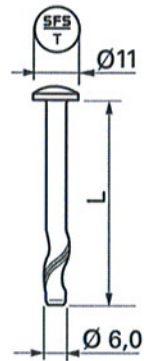
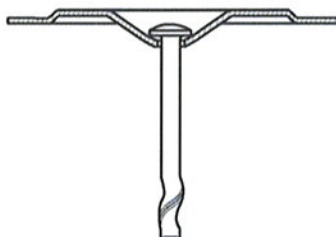
Combination 17A LBS-T25-8,0 / MW-40-LBS	Combination 17B LBS-T25-8,0 / R45
MW-40-LBS  LBS-T25-8,0 	R45  LBS-T25-8,0 
SFS intec flat roof fasteners	Annex 17

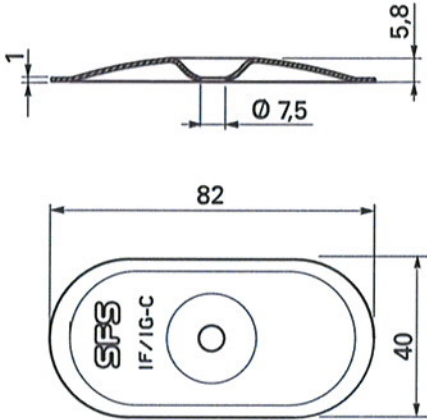
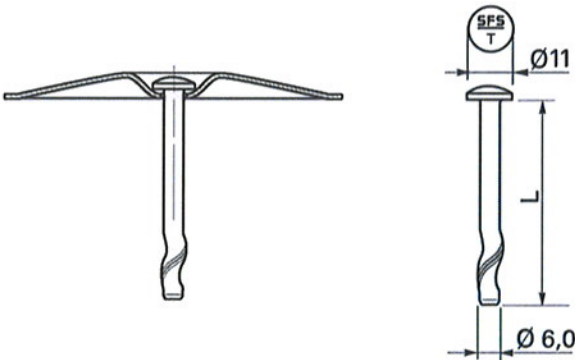
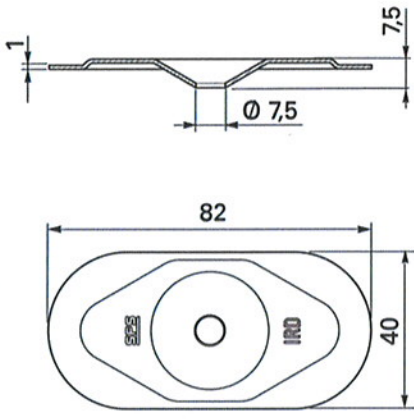
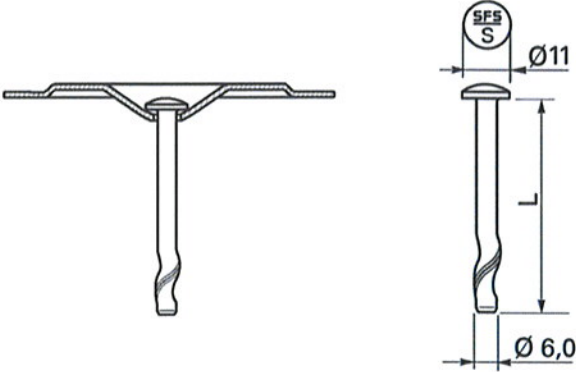
Combination 18A LB-45	Combination 18B FB-S-T25-7,5 / R45
LB-45 	R45  
SFS intec flat roof fasteners Annex 18	

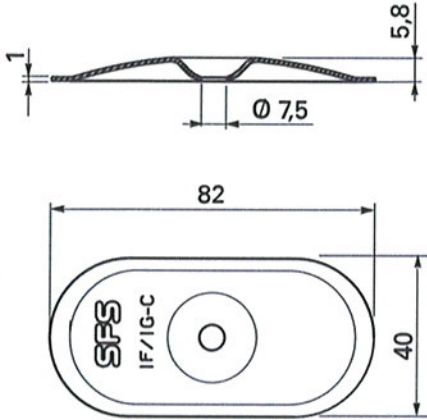
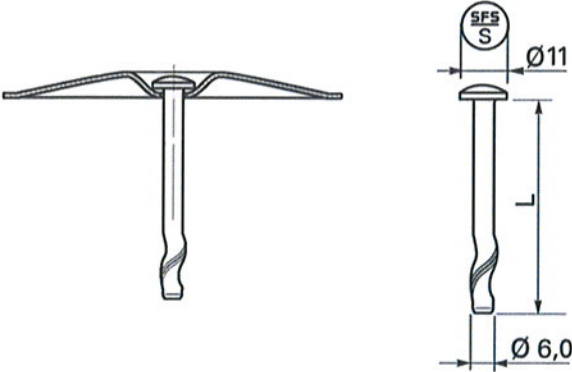
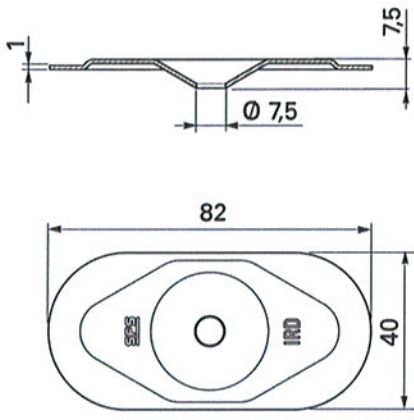
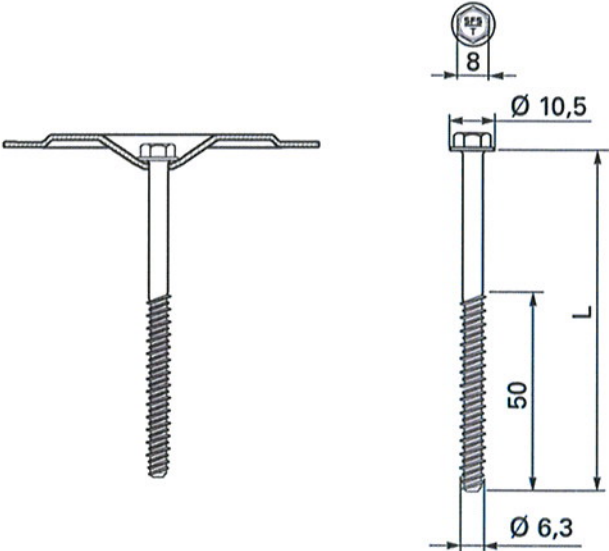
Combination 19A DT-4,8 / IRD-82x40	Combination 19B DT-4,8 / IF/IG-C-82x40
IRD-82x40  DT-4,8 	IF/IG-C-82x40  DT-4,8 
SFS intec flat roof fasteners	Annex 19

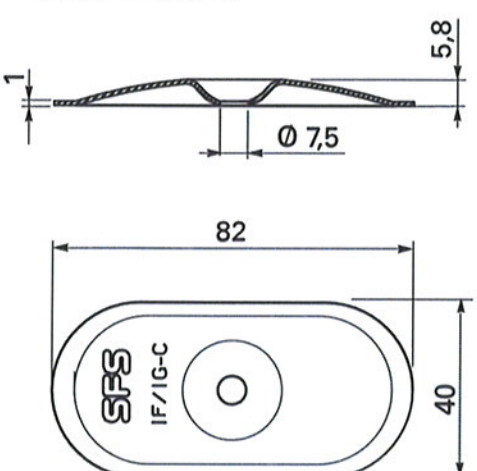
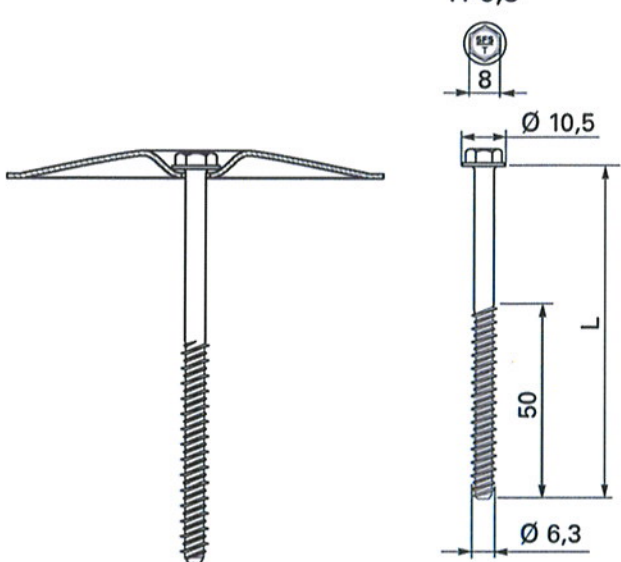
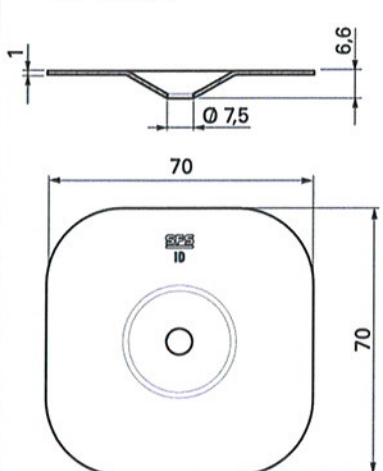
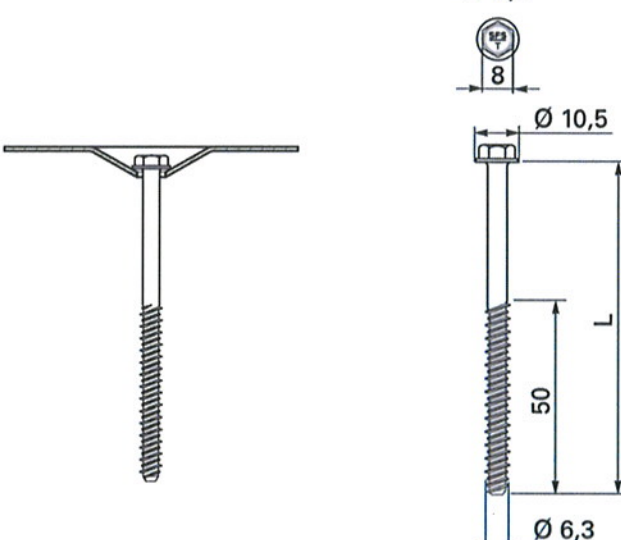
Combination 20A DT-4,8 / IW-82x40	Combination 20B DT-4,8 / R45
IW-82x40  DT-4,8 	R45  DT-4,8 
SFS intec flat roof fasteners	Annex 20

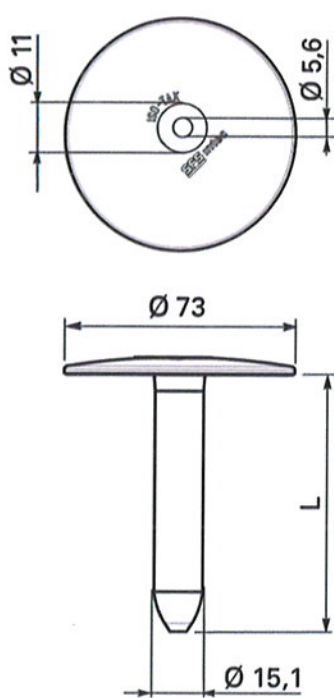
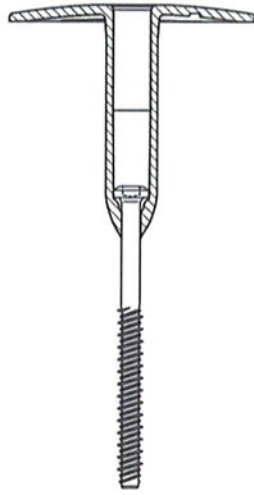
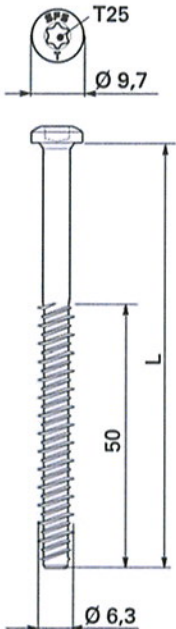
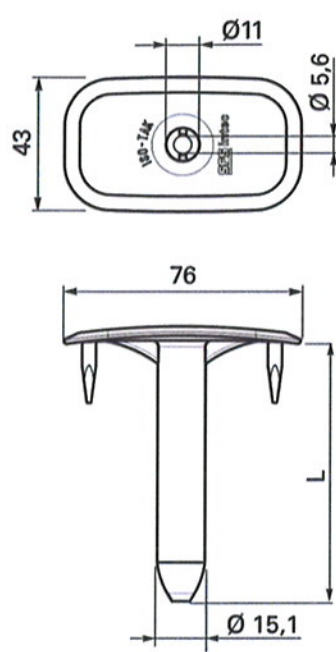
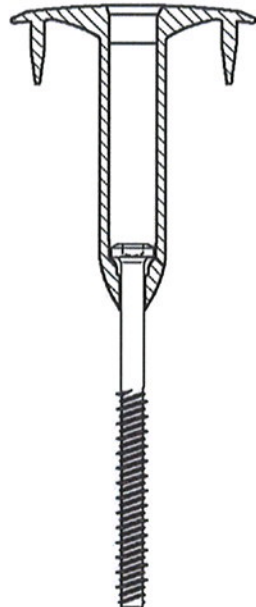
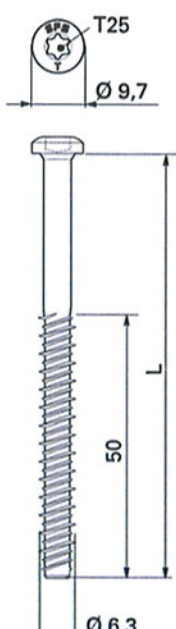
Combination 21A DT-S-4,8 / IRD-82x40	Combination 21B DT-S-4,8 / IF/IG-C-82x40
IRD-82x40  DT-S-4,8 	IF/IG-C-82x40  DT-S-4,8 
SFS intec flat roof fasteners	Annex 21

Combination 22A DT-S-4,8 / R45	Combination 22B DT-6,3 / IRD-82x40
R45  DT-S-4,8  	IRD-82x40  DT-6,3  
SFS intec flat roof fasteners	
Annex 22	

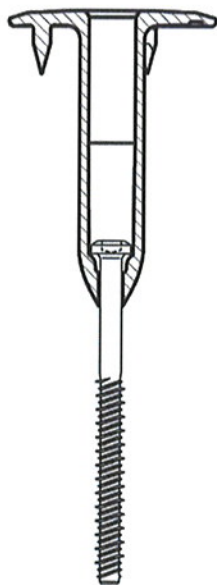
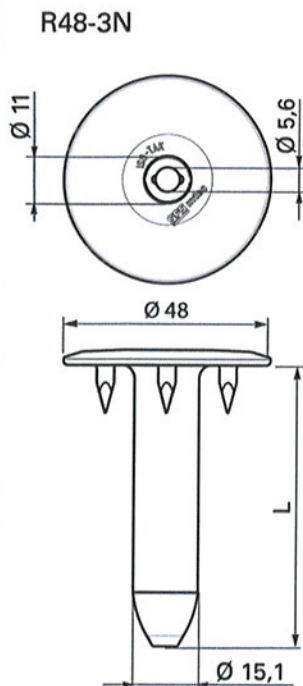
Combination 23A DT-6,3 / IF/IG-C-82x40	Combination 23B DT-S-6,3 / IRD-82x40
IF/IG-C-82x40  DT-6,3 	IRD-82x40  DT-S-6,3 
SFS intec flat roof fasteners	Annex 23

Combination 24A DT-S-6,3 / IF/IG-C-82x40	Combination 24B TI-6,3 / IRD-82x40
IF/IG-C-82x40  DT-S-6,3 	IRD-82x40  TI-6,3 
SFS intec flat roof fasteners	Annex 24

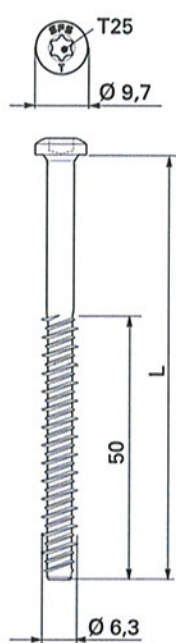
Combination 25A TI-6,3 / IF/IG-C-82x40	Combination 25B TI-6,3 / ID-70x70
IF/IG-C-82x40  TI-6,3 	ID-70x70  TI-6,3 
SFS intec flat roof fasteners	Annex 25

Combination 26A TI-T25-6,3 / R75	Combination 26B TI-T25-6,3 / TPS
R75   TI-T25-6,3 	TPS   TI-T25-6,3 
SFS intec flat roof fasteners	
Annex 26	

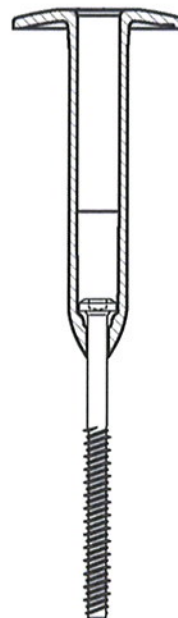
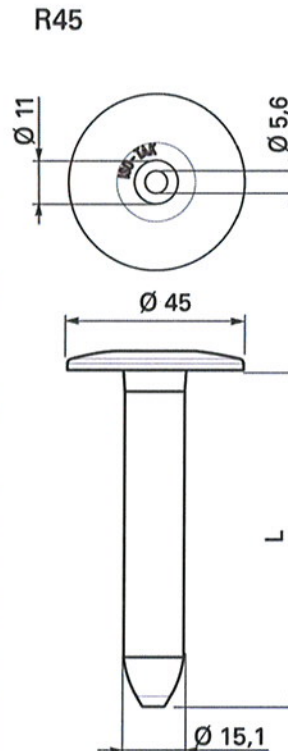
Combination 27A
TI-T25-6,3 / R48-3N



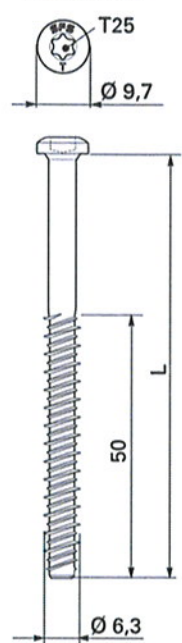
TI-T25-6,3



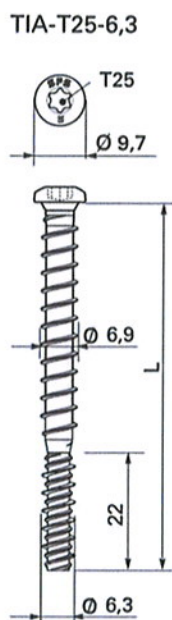
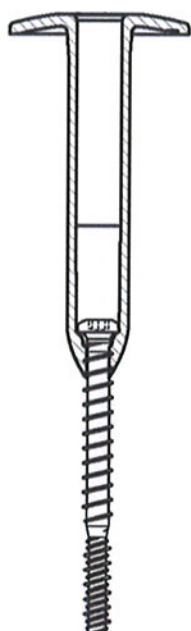
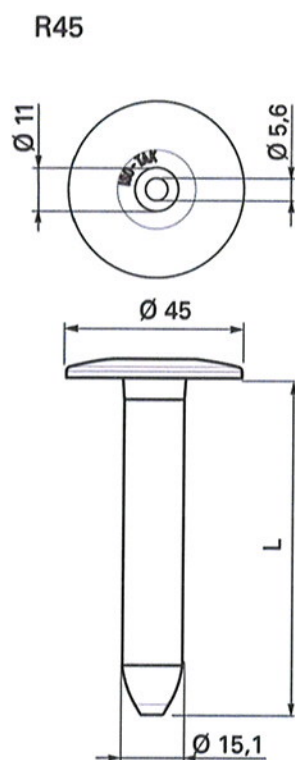
Combination 27B
TI-T25-6,3 / R45



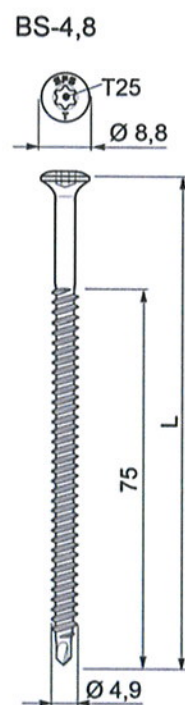
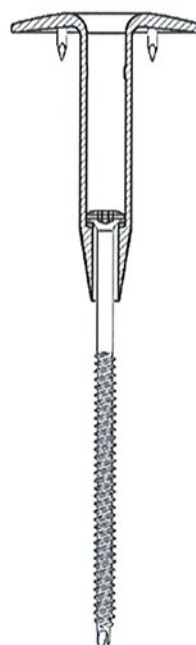
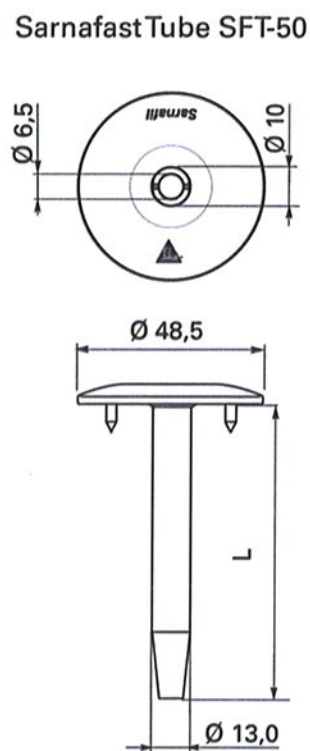
TI-T25-6,3



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



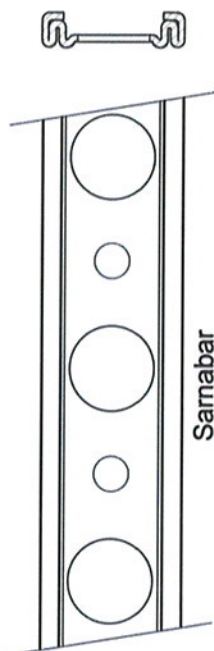
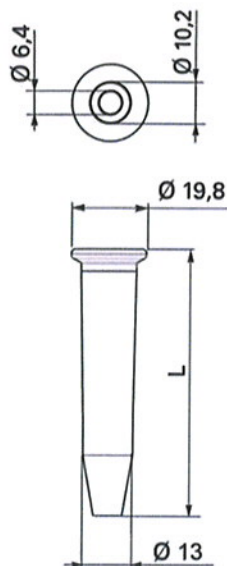
Combination 28B
BS-4,8 / Sarnafast Tube SFT-50



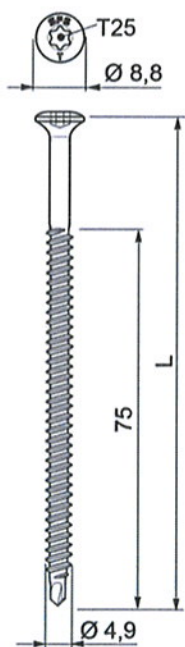
Combination 29A

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

Sarnabar Tube SBT-20



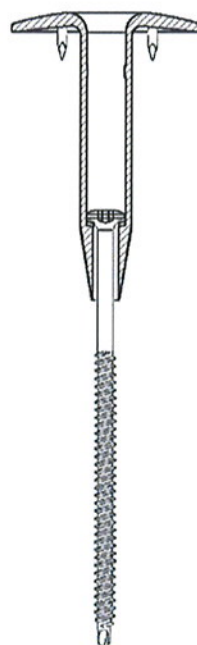
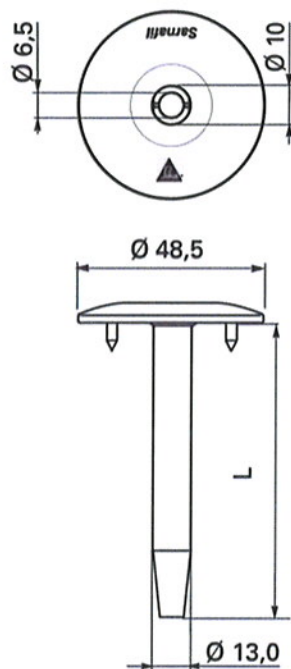
BS-4,8



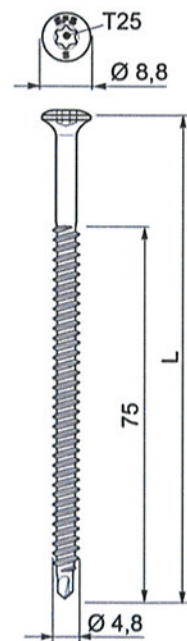
Combination 29B

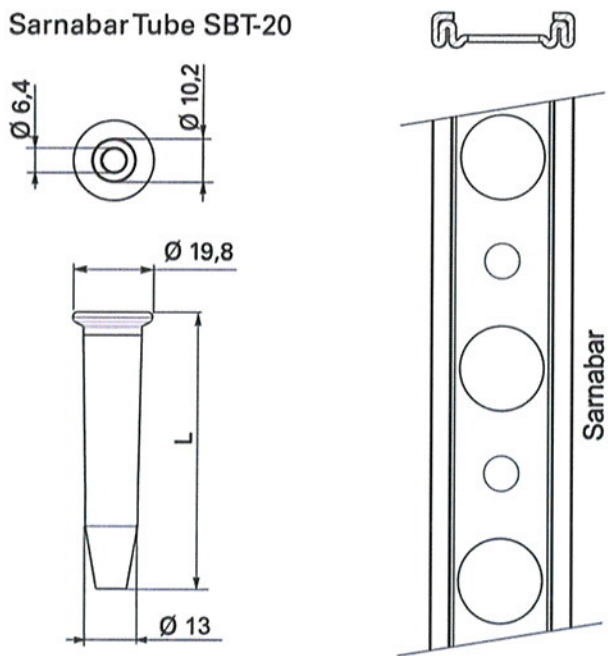
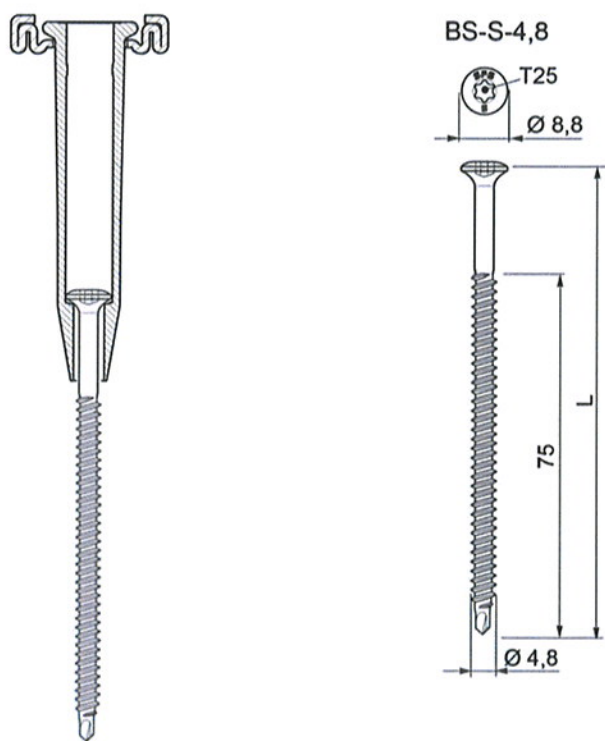
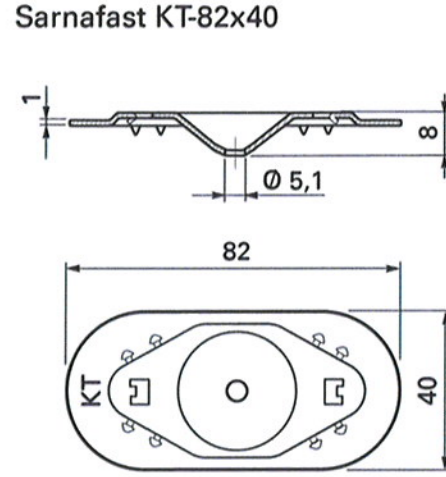
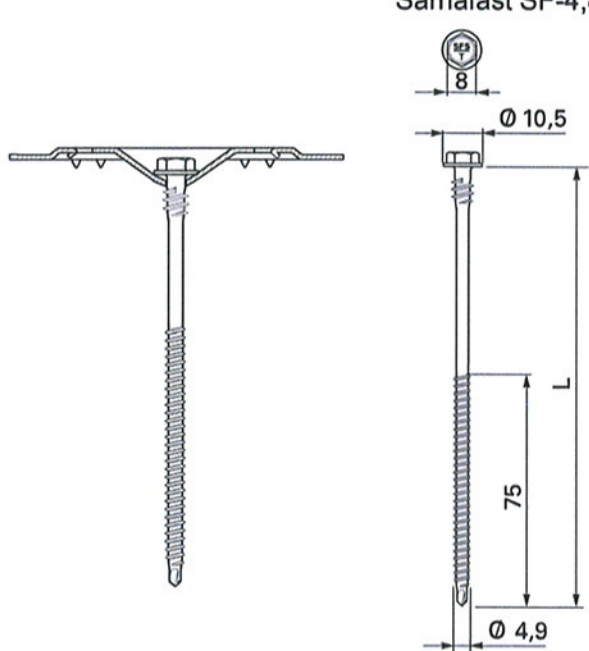
BS-S-4,8 / Sarnafast Tube SFT-50

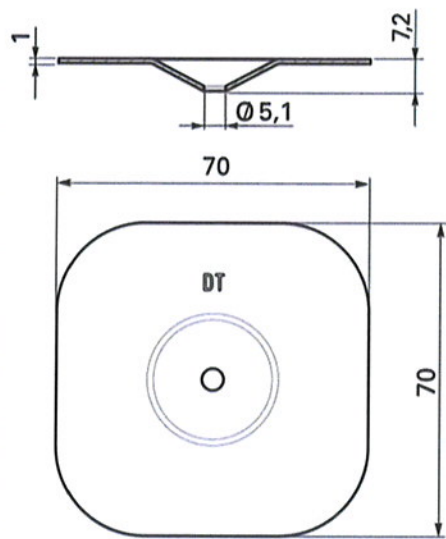
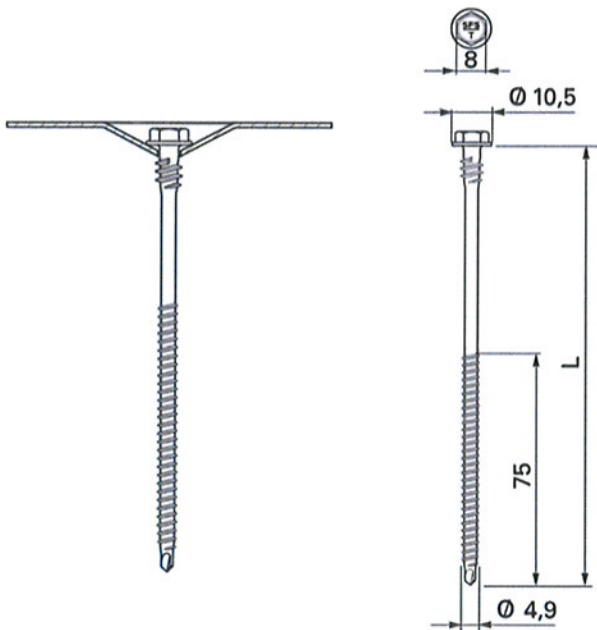
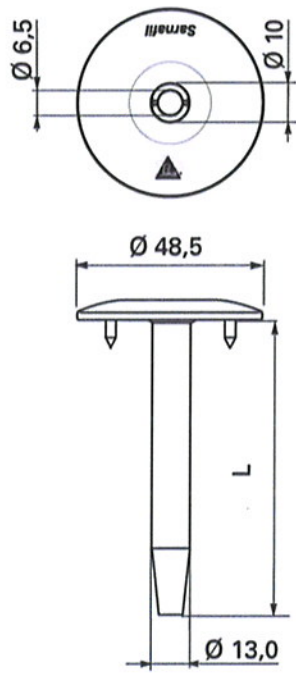
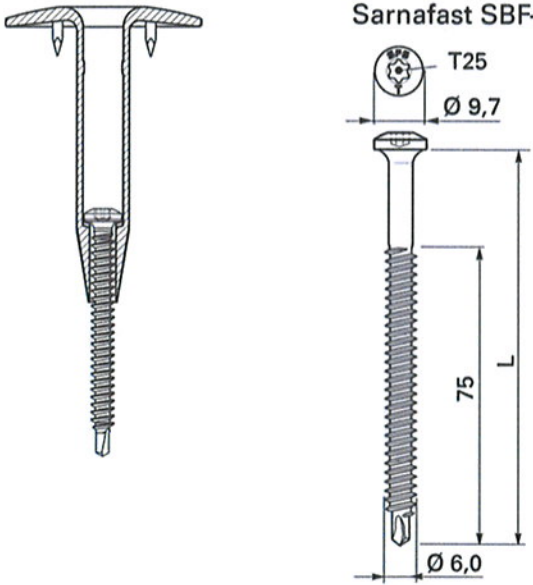
Sarnafast Tube SFT-50



BS-S-4,8



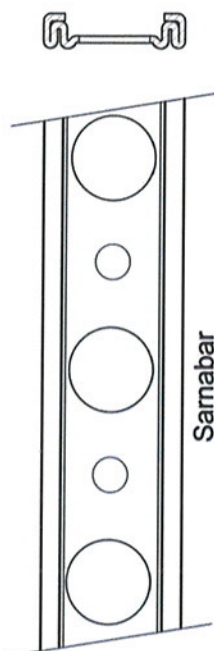
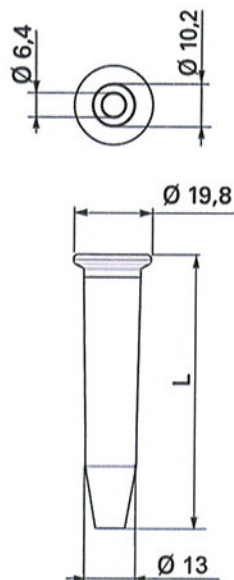
Combination 30A BS-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar	Combination 30B Sarnafast SF-4,8 / Sarnafast KT-82x40
Sarnabar Tube SBT-20  BS-S-4,8 	Sarnafast KT-82x40  Sarnafast SF-4,8 
SFS intec flat roof fasteners	Annex 30

Combination 31A Sarnafast SF-4,8 / Sarnafast DT-70x70	Combination 31B Sarnafast SBF-6,0 / Sarnafast Tube SFT-50
Sarnafast DT-70x70  Sarnafast SF-4,8 	Sarnafast Tube SFT-50  Sarnafast SBF-6,0 
SFS intec flat roof fasteners	Annex 31

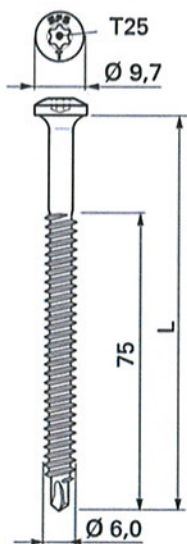
Combination 32A

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

Sarnabar Tube SBT-20



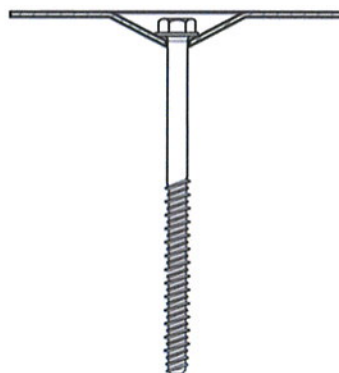
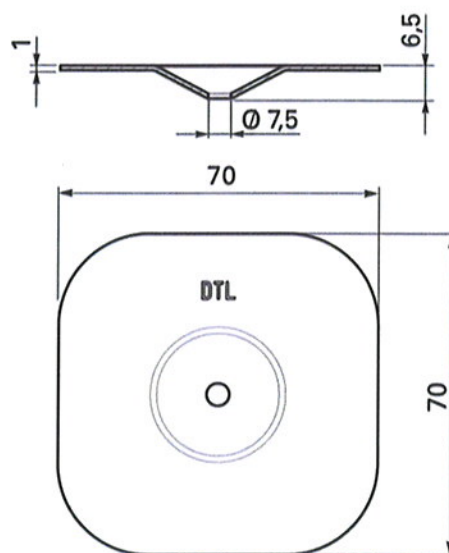
Sarnafast SBF-6,0



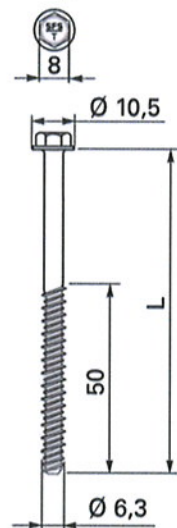
Combination 32B

TI-6,3 / Sarnafast DTL-70x70

Sarnafast DTL-70x70



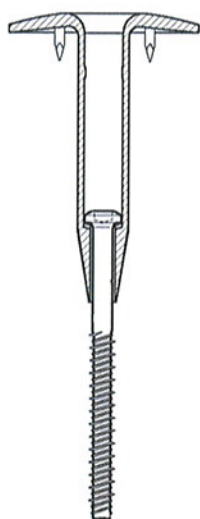
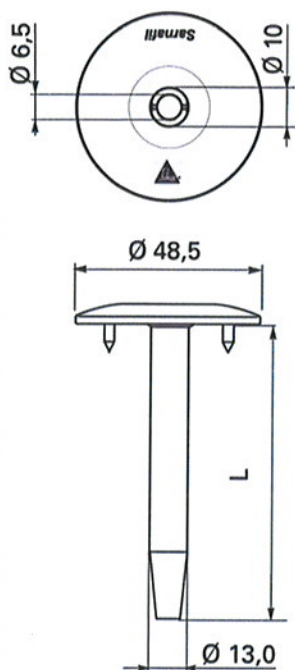
TI-6,3xL



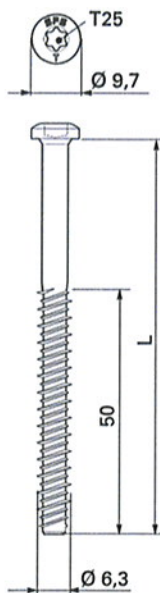
Combination 33A

TI-T25-6,3 / Sarnafast Tube SFT-50

Sarnafast Tube SFT-50



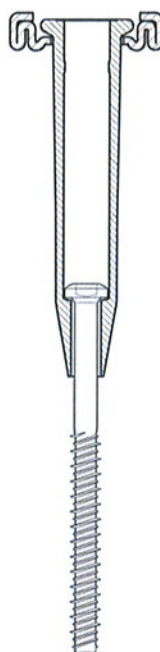
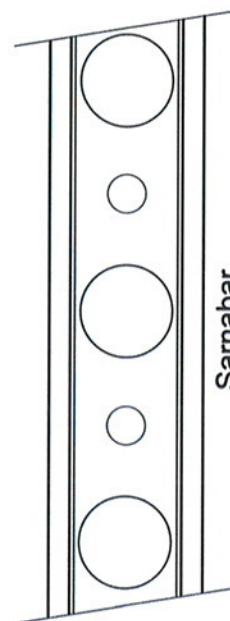
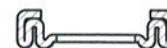
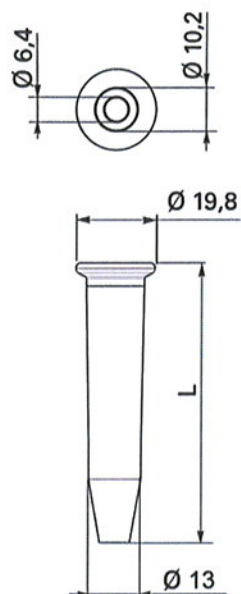
TI-T25-6,3



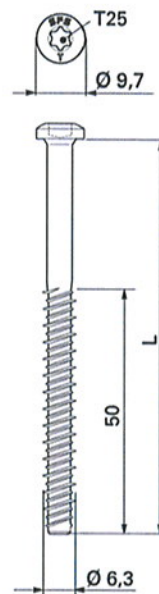
Combination 33B

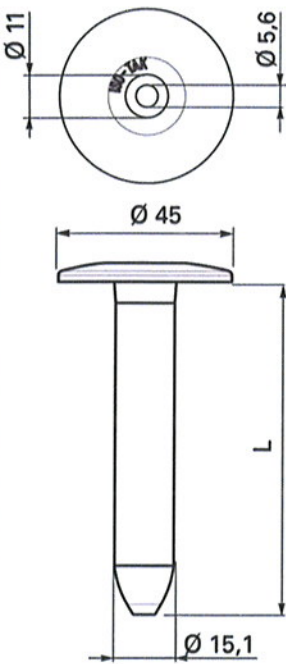
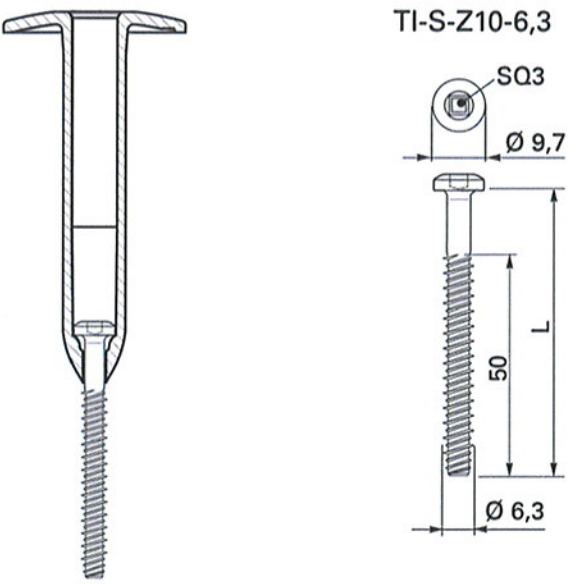
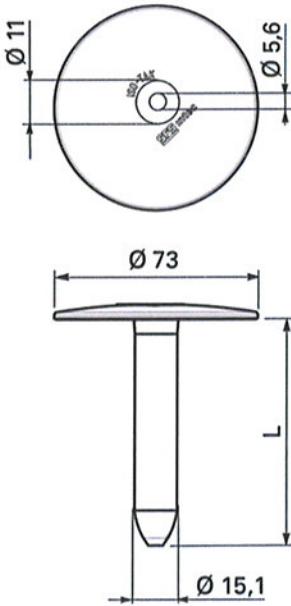
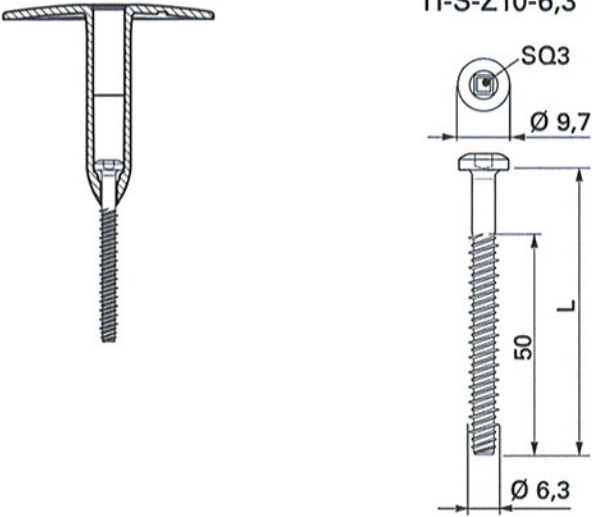
TI-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar

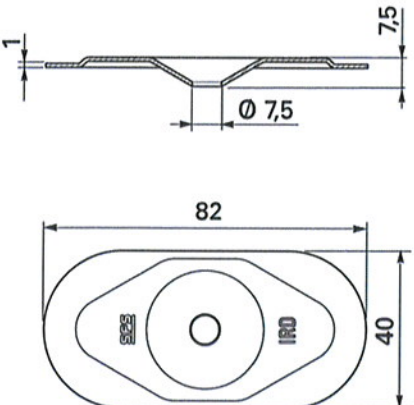
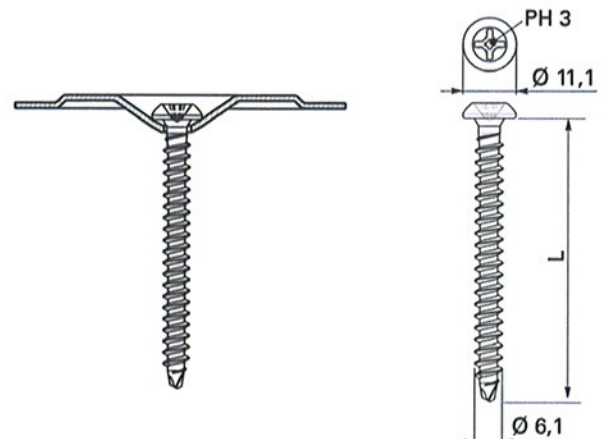
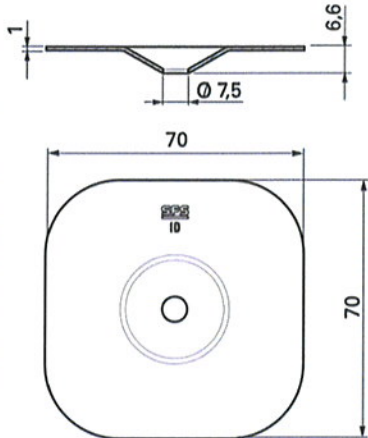
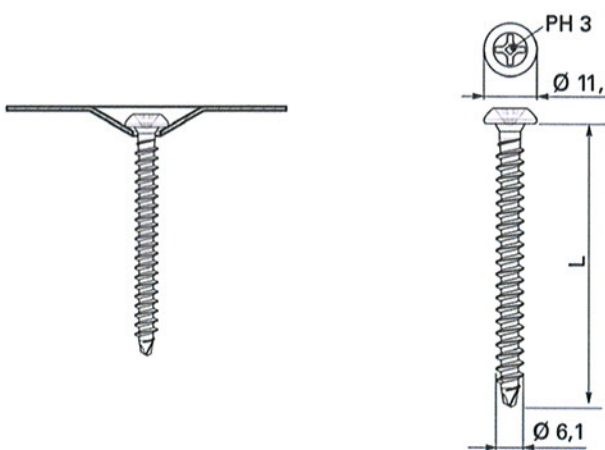
Sarnabar Tube SBT-20

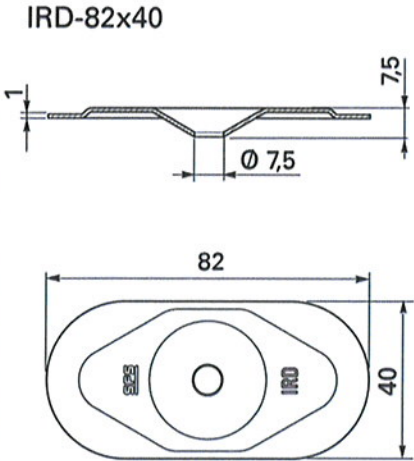
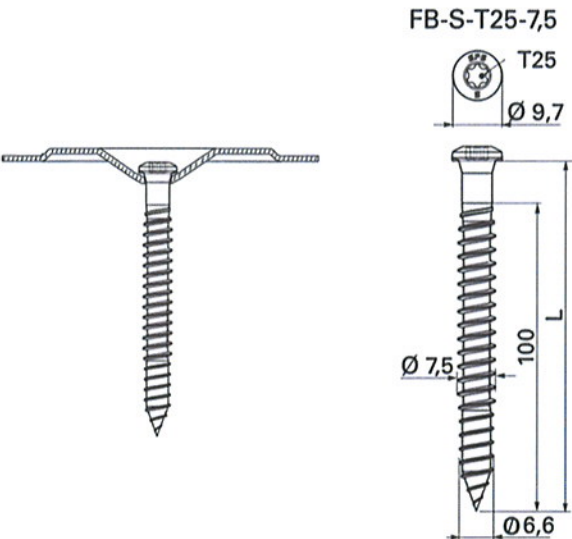
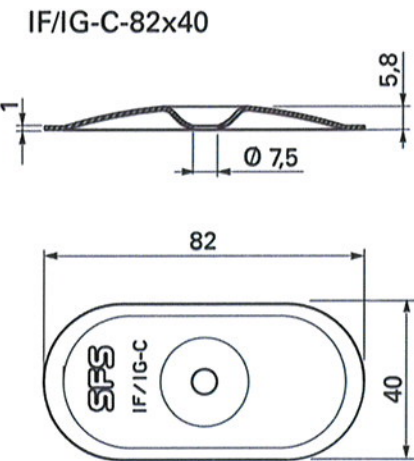
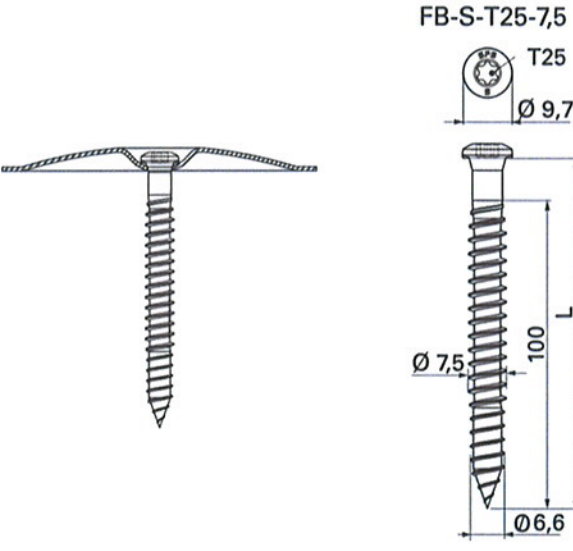


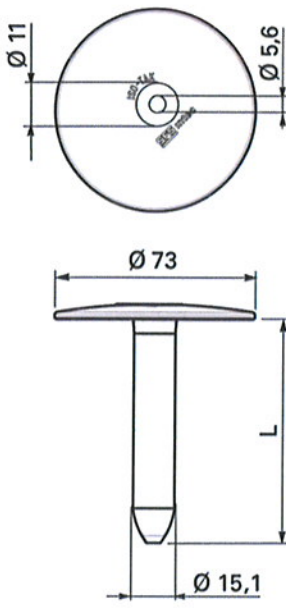
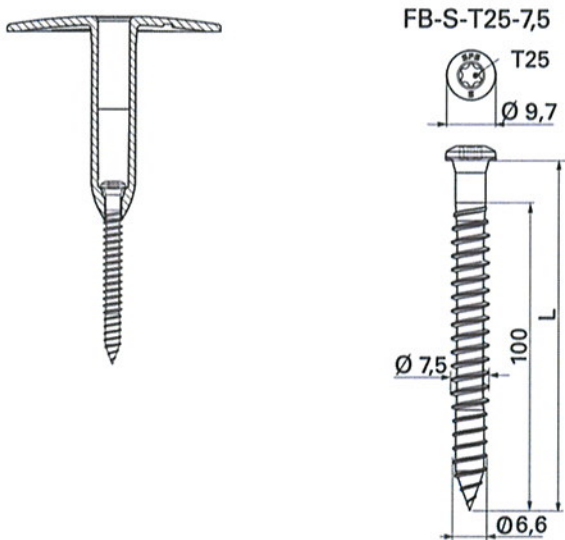
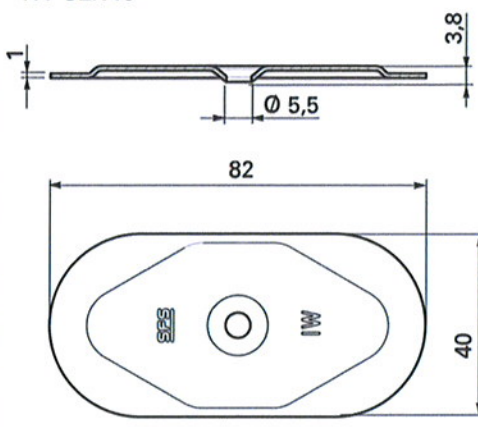
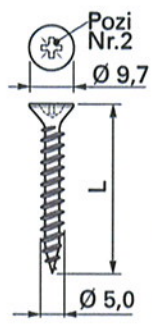
TI-T25-6,3

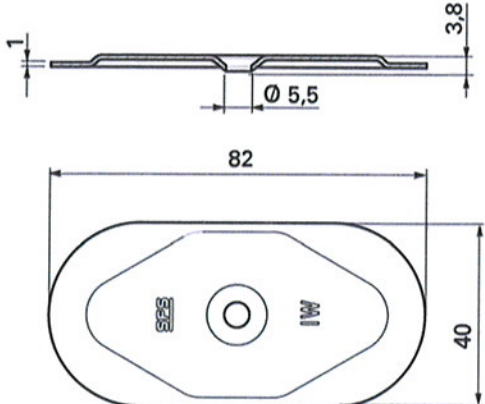
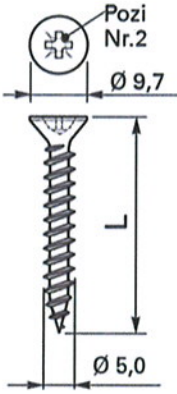
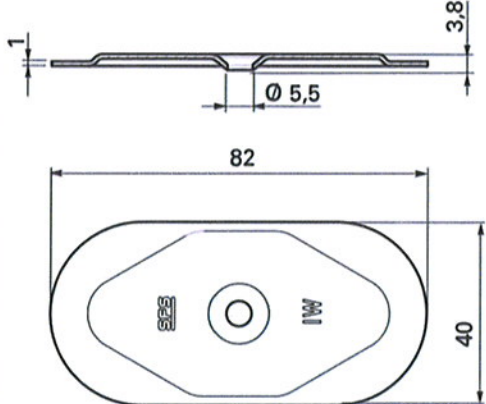
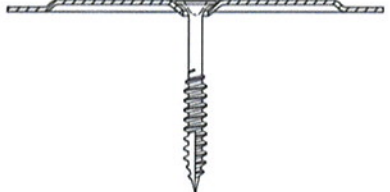
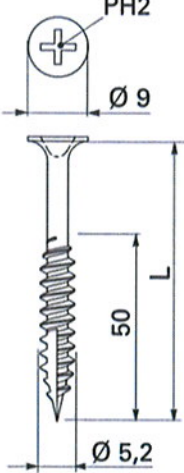


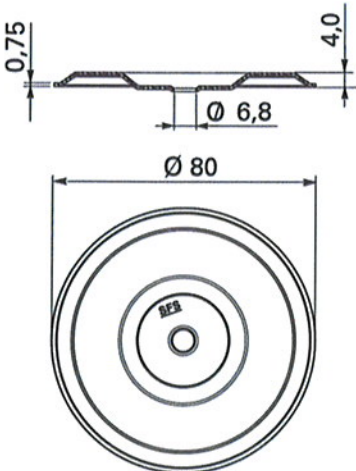
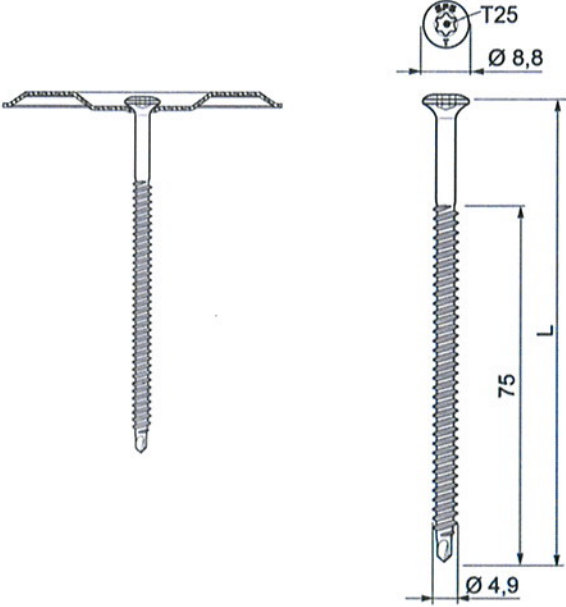
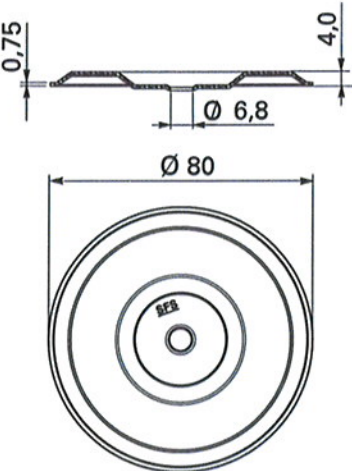
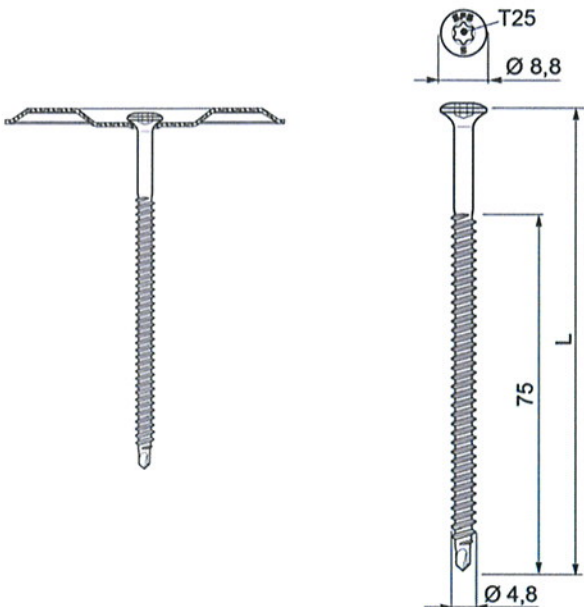
Combination 34A TI-S-Z10-6,3 / R45	Combination 34B TI-S-Z10-6,3 / R75
R45  	R75  
SFS intec flat roof fasteners	
Annex 34	

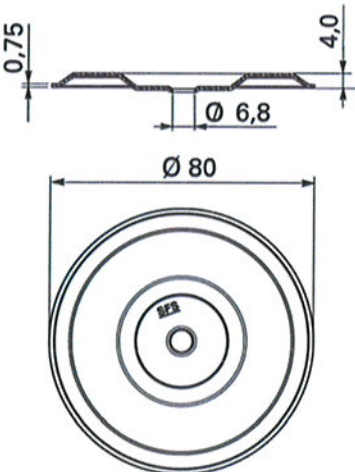
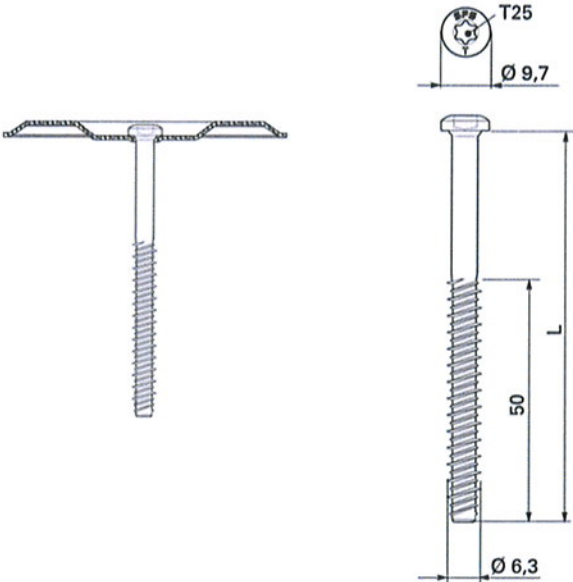
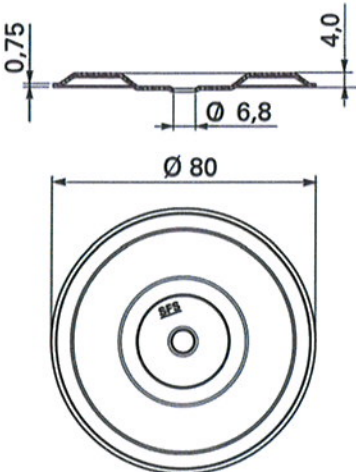
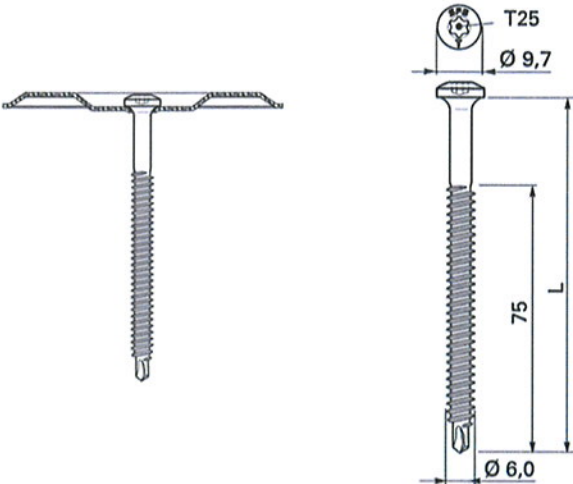
Combination 35A IF2-6,1 / IRD-82x40	Combination 35B IF2-6,1 / ID-70x70
IRD-82x40  IF2-6,1 	ID-70x70  IF2-6,1 
SFS intec flat roof fasteners	Annex 35

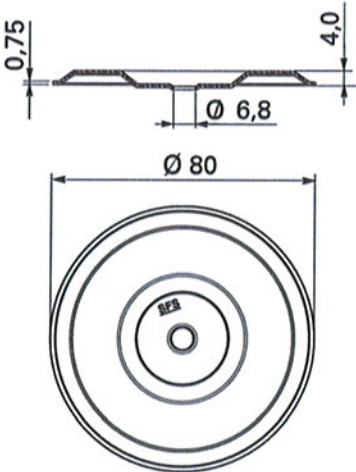
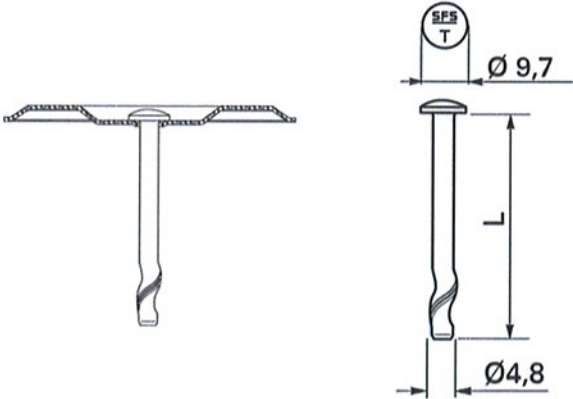
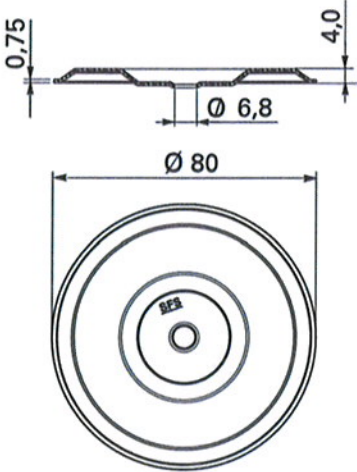
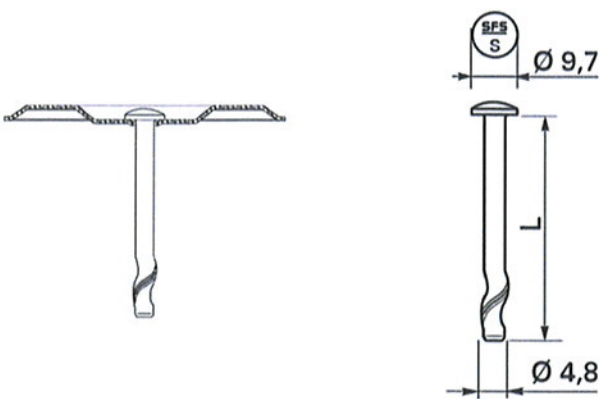
Combination 36A FB-S-T25-7,5 / IRD-82x40	Combination 36B FB-S-T25-7,5 / IF/IG-C-82x40
IRD-82x40  FB-S-T25-7,5 	IF/IG-C-82x40  FB-S-T25-7,5 
SFS intec flat roof fasteners	Annex 36

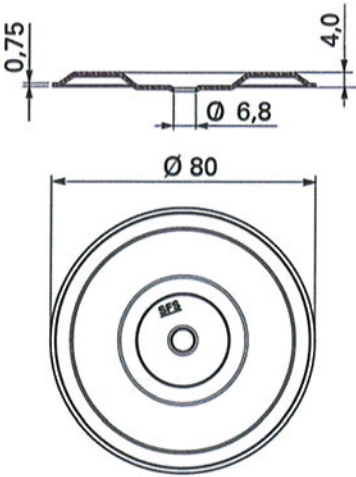
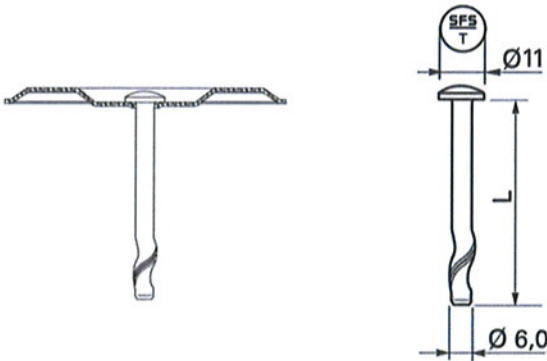
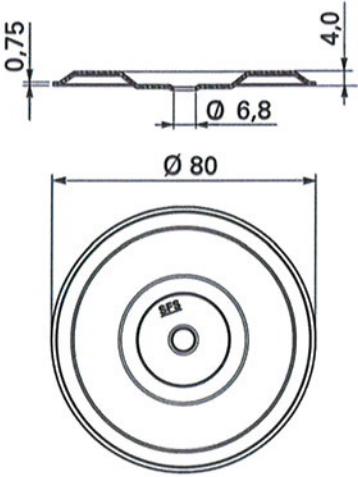
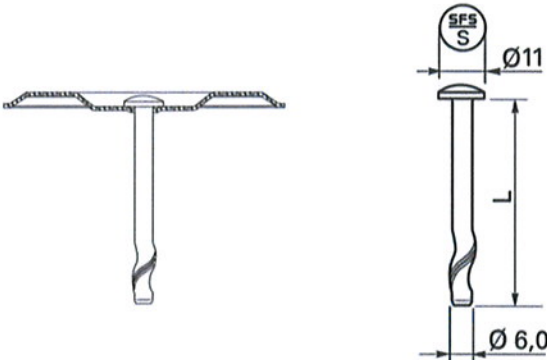
Combination 37A FB-S-T25-7,5 / R75	Combination 37B IW-S-5,0 / IW-82x40
R75  	IW-82x40  IW-S-5,0 
SFS intec flat roof fasteners	Annex 37

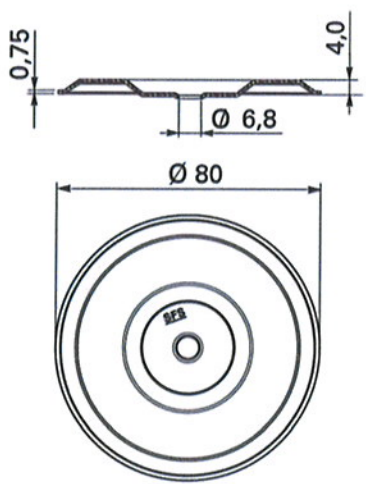
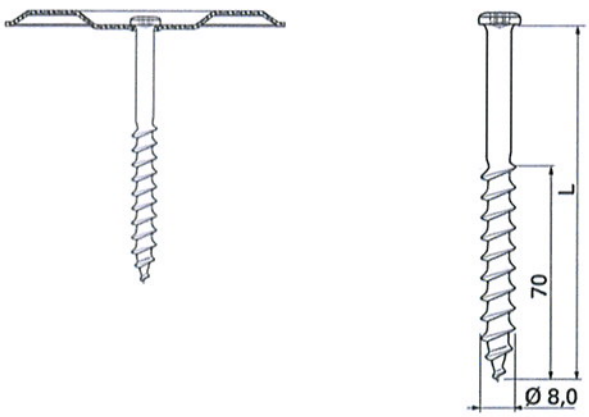
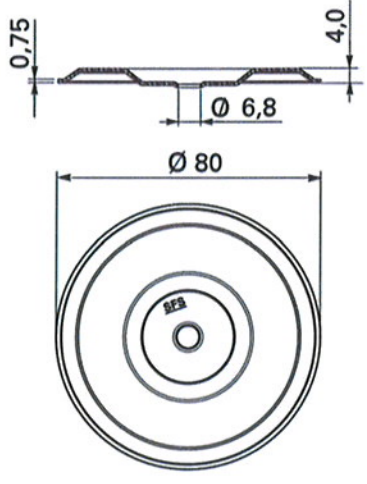
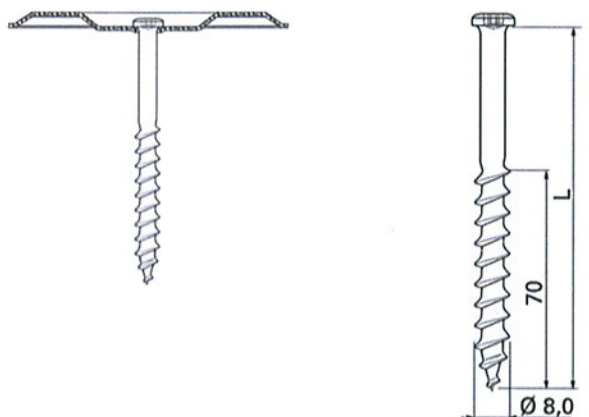
Combination 38A IW-T-5,0 / IW-82x40	Combination 38B IWF-5,2 / IW-82x40
IW-82x40  IW-T-5,0   Pozi Nr.2 Ø 9,7 L Ø 5,0	IW-82x40  IWF-5,2   PH2 Ø 9 L 50 Ø 5,2
SFS intec flat roof fasteners	Annex 38

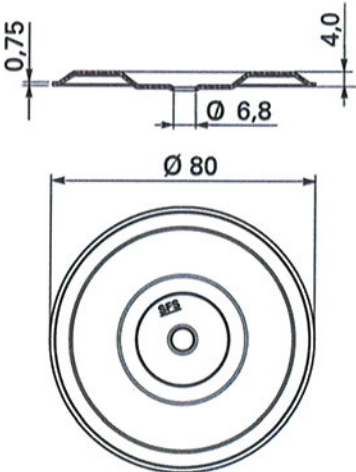
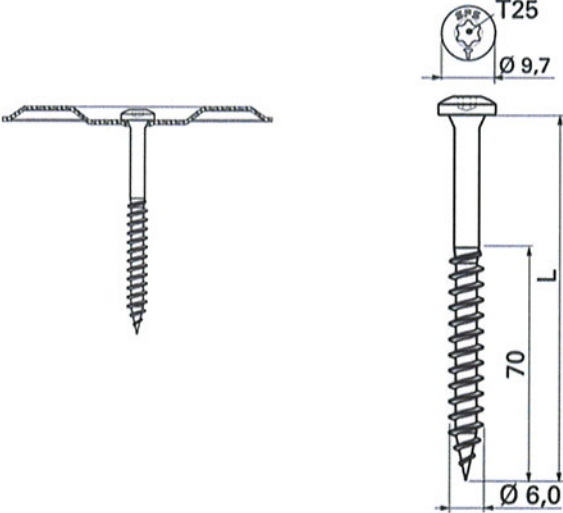
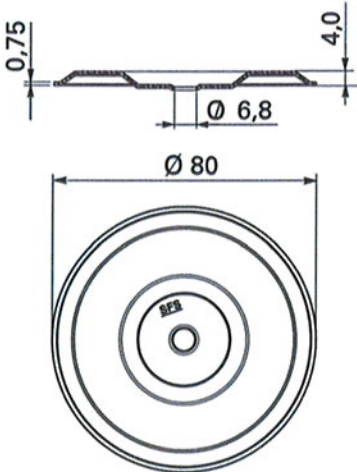
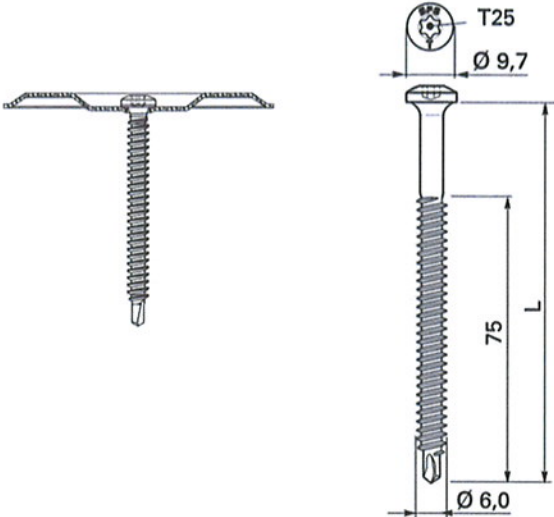
Combination 39A BS-4,8 / FI-P-6,8	Combination 39B BS-S-4,8 / FI-P-6,8
FI-P-6,8  BS-4,8 	FI-P-6,8  BS-S-4,8 
SFS intec flat roof fasteners	
Annex 39	

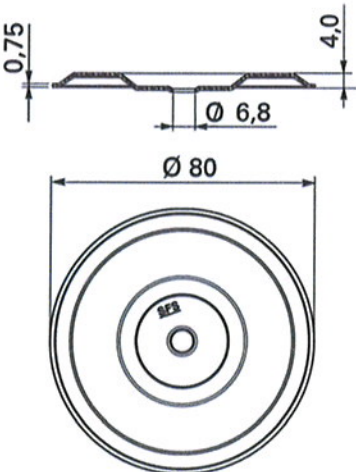
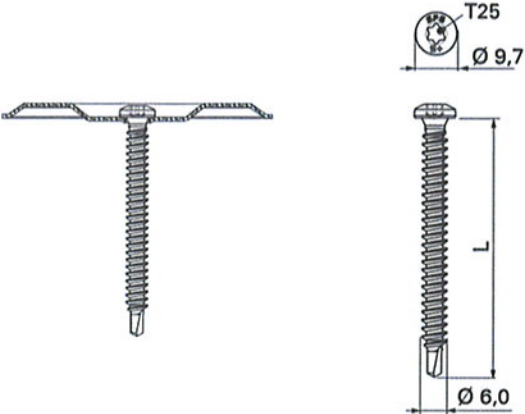
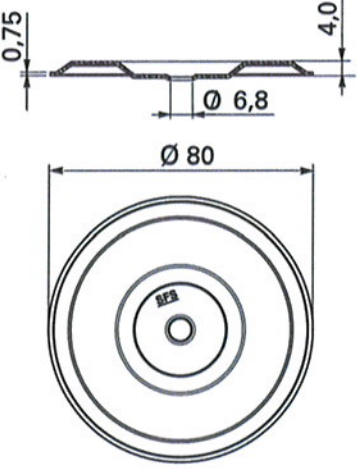
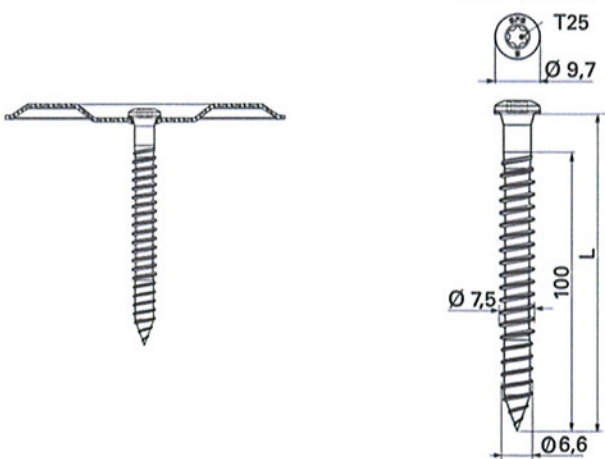
Combination 40A TI-T25-6,3 / FI-P-6,8	Combination 40B BS-6,1 / FI-P-6,8
FI-P-6,8  TI-T25-6,3 	FI-P-6,8  BS-6,1 
SFS intec flat roof fasteners	Annex 40

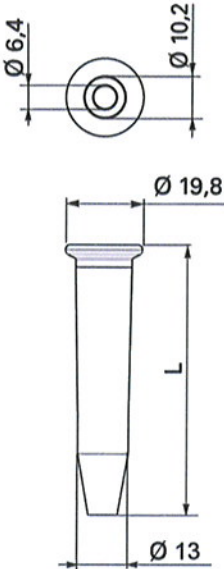
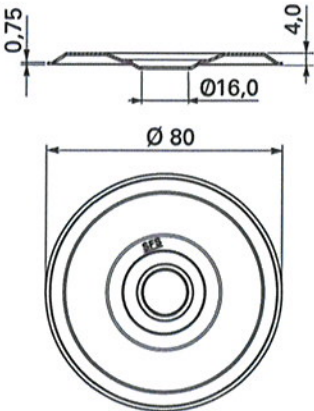
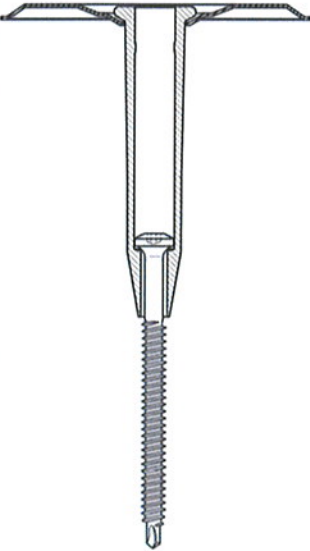
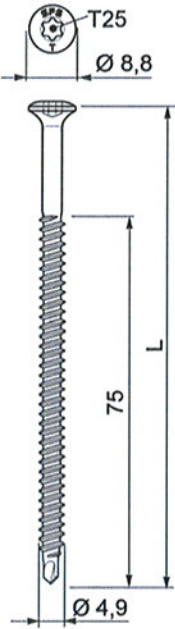
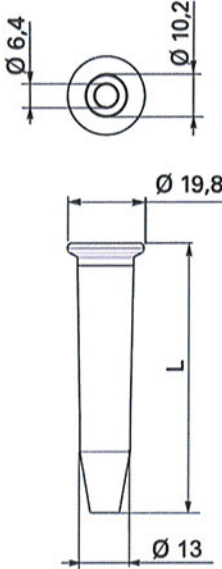
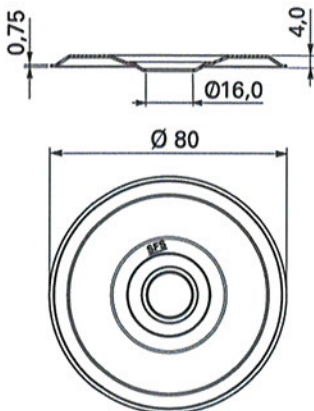
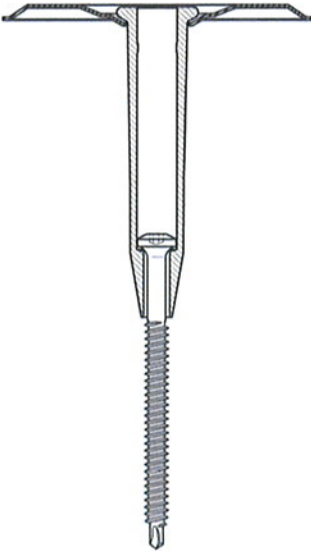
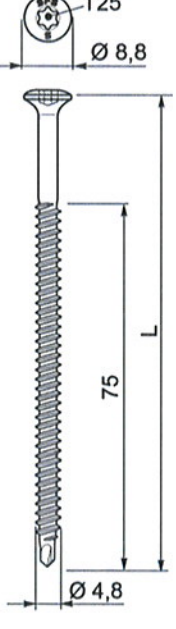
Combination 41A DT-4,8 / FI-P-6,8	Combination 41B DT-S-4,8 / FI-P-6,8
FI-P-6,8  DT-4,8 	FI-P-6,8  DT-S-4,8 
SFS intec flat roof fasteners	Annex 41

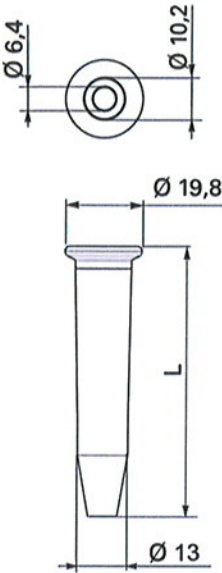
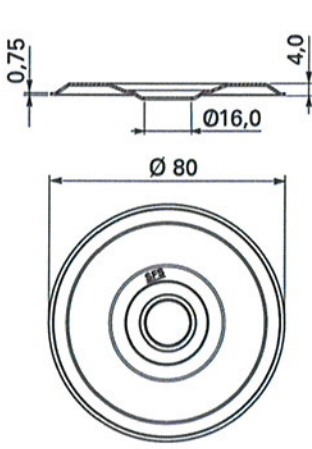
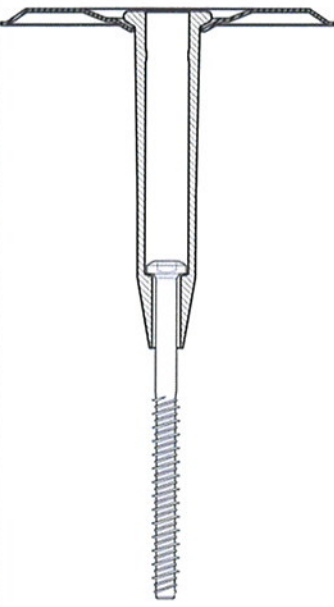
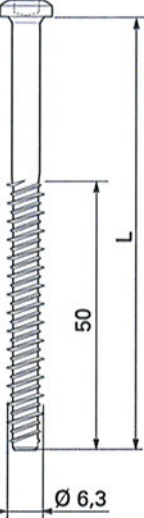
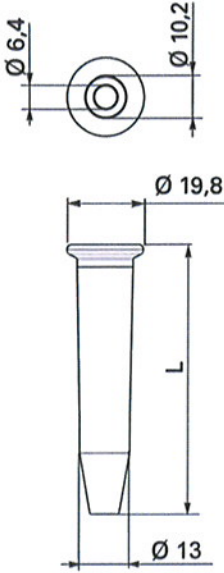
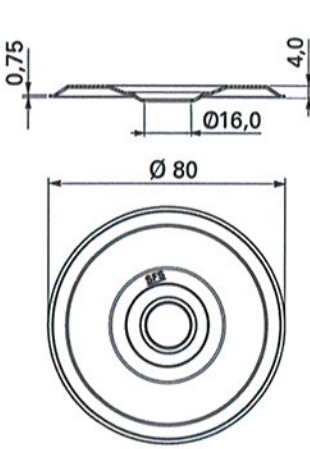
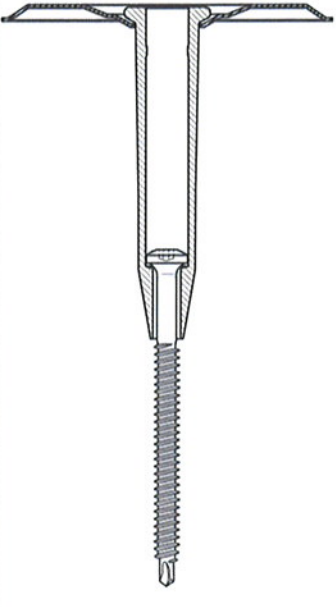
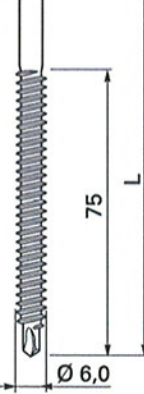
Combination 42A DT-6,3 / FI-P-6,8	Combination 42B DT-S-6,3 / FI-P-6,8
FI-P-6,8  DT-6,3 	FI-P-6,8  DT-S-6,3 
SFS intec flat roof fasteners	
Annex 42	

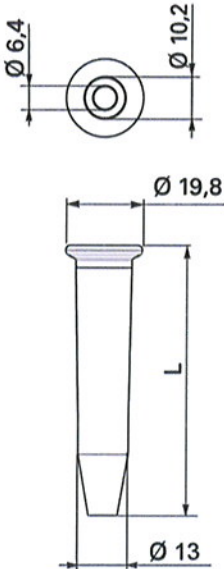
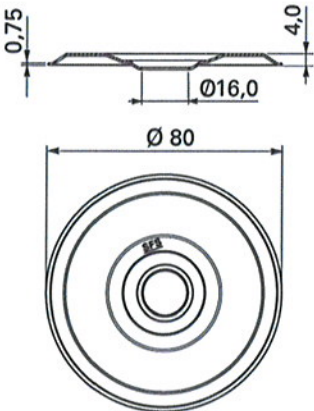
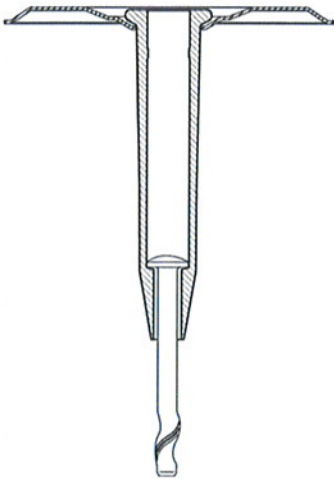
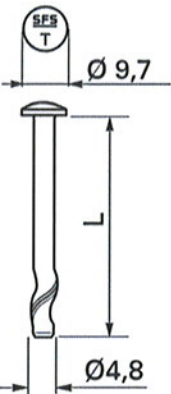
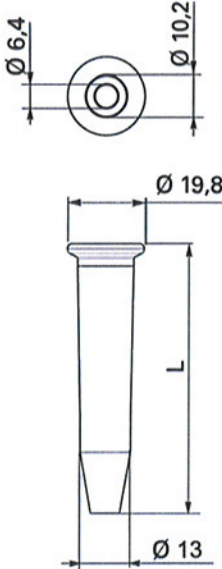
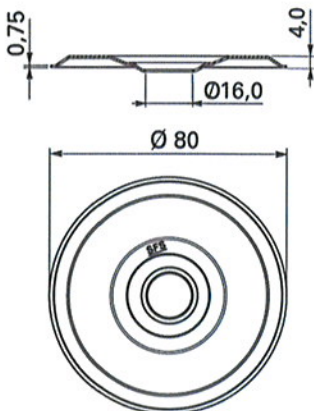
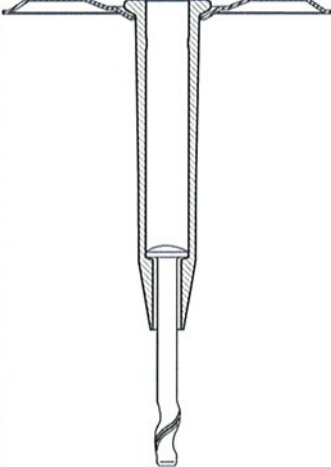
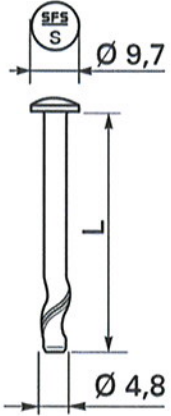
Combination 43A LBS-T25-8,0 / FI-P-6,8	Combination 43B LBS-S-T25-8,0 / FI-P-6,8
FI-P-6,8  LBS-T25-8,0 T25 Ø 9,7 	FI-P-6,8  LBS-S-T25-8,0 T25 Ø 9,7 
SFS intec flat roof fasteners	Annex 43

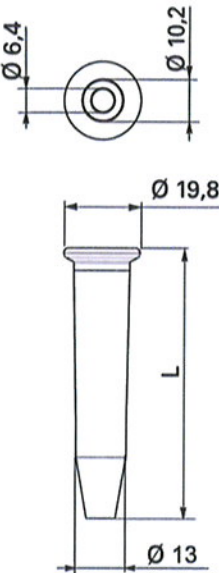
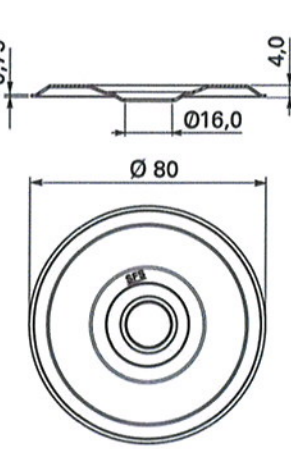
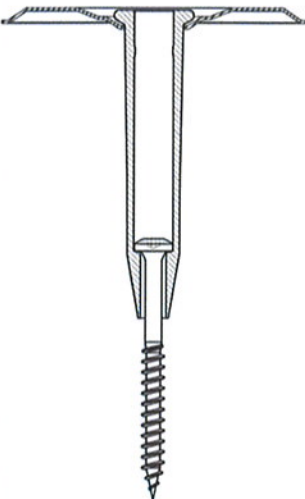
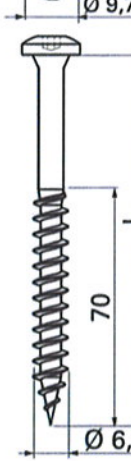
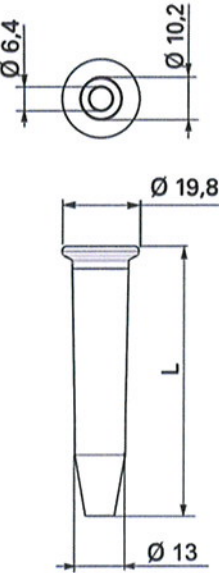
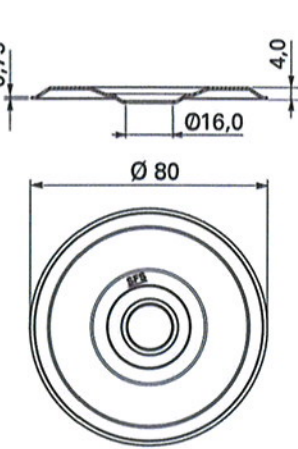
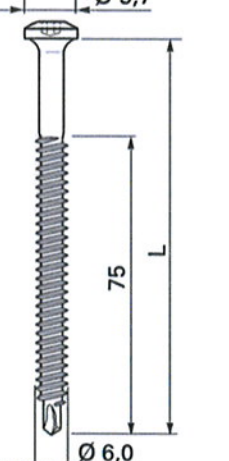
Combination 44A TS-T25-6,0 / FI-P-6,8	Combination 44B Sarnafast SBF-6,0 / FI-P-6,8
FI-P-6,8  TS-T25-6,0 	FI-P-6,8  Sarnafast SBF-6,0 
SFS intec flat roof fasteners	Annex 44

Combination 45A Sarnafast SBF-S-6,0 / FI-P-6,8	Combination 45B FB-S-T25-7,5 / FI-P-6,8
FI-P-6,8  Sarnafast SBF-S-6,0 	FI-P-6,8  FB-S-T25-7,5 
SFS intec flat roof fasteners	Annex 45

Combination 46A BS-4,8 / FI-P-16,0 / FI-R-20	Combination 46B BS-S-4,8 / FI-P-16,0 / FI-R-20
FI-R-20  FI-P-16,0   BS-4,8 	FI-R-20  FI-P-16,0   BS-S-4,8 
SFS intec flat roof fasteners	Annex 46

Combination 47A TI-T25-6,3 / FI-P-16,0 / FI-R-20	Combination 47B BS-6,1 / FI-P-16,0 / FI-R-20
FI-R-20  FI-P-16,0   TI-T25-6,3 T25 Ø 9,7 	FI-R-20  FI-P-16,0   BS-6,1 T25 Ø 9,7 
SFS intec flat roof fasteners	Annex 47

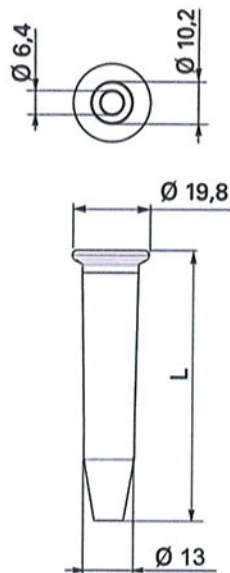
Combination 48A DT-4,8 / FI-P-16,0 / FI-R-20	Combination 48B DT-S-4,8 / FI-P-16,0 / FI-R-20
FI-R-20  FI-P-16,0   DT-4,8 	FI-R-20  FI-P-16,0   DT-S-4,8 
SFS intec flat roof fasteners	Annex 48

Combination 49A TS-T25-6,0 / FI-P-16,0 / FI-R-20	Combination 49B Sarnafast SBF-6,0 / FI-P-16,0 / FI-R-20
FI-R-20  FI-P-16,0   TS-T25-6,0 T25 Ø 9,7  Ø 6,0	FI-R-20  FI-P-16,0   Sarnafast SBF-6,0 T25 Ø 9,7  Ø 6,0
SFS intec flat roof fasteners	Annex 49

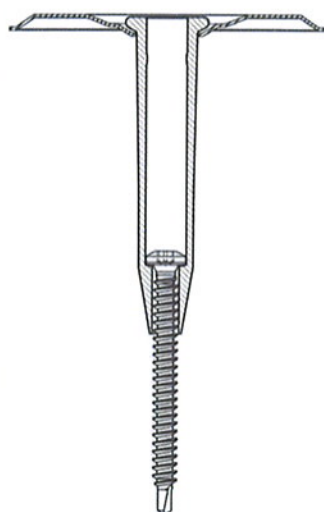
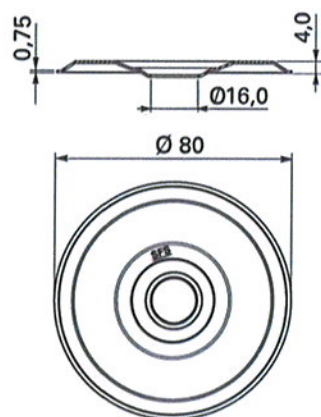
Combination 50A

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

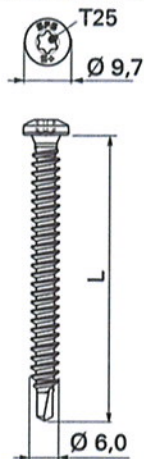
FI-R-20



FI-P-16,0



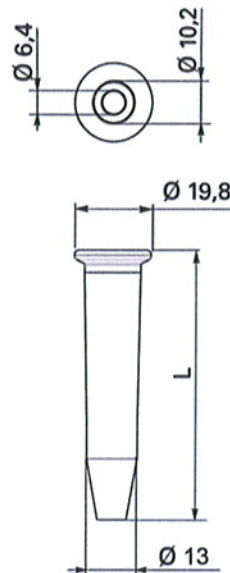
Sarnafast SBF-S-6,0



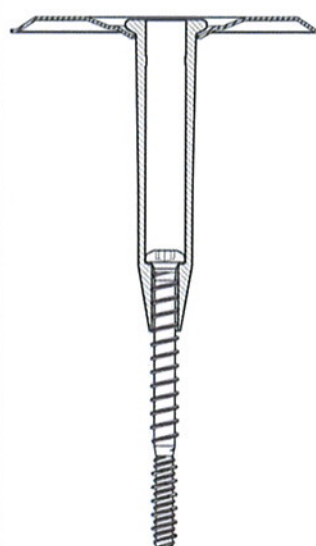
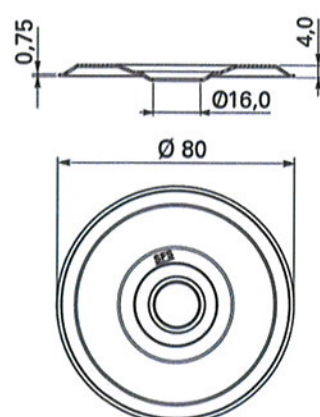
Combination 50B

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

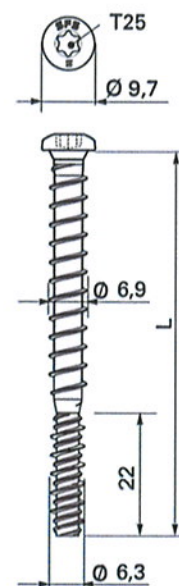
FI-R-20

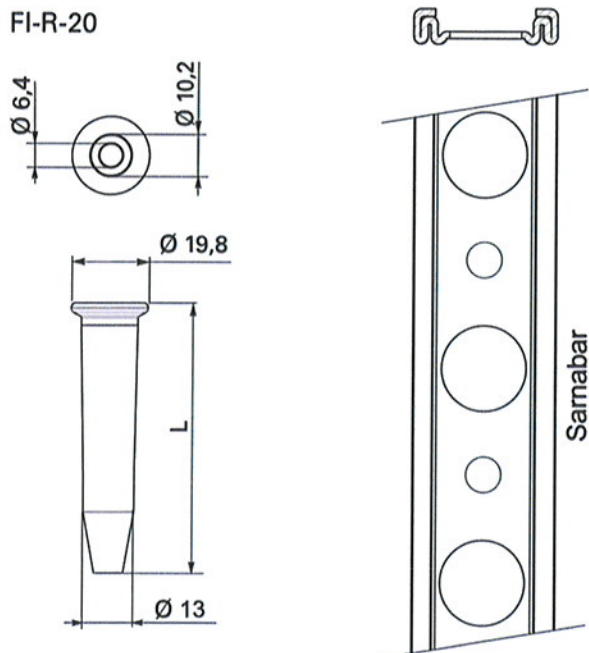
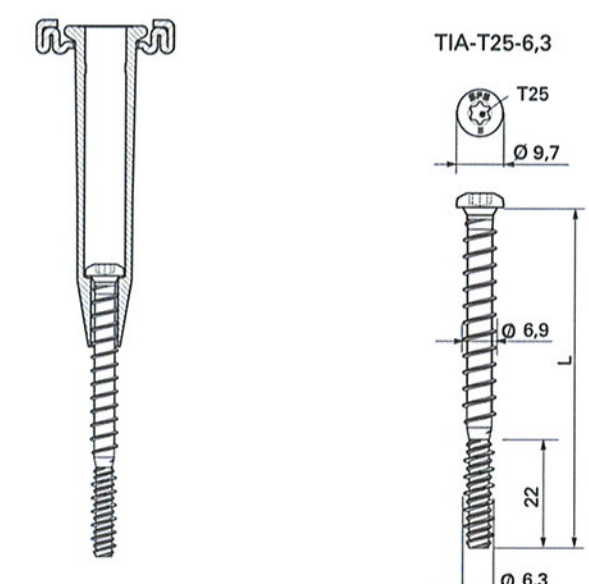
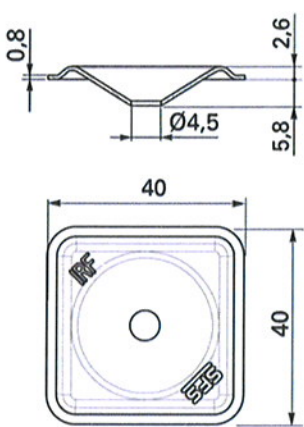
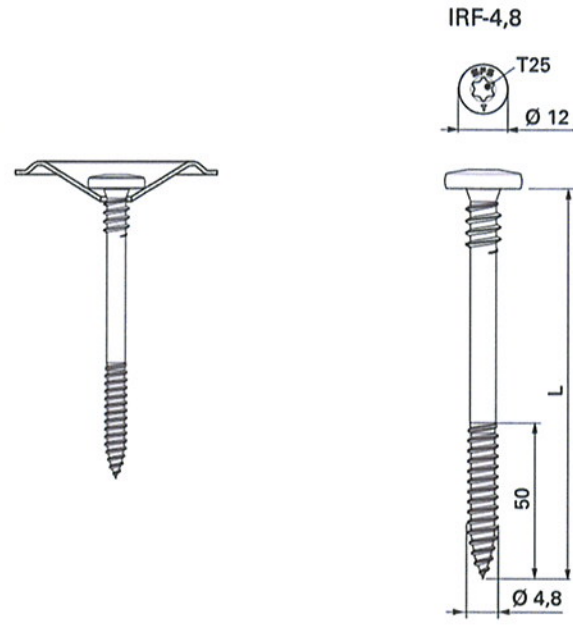


FI-P-16,0

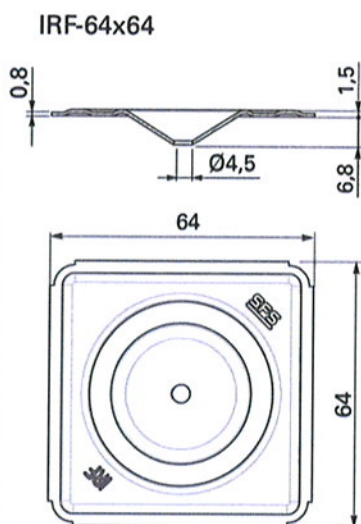


TIA-T25-6,3

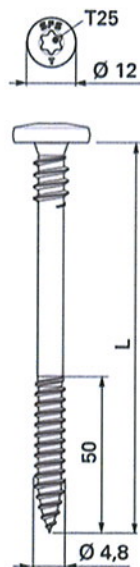


Combination 51A TIA-T25-6,3 / FI-R-20 / Sarnabar	Combination 51B IRF-4,8 / IRF-40x40
FI-R-20  TIA-T25-6,3 	IRF-40x40  IRF-4,8 
SFS intec flat roof fasteners	Annex 51

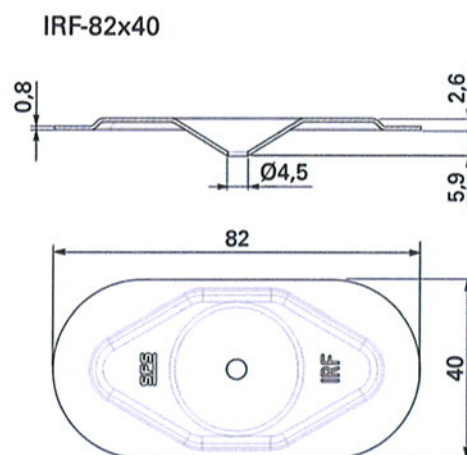
Combination 52A
IRF-4,8 / IRF-64x64



IRF-4,8

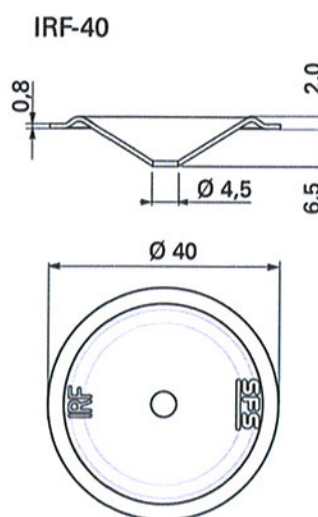
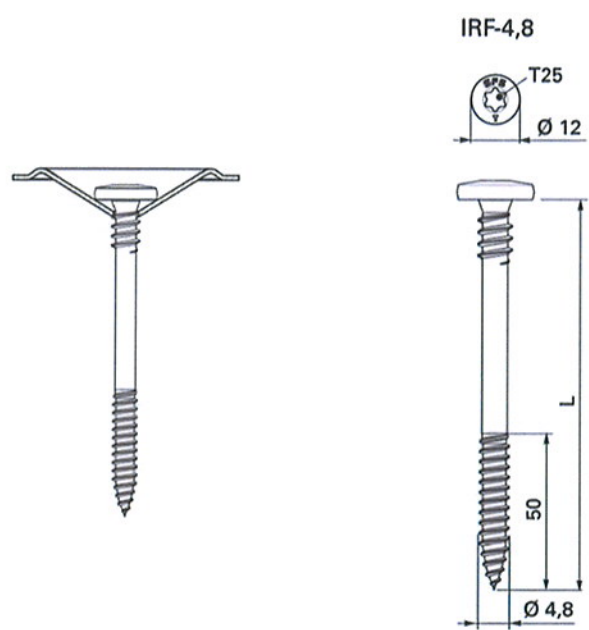
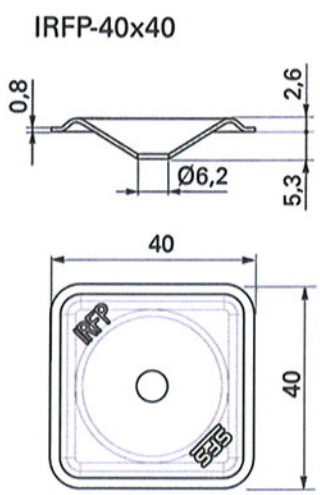
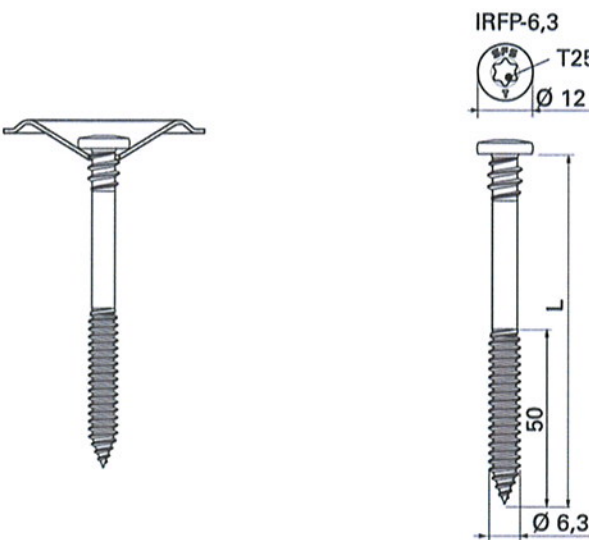


Combination 52B
IRF-4,8 / IRF-82x40

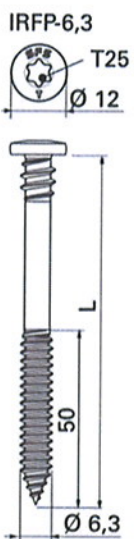
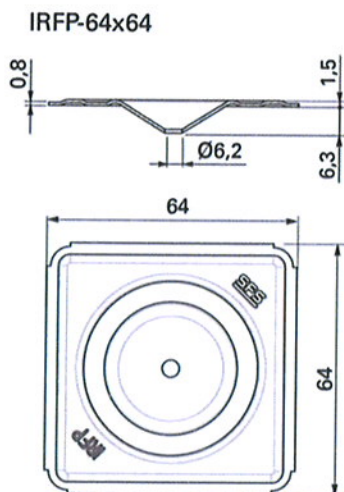


IRF-4,8

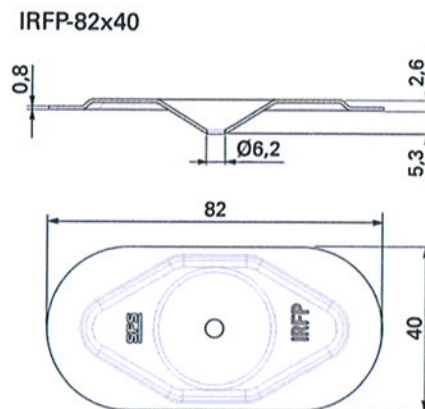


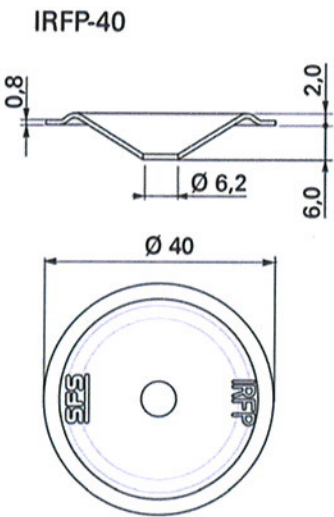
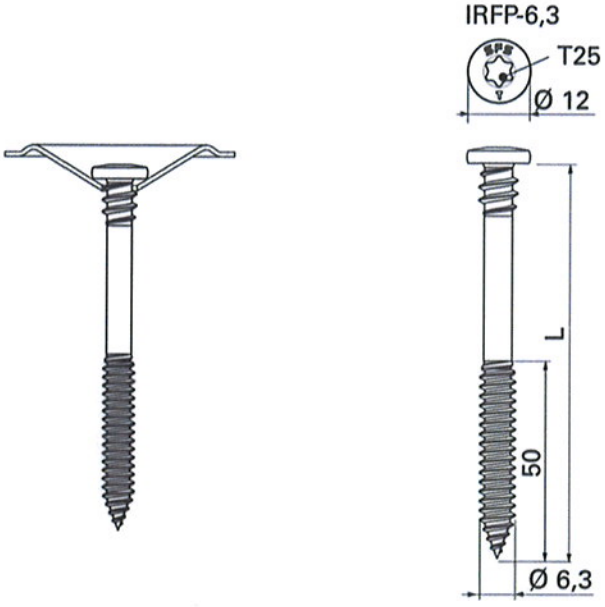
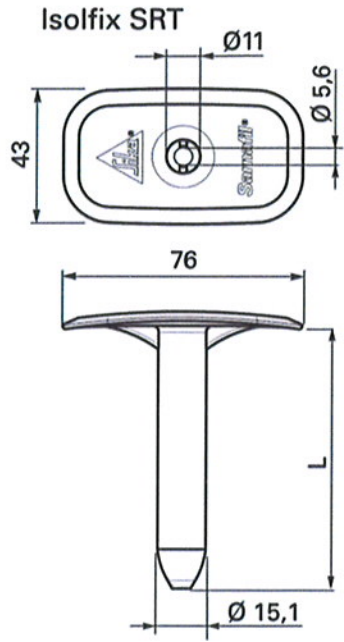
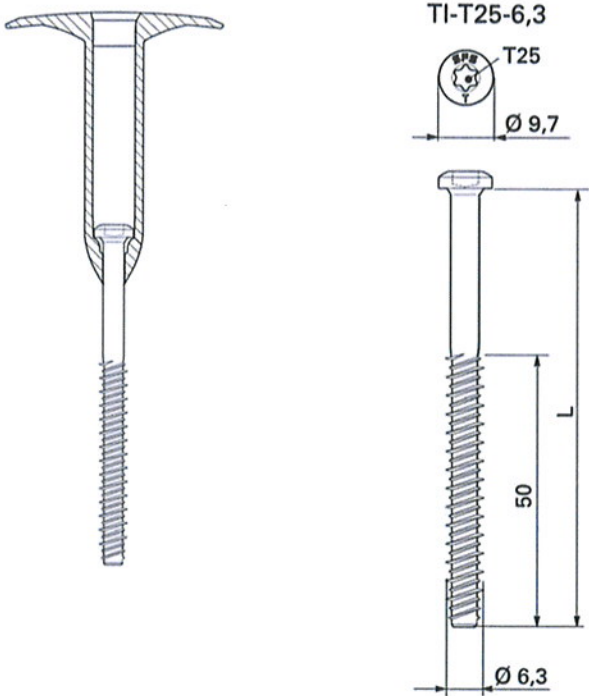
Combination 53A IRF-4,8 / IRF-40	Combination 53B IRFP-6,3 / IRFP-40x40
IRF-40  IRF-4,8 	IRFP-40x40  IRFP-6,3 
SFS intec flat roof fasteners	Annex 53

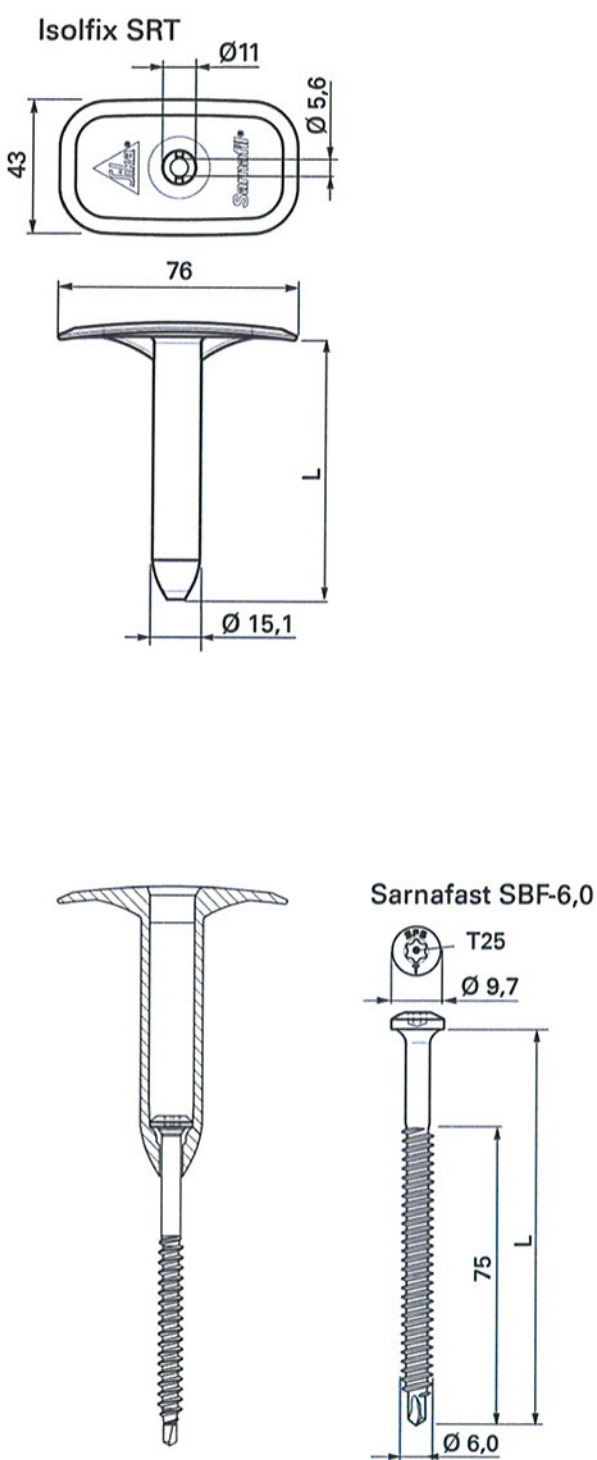
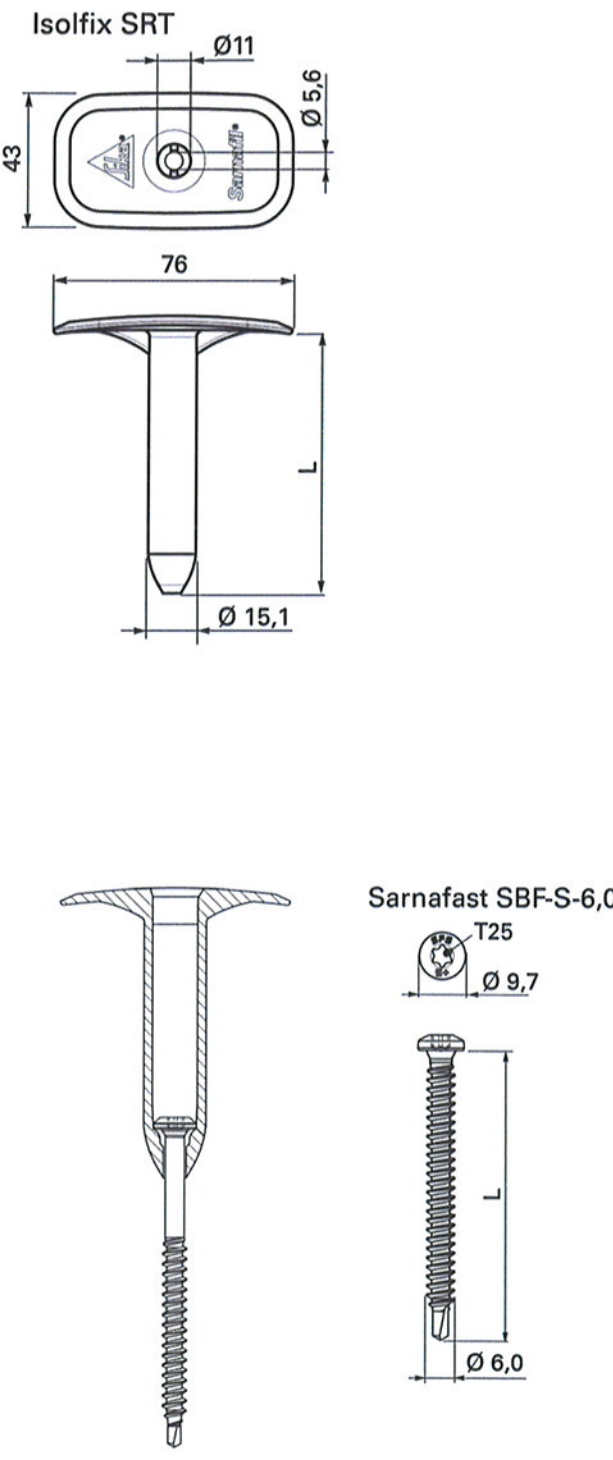
Combination 54A
IRFP-6,3 / IRFP-64x64



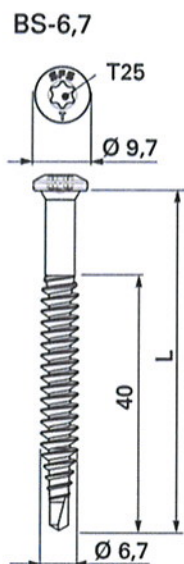
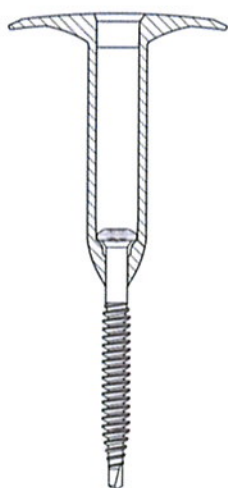
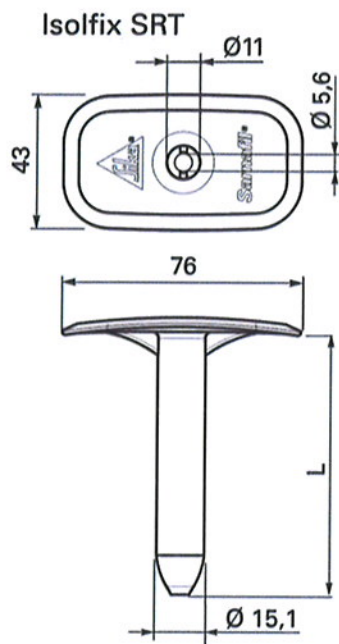
Combination 54B
IRFP-6,3 / IRFP-82x40



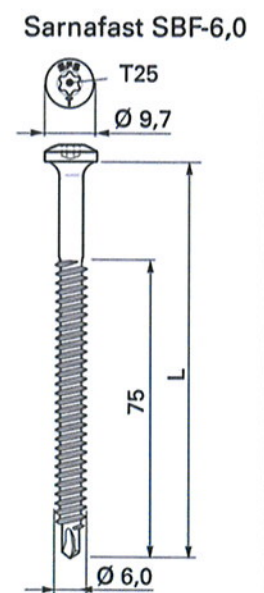
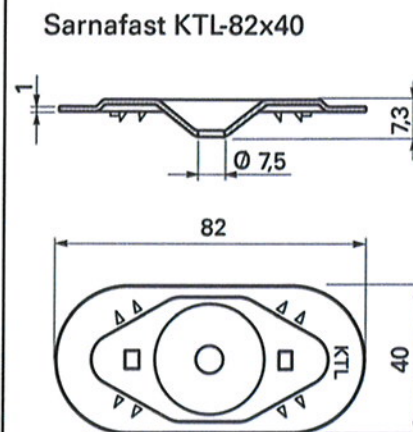
Combination 55A IRFP-6,3 / IRFP-40	Combination 55B TI-T25-6,3 / Isolfix SRT
IRFP-40  IRFP-6,3 	Isolfix SRT  TI-T25-6,3 
SFS intec flat roof fasteners	Annex 55

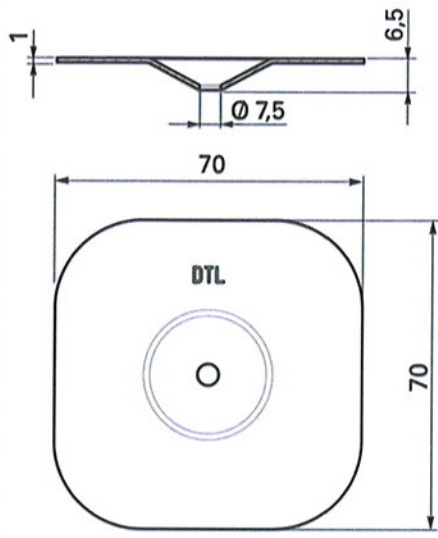
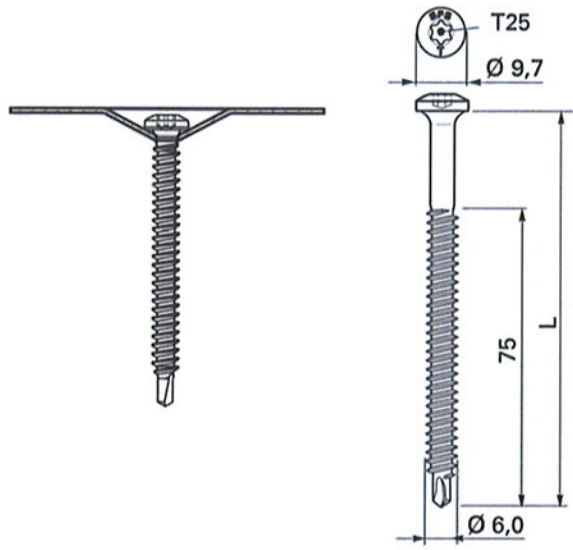
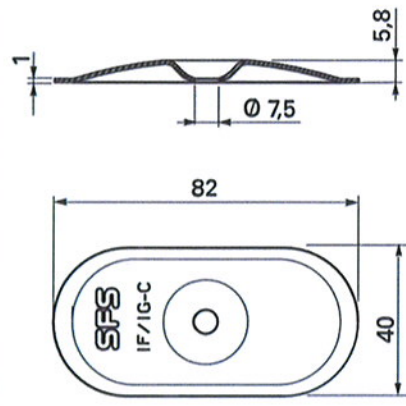
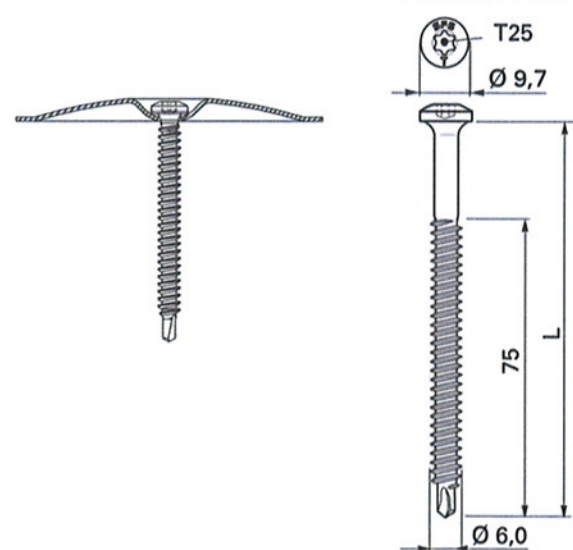
Combination 56A Sarnafast SBF-6,0 / Isolfix SRT	Combination 56B Sarnafast SBF-S-6,0 / Isolfix SRT
 Isolfix SRT 43 76 Ø11 Ø5,6 L Ø15,1 Sarnafast SBF-6,0 T25 Ø9,7 75 L Ø6,0	 Isolfix SRT 43 76 Ø11 Ø5,6 L Ø15,1 Sarnafast SBF-S-6,0 T25 Ø9,7 L Ø6,0
SFS intec flat roof fasteners	Annex 56

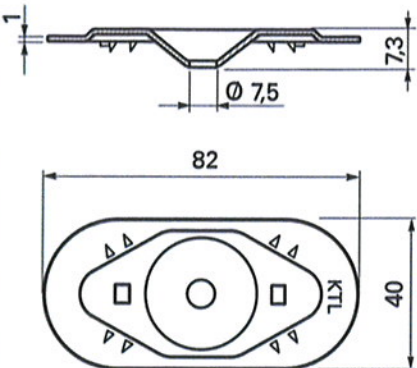
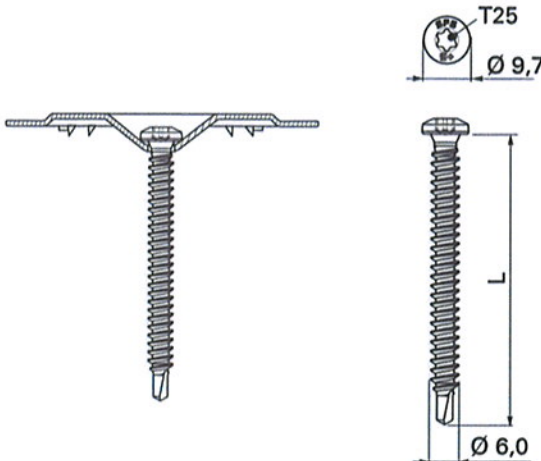
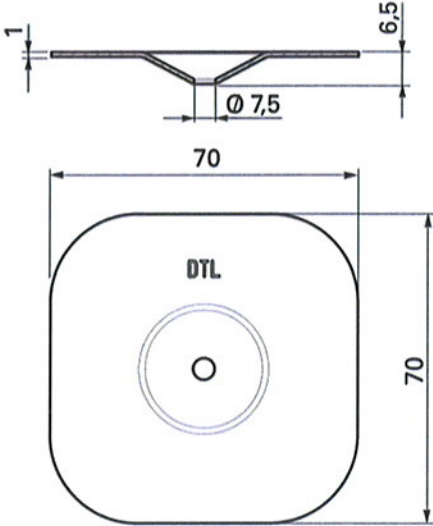
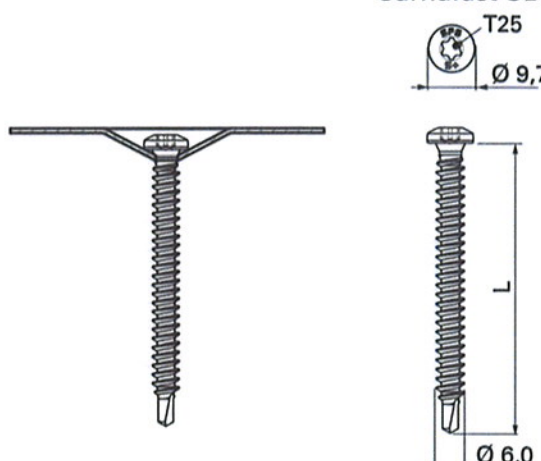
Combination 57A
BS-6,7 / Isolfix SRT

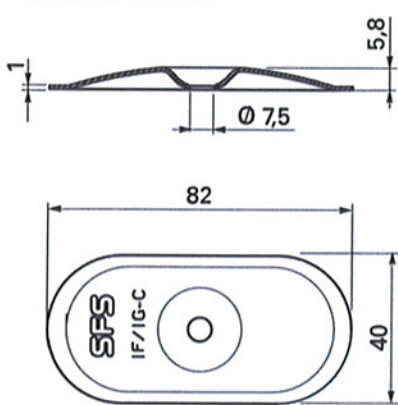
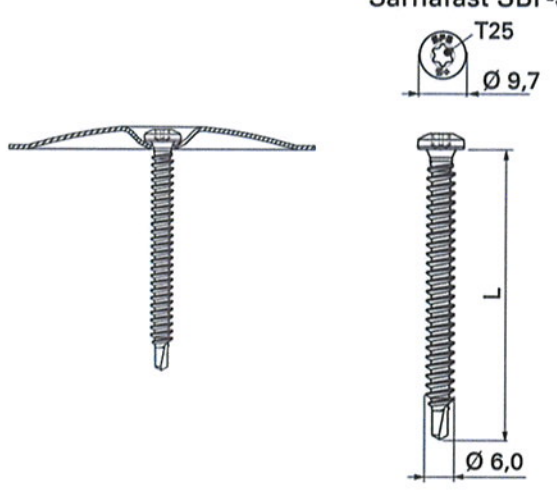
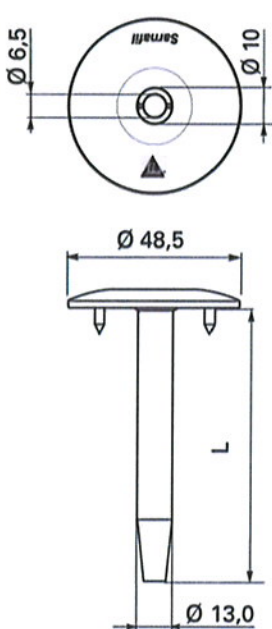
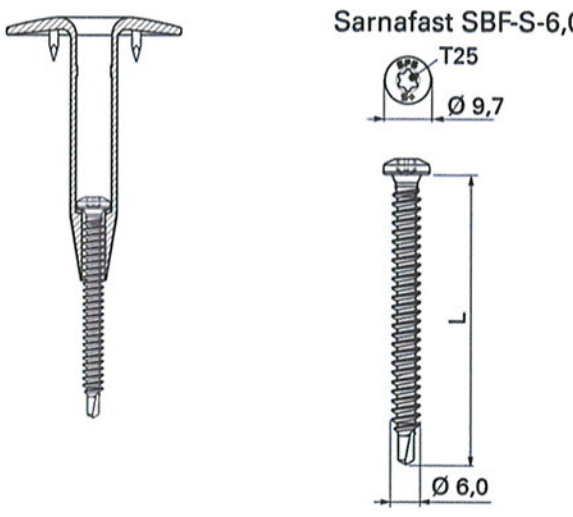


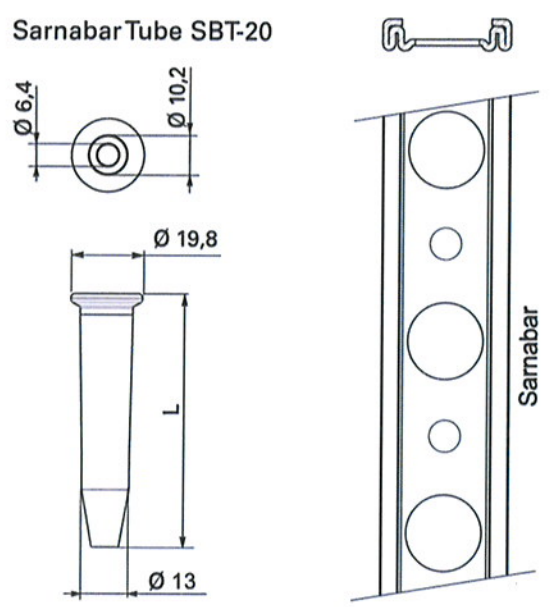
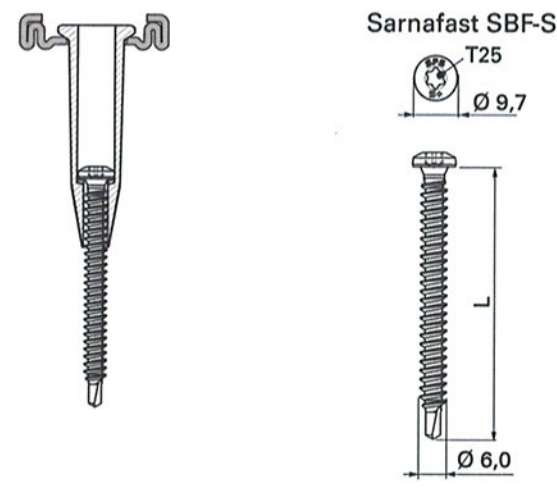
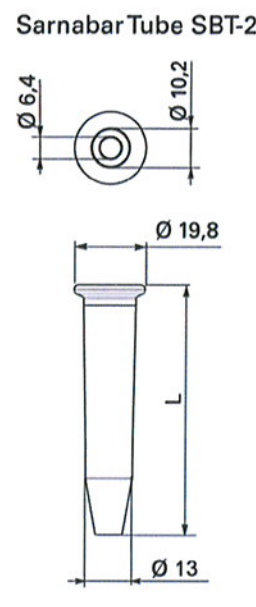
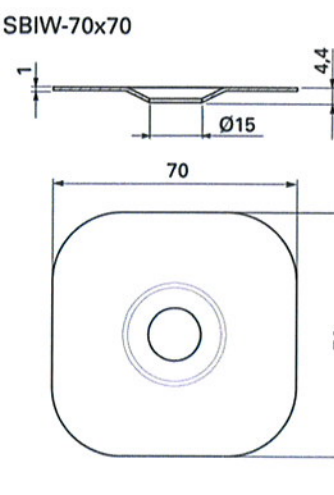
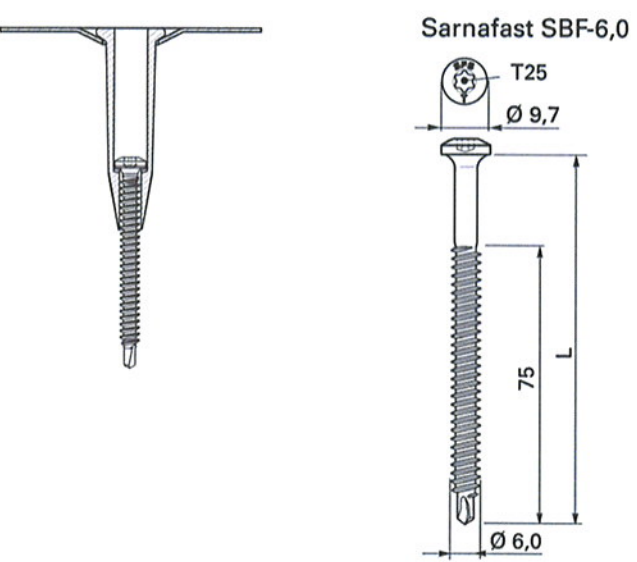
Combination 57B
Sarnafast SBF-6,0 / Sarnafast KTL-82x40

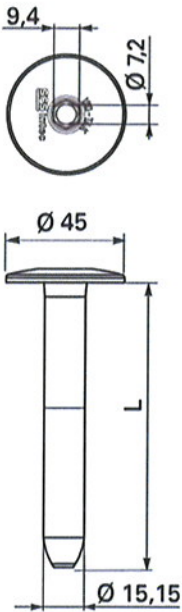
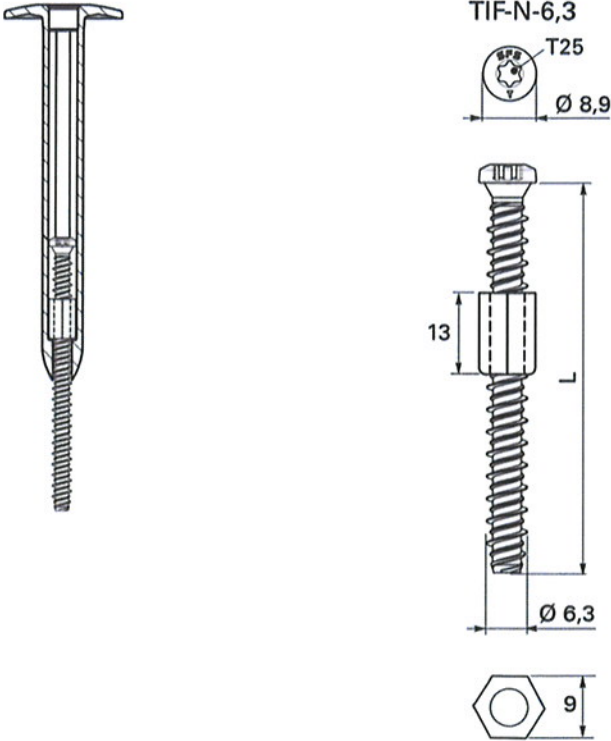
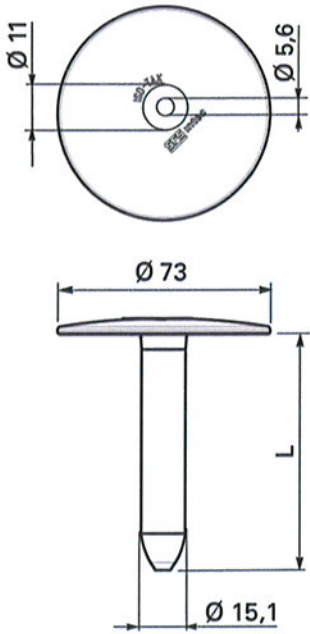
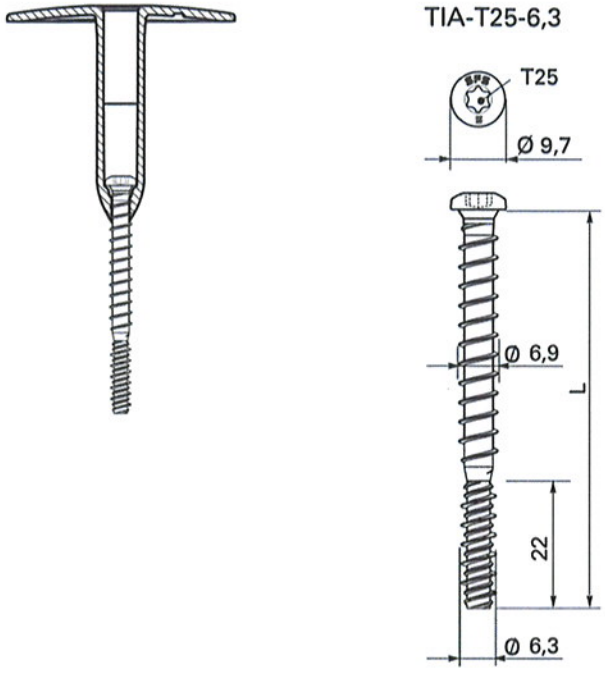


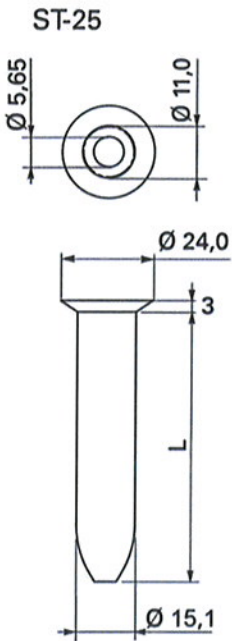
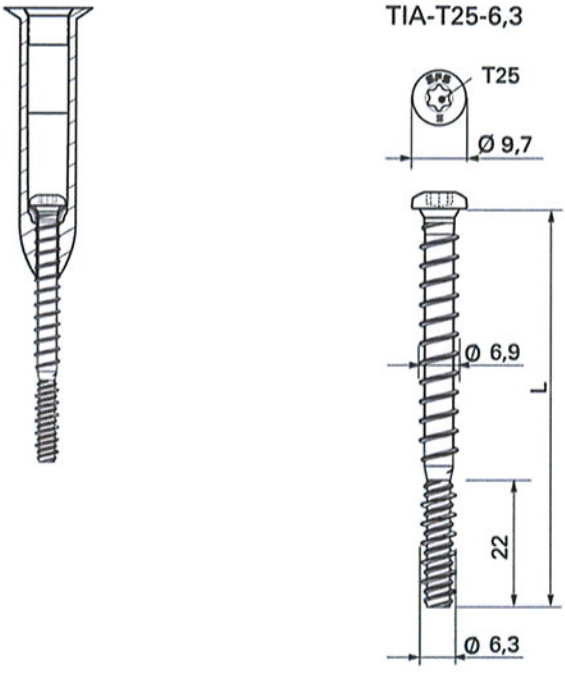
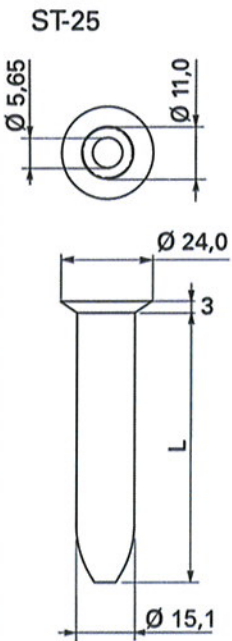
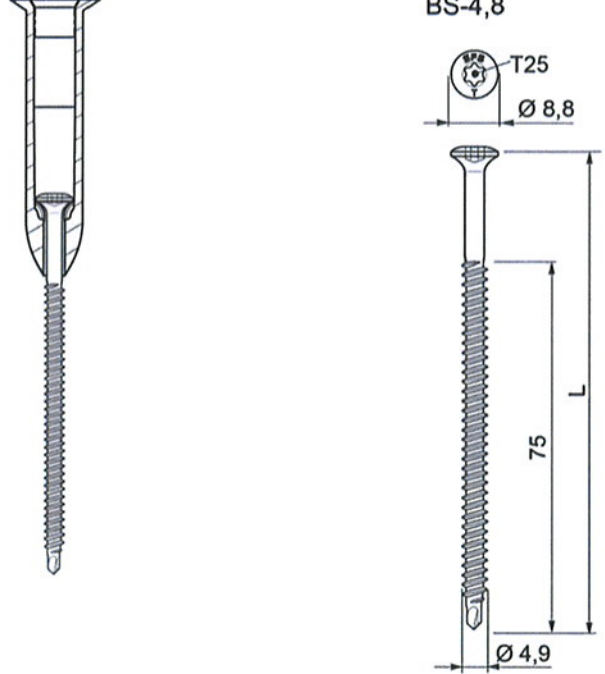
Combination 58A Sarnafast SBF-6,0 / Sarnafast DTL-70x70	Combination 58B Sarnafast SBF-6,0 / IF/IG-C-82x40
Sarnafast DTL-70x70  Sarnafast SBF-6,0 	IF/IG-C-82x40  Sarnafast SBF-6,0 
SFS intec flat roof fasteners	Annex 58

Combination 59A Sarnafast SBF-S-6,0 / Sarnafast KTL-82x40	Combination 59B Sarnafast SBF-S-6,0 / Sarnafast DTL-70x70
Sarnafast KTL-82x40  Sarnafast SBF-S-6,0 	Sarnafast DTL-70x70  Sarnafast SBF-S-6,0 
SFS intec flat roof fasteners	Annex 59

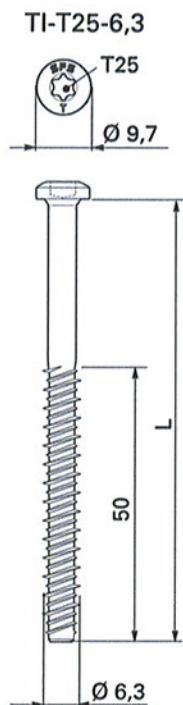
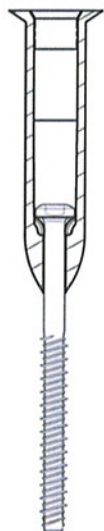
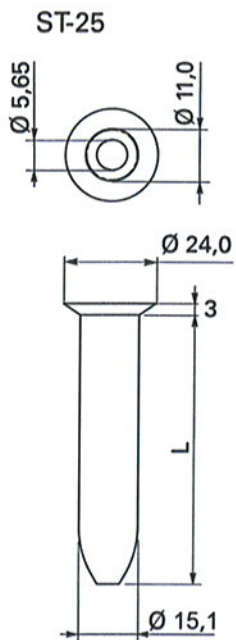
Combination 60A Sarnafast SBF-S-6,0 / IF/IG-C-82x40	Combination 60B Sarnafast SBF-S-6,0 / Sarnabar Tube SFT-50
IF/IG-C-82x40  Sarnafast SBF-S-6,0 	Sarnafast Tube SFT-50  Sarnafast SBF-S-6,0 
SFS intec flat roof fasteners	Annex 60

Combination 61A Sarnafast SBF-S-6,0 / Sarnabar Tube SBT-20 / Sarnabar	Combination 61B Sarnafast SBF-6,0 / SBIW-70x70 / Sarnabar Tube SBT-20
Sarnabar Tube SBT-20  Sarnafast SBF-S-6,0 	Sarnabar Tube SBT-20  SBIW-70x70  Sarnafast SBF-6,0 
SFS intec flat roof fasteners	Annex 61

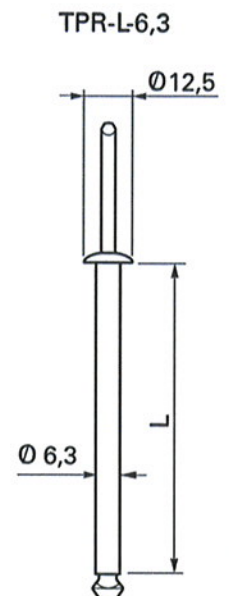
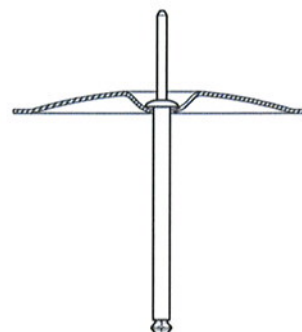
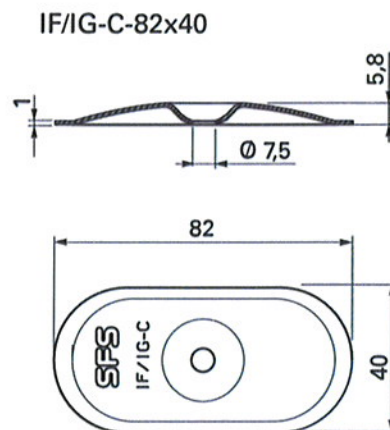
Combination 62A TIF-N-6,3 / RH45	Combination 62B TIA-T25-6,3 / R75
RH45  	R75  
SFS intec flat roof fasteners	
Annex 62	

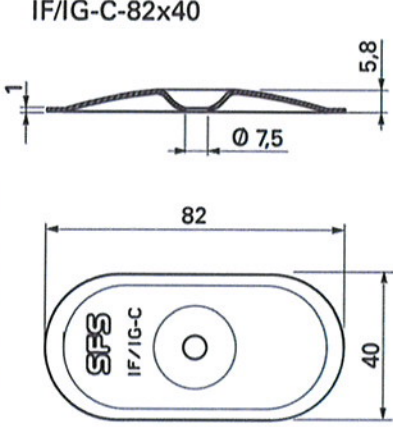
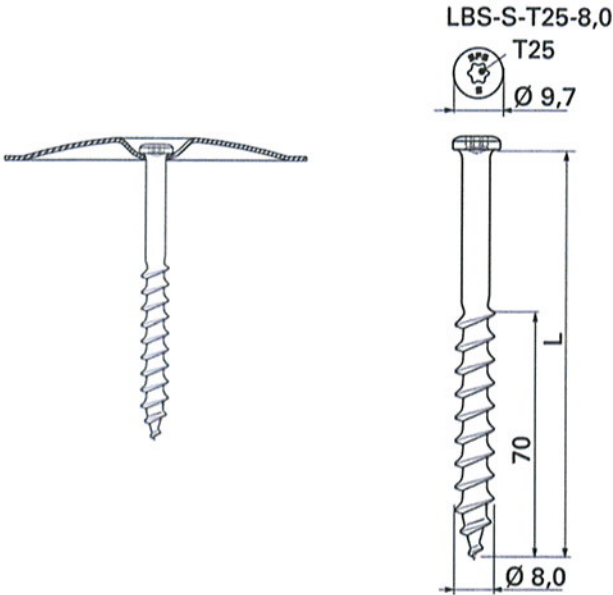
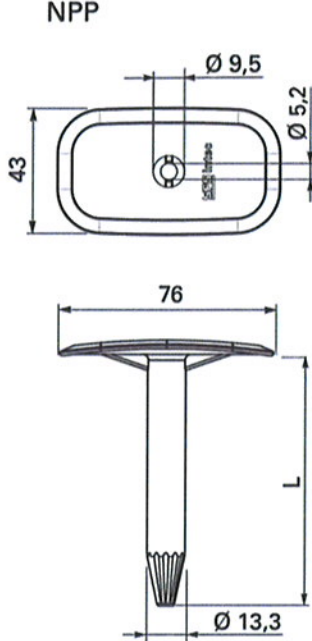
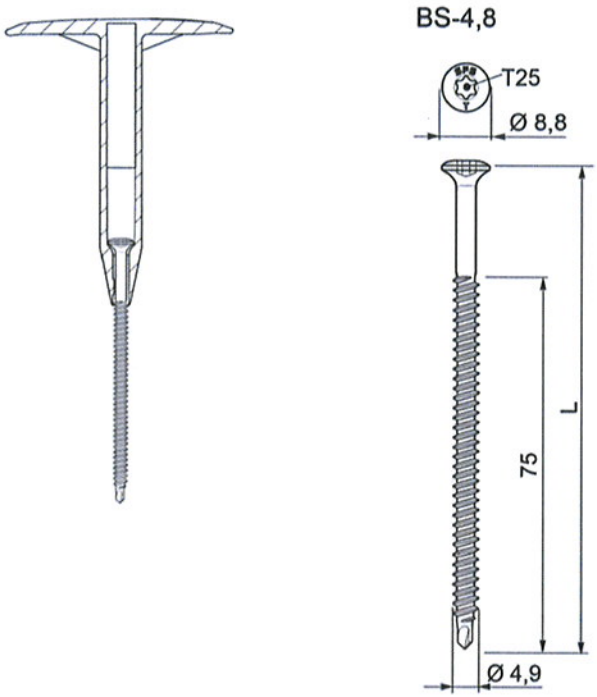
Combination 63A TIA-T25-6,3 / ST-25	Combination 63B BS-4,8 / ST-25
ST-25  	ST-25  
SFS intec flat roof fasteners	
Annex 63	

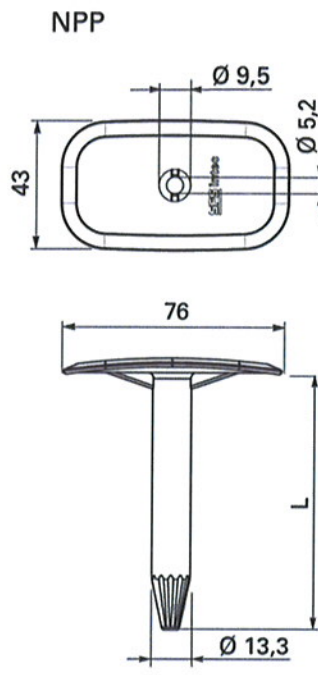
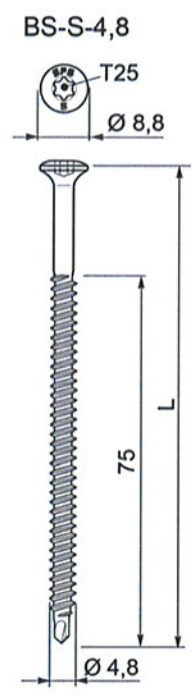
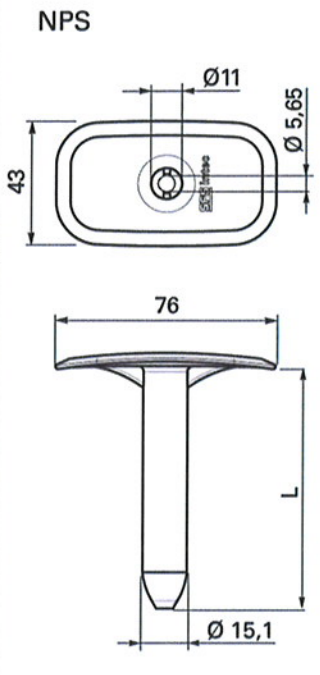
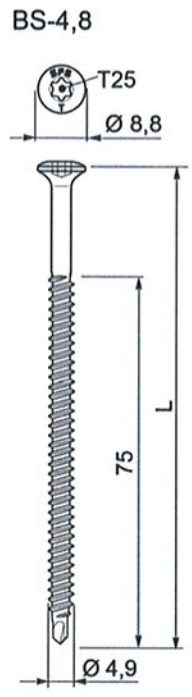
Combination 64A
TI-T25-6,3 / ST-25

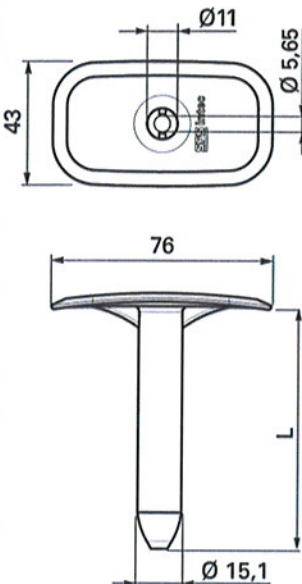
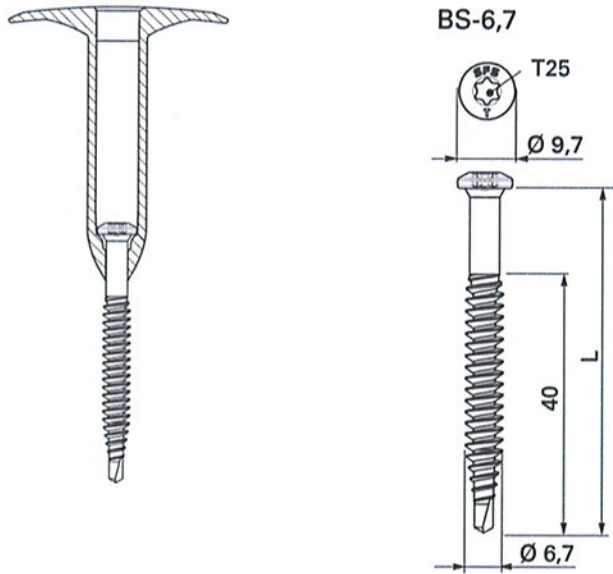
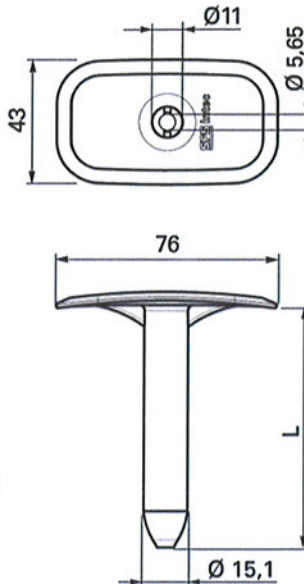
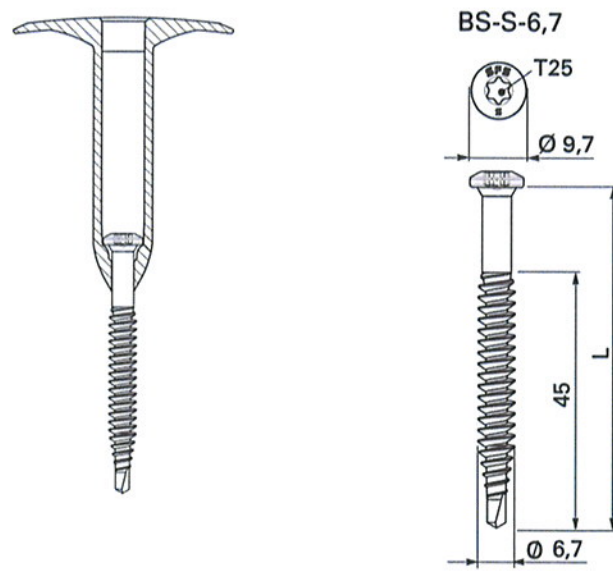


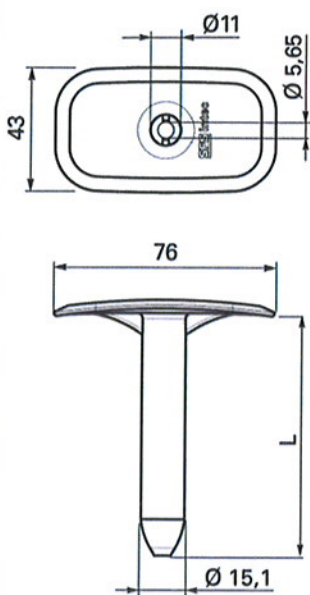
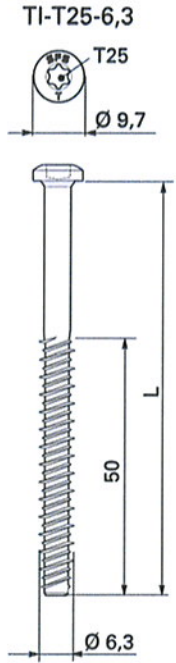
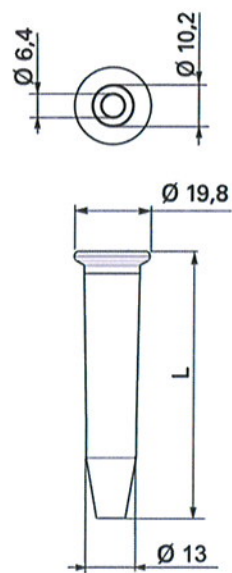
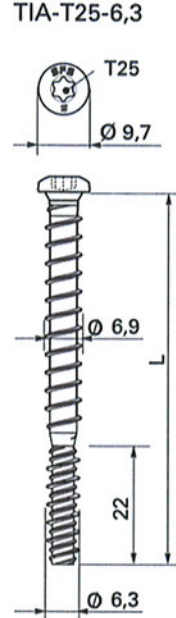
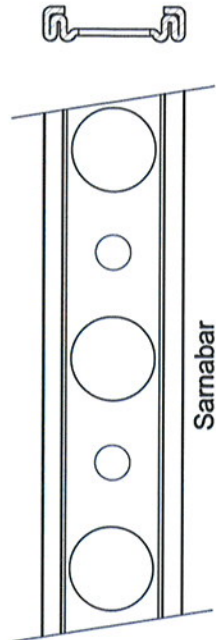
Combination 64B
TPR-L-6,3 / IF/IG-C-82x40



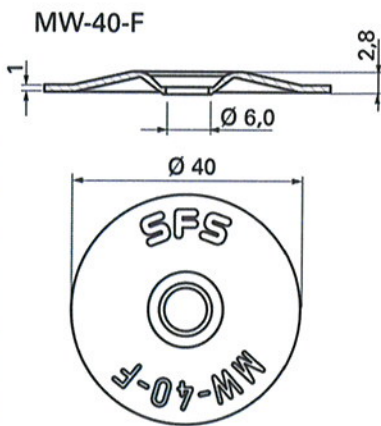
Combination 65A LBS-S-T25-8,0 / IF/IG-C-82x40	Combination 65B BS-4,8 / NPP
IF/IG-C-82x40  LBS-S-T25-8,0 	NPP  BS-4,8 
SFS intec flat roof fasteners	Annex 65

Combination 66A BS-S-4,8 / NPP	Combination 66B BS-4,8 / NPS
NPP  BS-S-4,8 	NPS  BS-4,8 
SFS intec flat roof fasteners	
Annex 66	

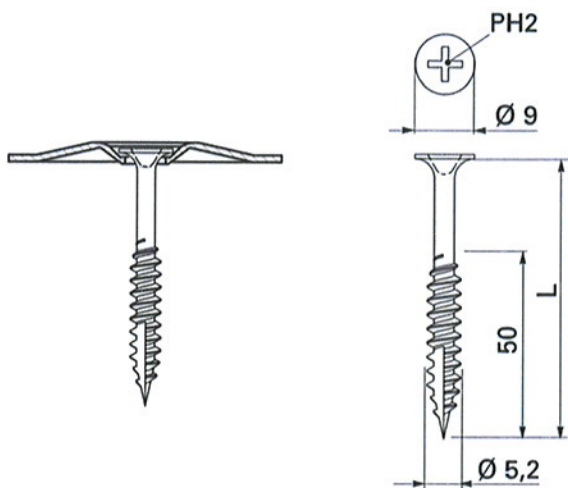
Combination 67A BS-6,7 / NPS	Combination 67B BS-S-6,7 / NPS
NPS  BS-6,7 	NPS  BS-S-6,7 
SFS intec flat roof fasteners	
Annex 67	

Combination 68A TI-T25-6,3 / NPS	Combination 68B TIA-T25-6,3 / Sarnabar Tube SBT-20 / Sarnabar
NPS  	Sarnabar Tube SBT-20   
SFS intec flat roof fasteners	
Annex 68	

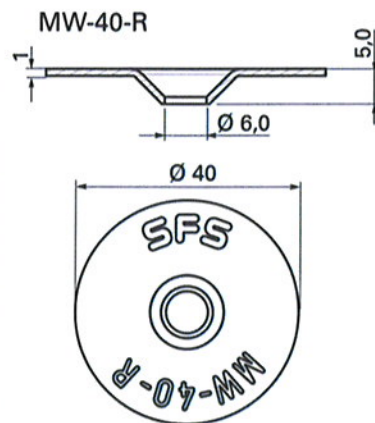
Combination 69A
IWF-5,2 / MW-40-F



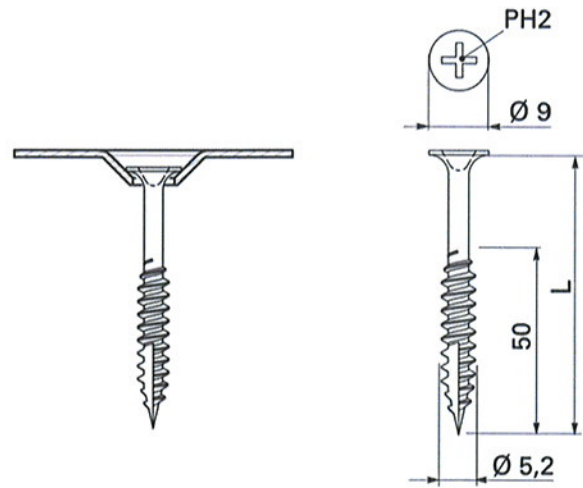
IWF-5,2



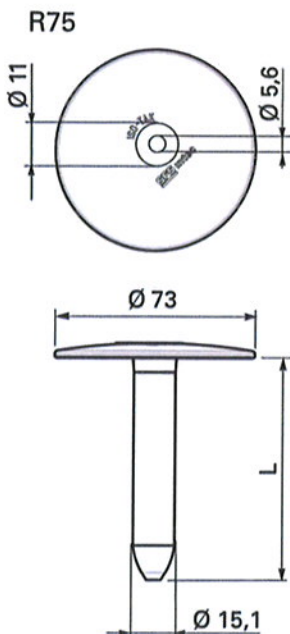
Combination 69B
IWF-5,2 / MW-40-R



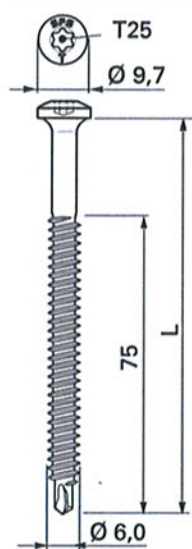
IWF-5,2



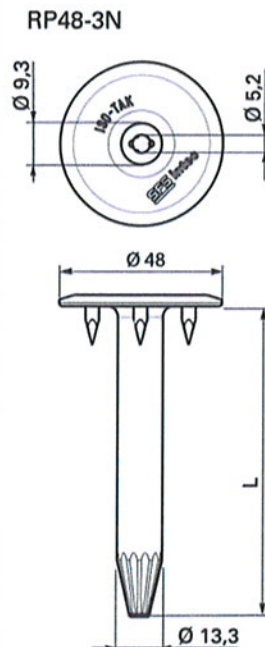
Combination 70A
Sarnafast SBF-6,0 / R75



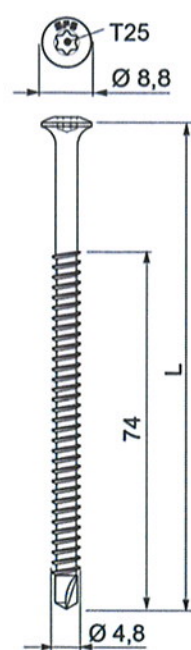
Sarnafast SBF-6,0

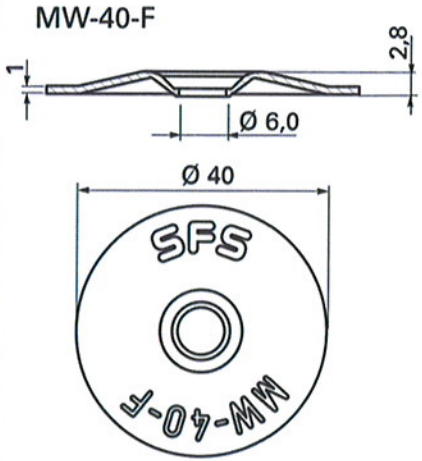
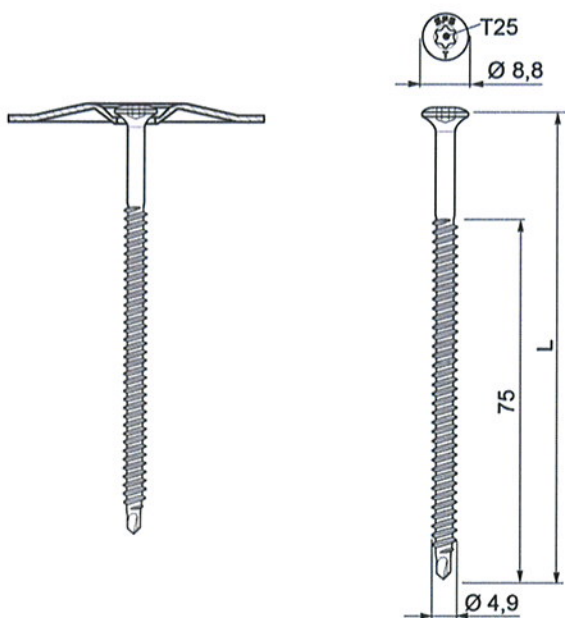
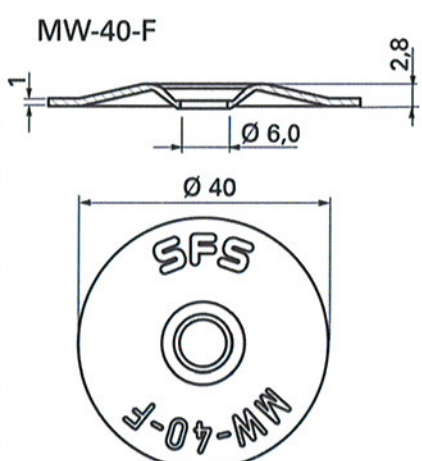
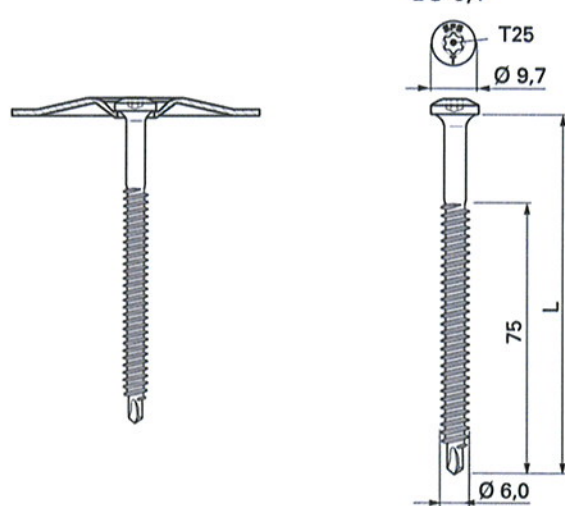


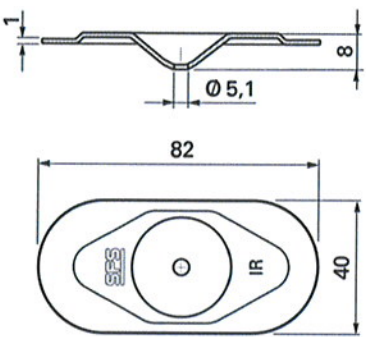
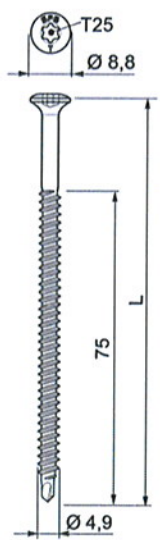
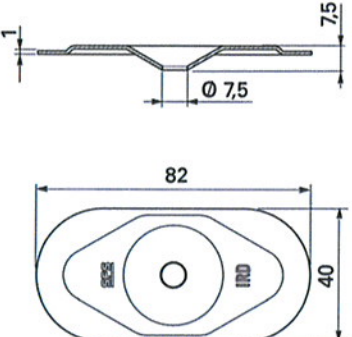
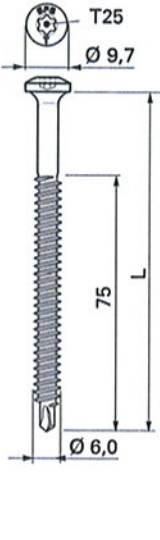
Combination 70B
BS3-4,8 / RP48-3N

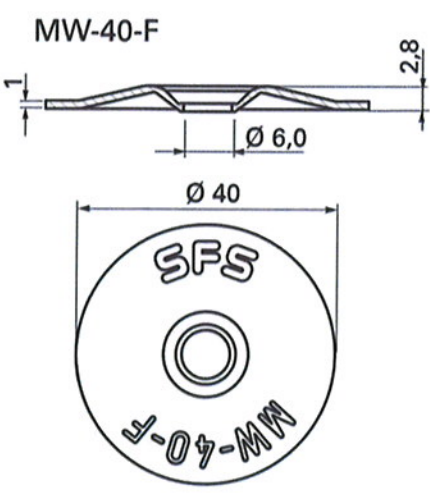
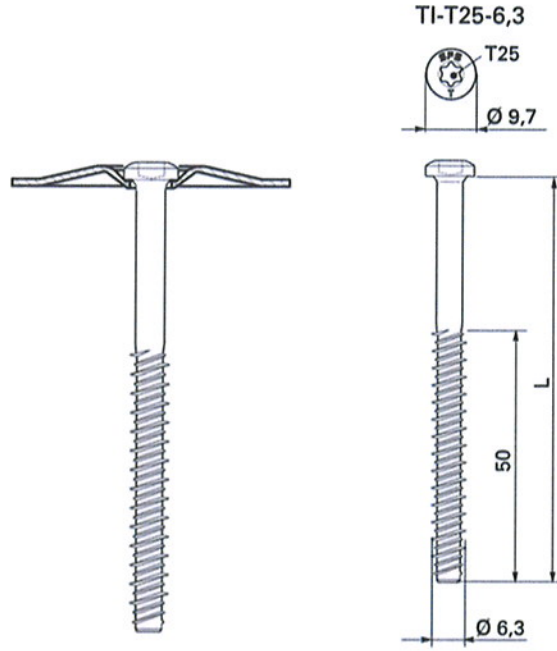
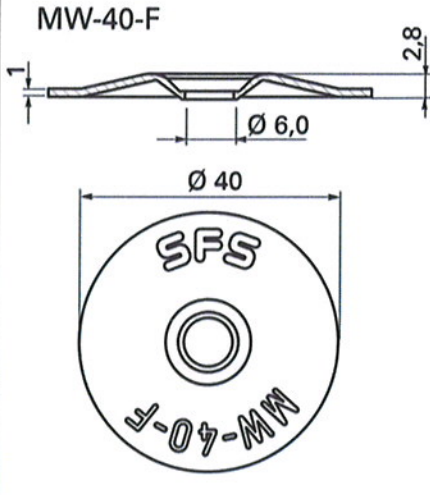
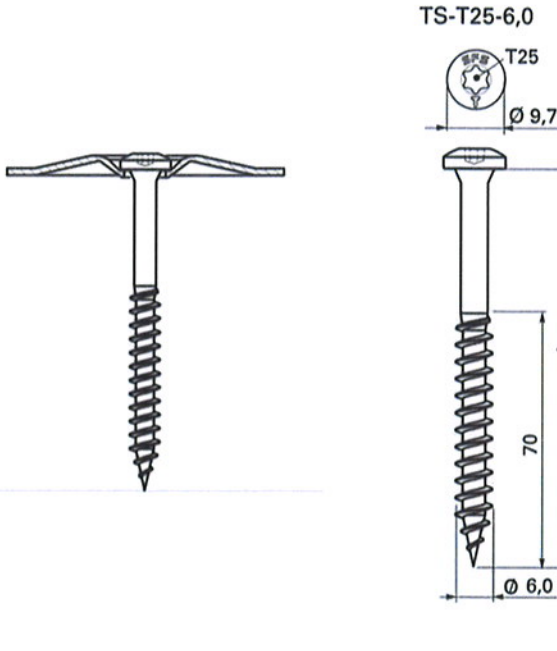


BS3-4,8

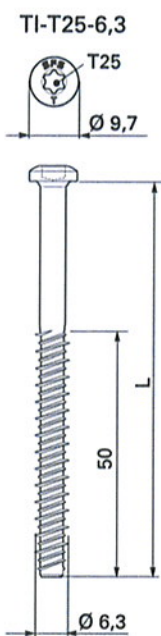
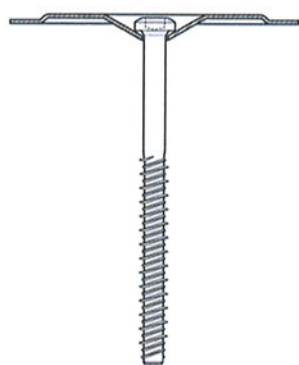
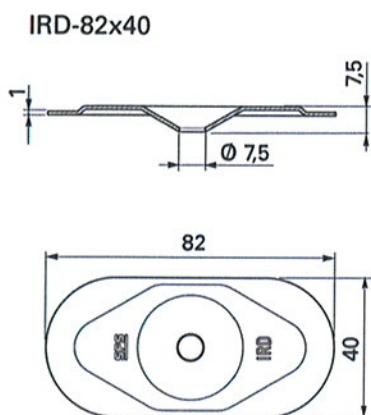


Combination 71A BS-4,8 / MW-40-F	Combination 71B BS-6,1 / MW-40-F
MW-40-F  BS-4,8 	MW-40-F  BS-6,1 
SFS intec flat roof fasteners	
Annex 71	

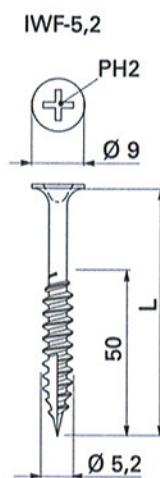
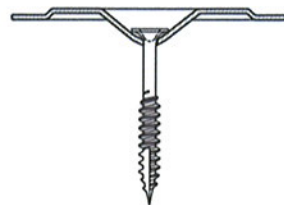
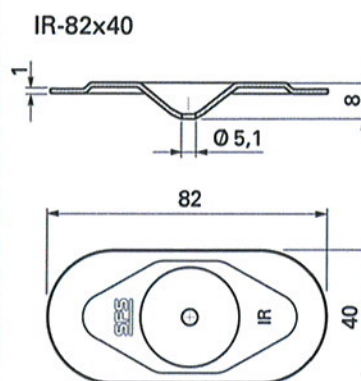
Combination 72A BS-4,8 / IR-82x40	Combination 72B BS-6,1 / IRD-82x40
IR-82x40  BS-4,8  	IRD-82x40  BS-6,1  
SFS intec flat roof fasteners	Annex 72

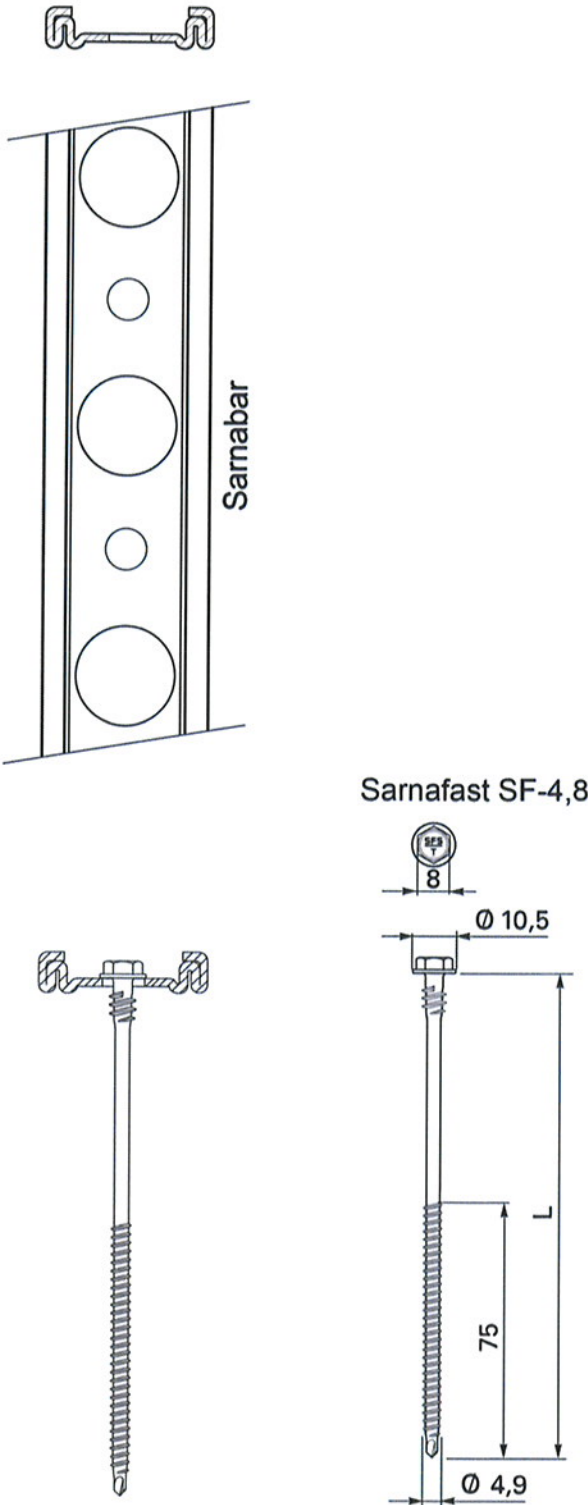
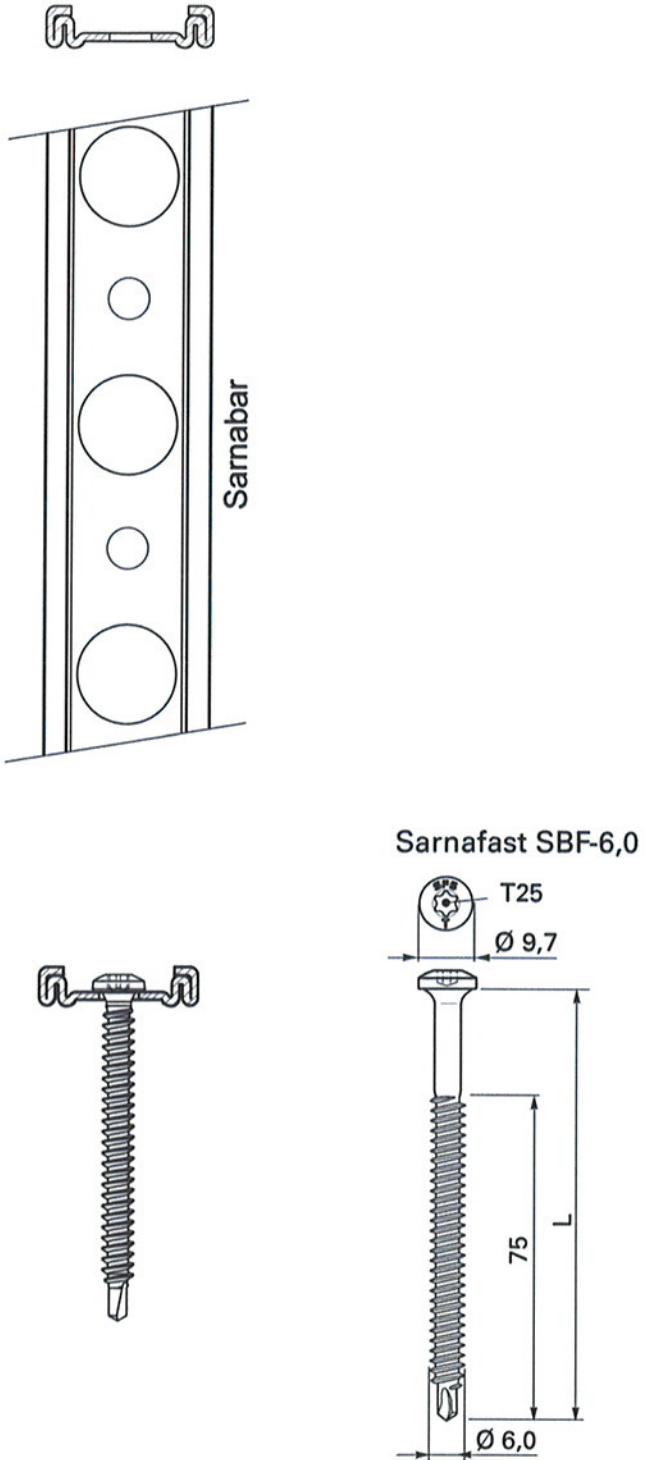
Combination 73A TI-T25-6,3 / MW-40-F	Combination 73B TS-T25-6,0 / MW-40-F
MW-40-F  TI-T25-6,3 	MW-40-F  TS-T25-6,0 
SFS intec flat roof fasteners	Annex 73

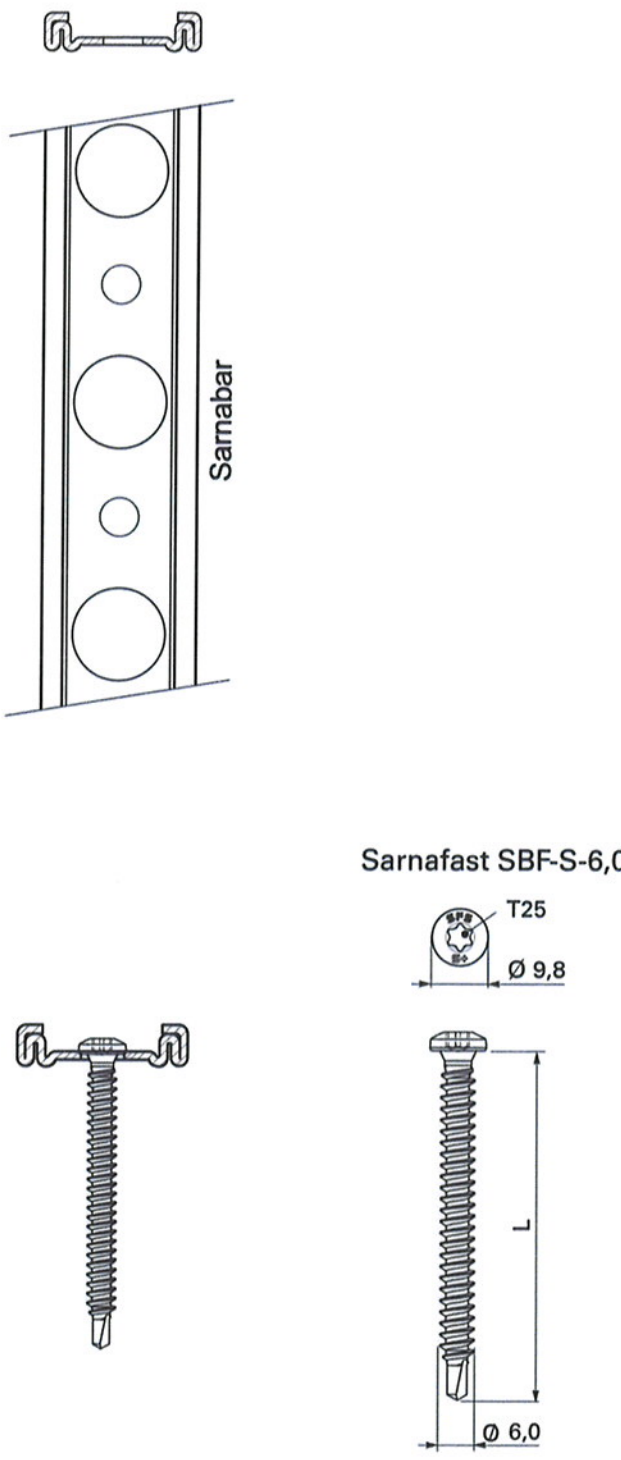
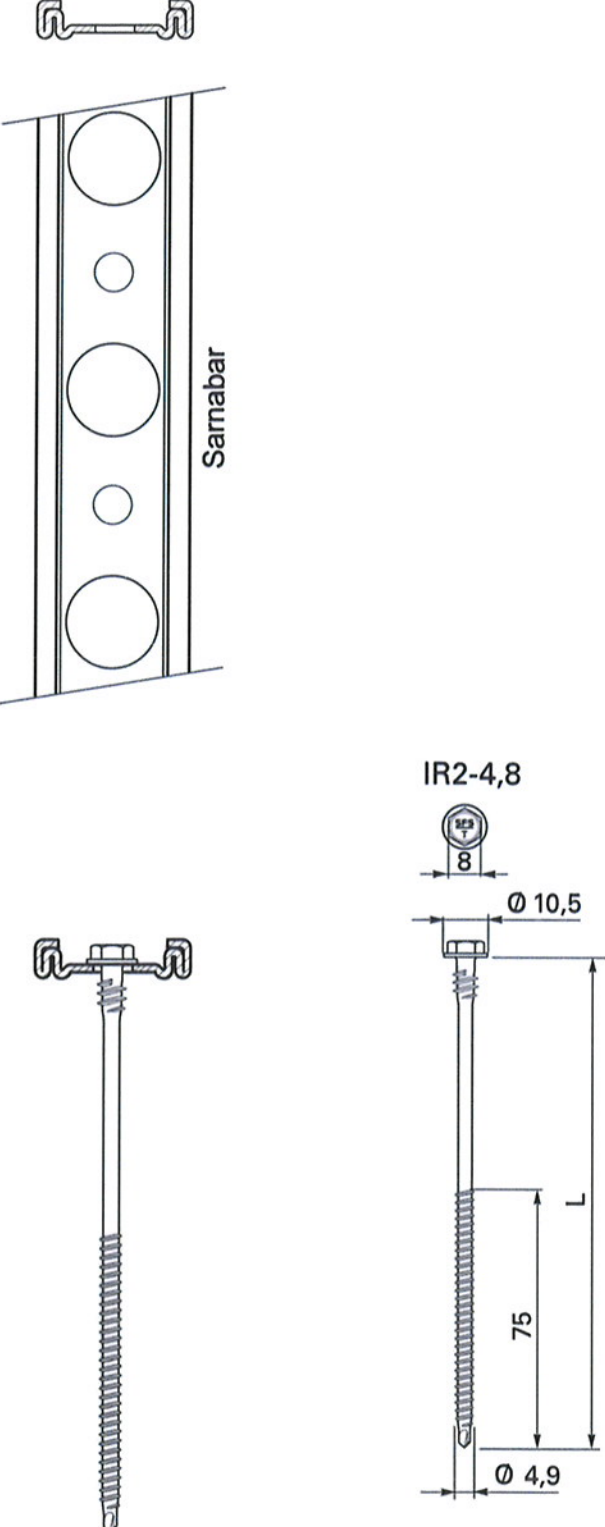
Combination 74A
TI-T25-6,3 / IRD-82x40

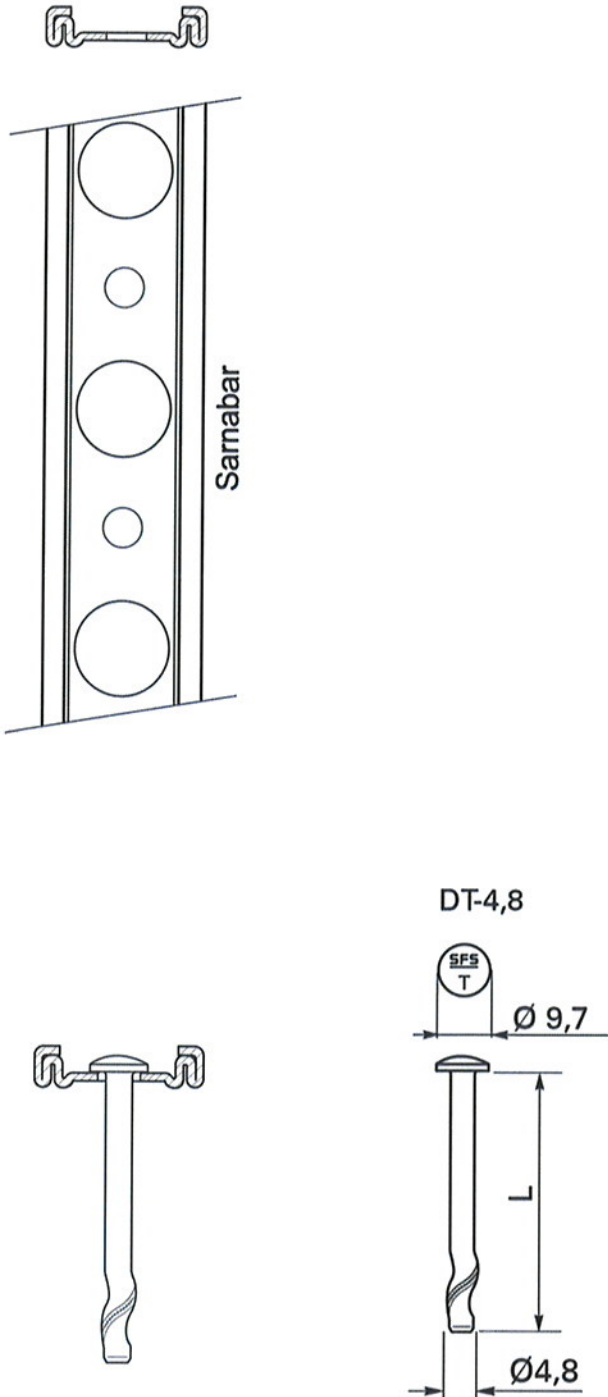
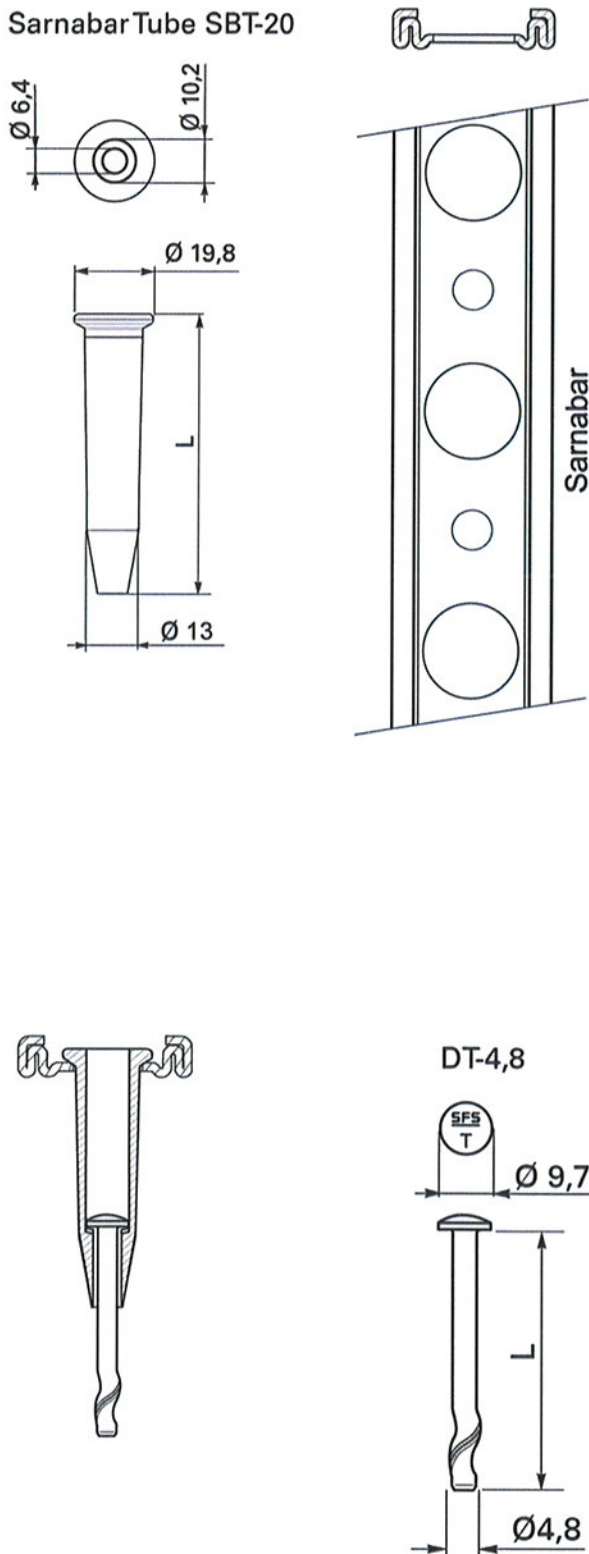


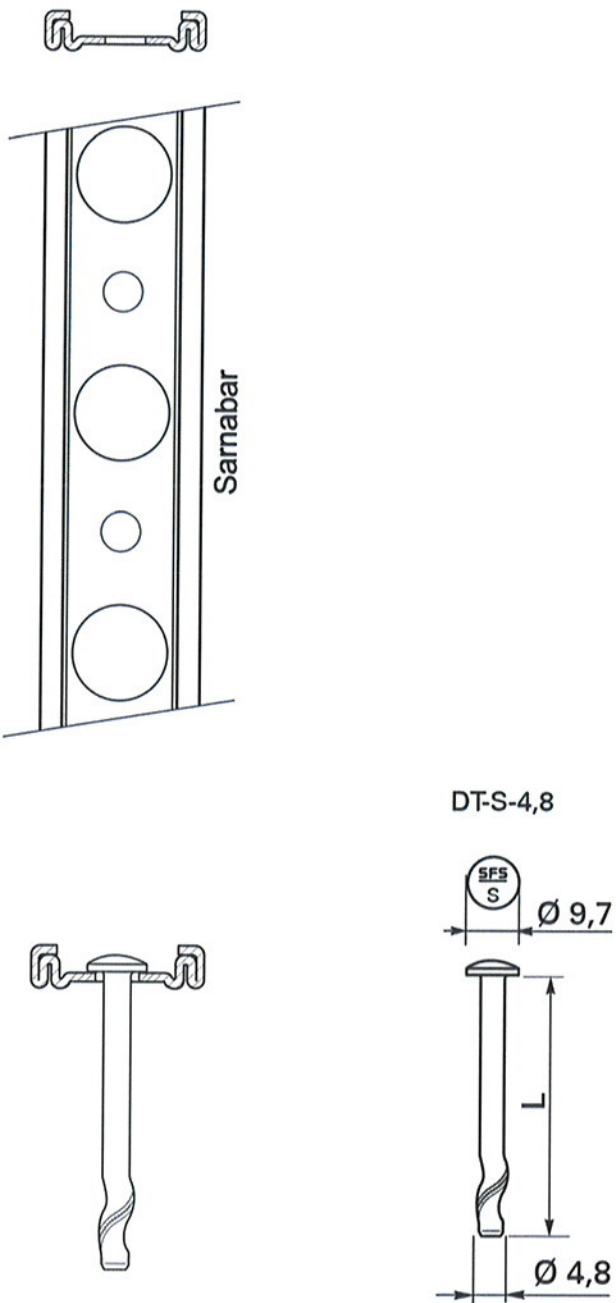
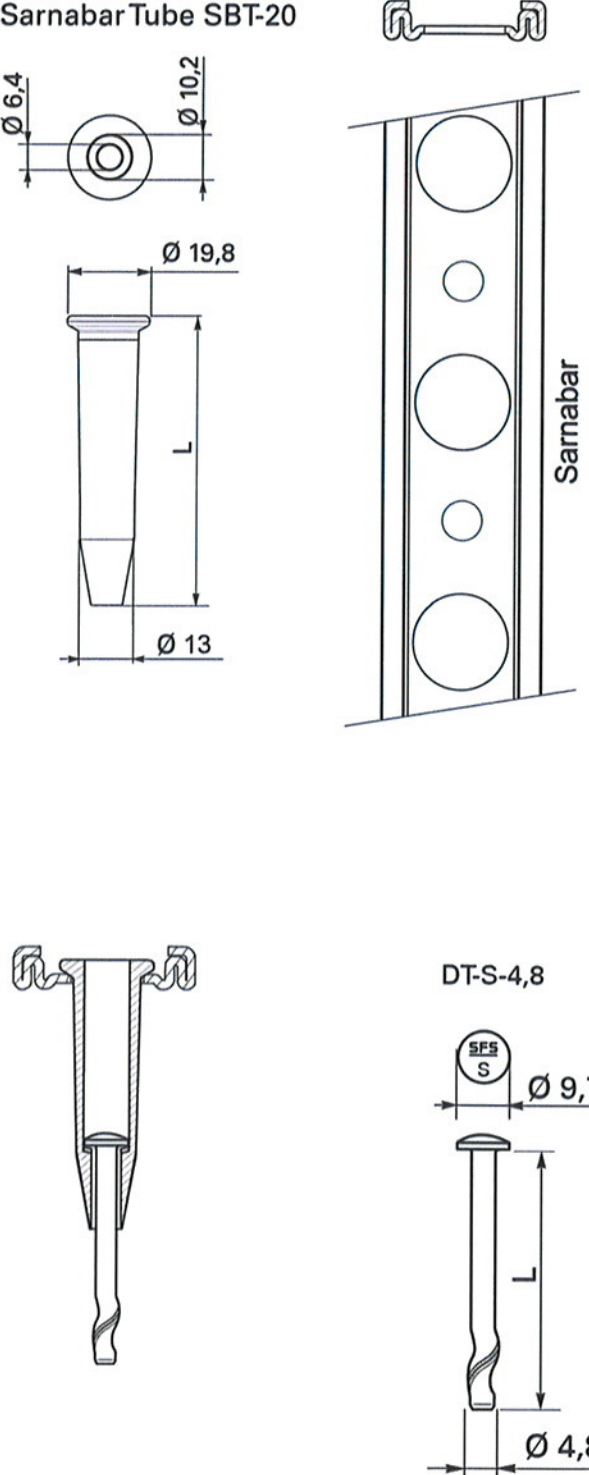
Combination 74B
IWF-5,2 / IR-82x40

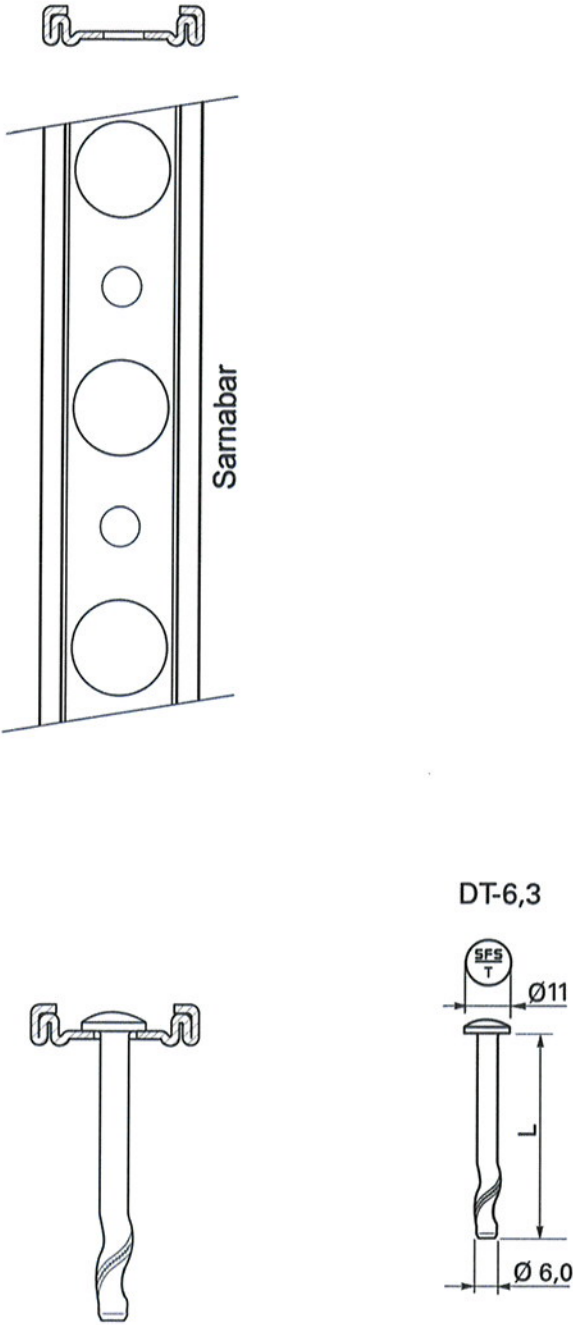
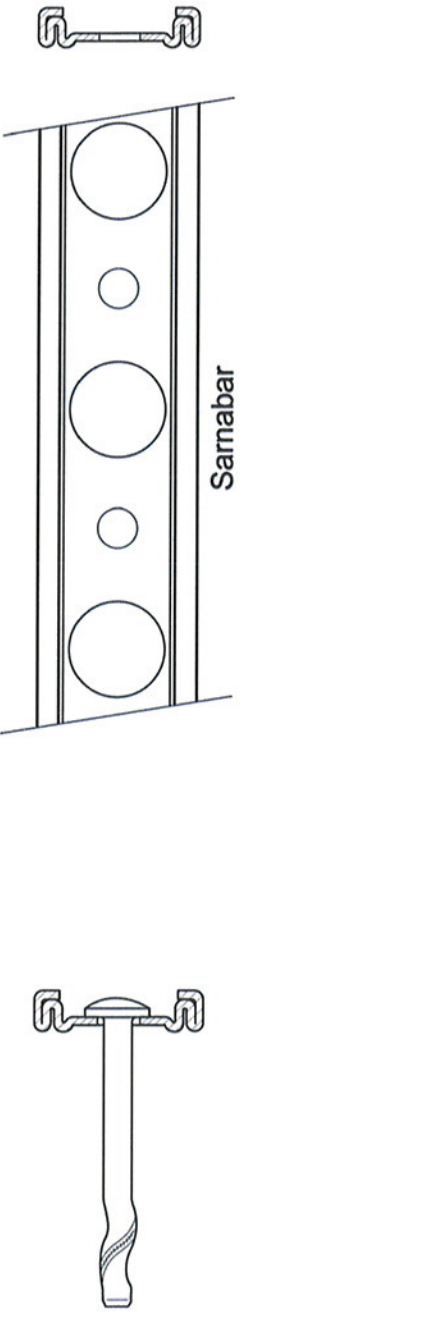


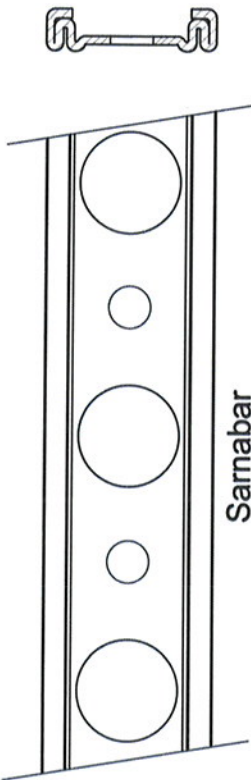
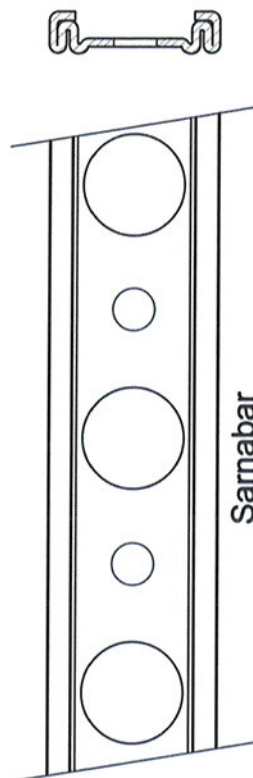
Combination 75A Sarnafast SF-4,8 / Sarnabar	Combination 75B Sarnafast SBF-6,0 / Sarnabar
 The drawing shows a side view of the Sarnabar profile with four circular holes. Below it is a detailed view of the Sarnafast SF-4,8 fastener. The fastener has a hexagonal head with a diameter of 8 mm and a hole diameter of 10,5 mm. The threaded part has a length of 75 mm and a diameter of 4,9 mm. The total length is L.	 The drawing shows a side view of the Sarnabar profile with four circular holes. Below it is a detailed view of the Sarnafast SBF-6,0 fastener. The fastener has a hexagonal head with a diameter of 9,7 mm and a hole diameter of 9,7 mm. The threaded part has a length of 75 mm and a diameter of 6,0 mm. The total length is L.
SFS intec flat roof fasteners	Annex 75

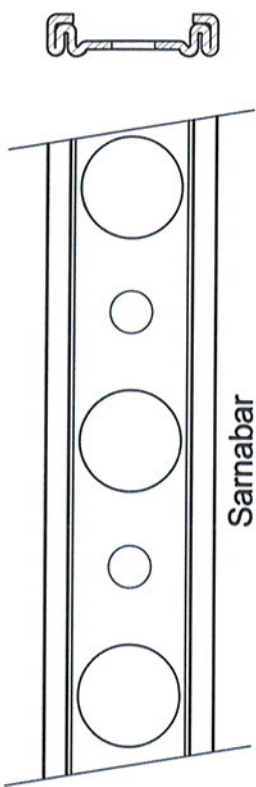
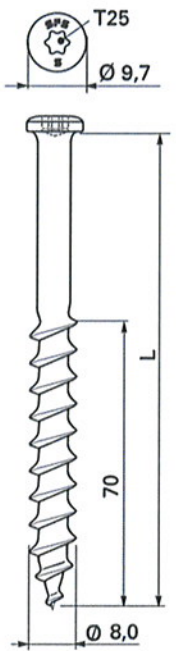
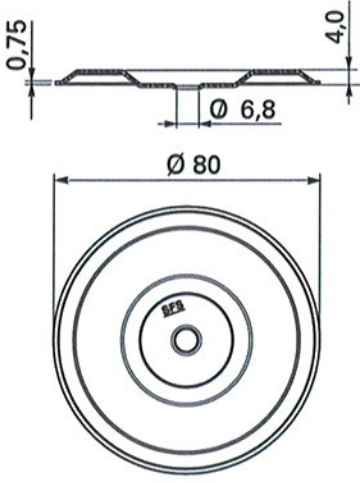
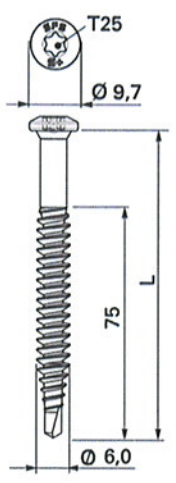
Combination 76A Sarnafast SBF-S-6,0 / Sarnabar	Combination 76B IR2-4,8 / Sarnabar
 The drawing shows a side view of the Sarnabar profile with four circular holes. Below it, a top view of the Sarnafast SBF-S-6,0 fastener is shown. The fastener has a T25 head with a diameter of $\varnothing 9,8$ and a threaded shank with a diameter of $\varnothing 6,0$. The total length of the fastener is labeled as L.	 The drawing shows a side view of the Sarnabar profile with four circular holes. Below it, a top view of the IR2-4,8 fastener is shown. The fastener has a head with a diameter of $\varnothing 10,5$ and a threaded shank with a diameter of $\varnothing 4,9$. The total length of the fastener is labeled as L. A specific dimension of 75 is indicated for the threaded portion of the shank.
SFS intec flat roof fasteners	Annex 76

Combination 77A DT-4,8 / Sarnabar	Combination 77B DT-4,8 / Sarnabar Tube SBT-20 / Sarnabar
 The drawing shows the Sarnabar profile and the DT-4,8 fastener. The Sarnabar profile is a vertical section with four circular holes. The DT-4,8 fastener is shown in two views: a side view and a cross-section. The cross-section shows a diameter of $\varnothing 9,7$ at the top and $\varnothing 4,8$ at the bottom, with a length L. The fastener is labeled 'SFS T'.	Sarnabar Tube SBT-20  The drawing shows the Sarnabar Tube SBT-20 and the DT-4,8 fastener. The Sarnabar Tube SBT-20 is shown in two views: a cross-section and a side view. The cross-section shows a diameter of $\varnothing 10,2$ and a hole diameter of $\varnothing 6,4$. The side view shows a diameter of $\varnothing 19,8$ at the top, a length L, and a diameter of $\varnothing 13$ at the bottom. The DT-4,8 fastener is shown in two views: a side view and a cross-section. The cross-section shows a diameter of $\varnothing 9,7$ at the top and $\varnothing 4,8$ at the bottom, with a length L. The fastener is labeled 'SFS T'.
SFS intec flat roof fasteners	Annex 77

Combination 78A DT-S-4,8 / Sarnabar	Combination 78B DT-S-4,8 / Sarnabar Tube SBT-20 / Sarnabar
 Technical drawing showing the Sarnabar profile and the DT-S-4,8 fastener. The Sarnabar profile is a vertical channel with four circular holes. The DT-S-4,8 fastener is shown in two views: a side view and a top view. The top view shows a circular head with a diameter of $\varnothing 9,7$ and a central hole with a diameter of $\varnothing 4,8$. The side view shows the fastener with a length L and a diameter of $\varnothing 4,8$ at the base.	 Technical drawing showing the Sarnabar Tube SBT-20 and the DT-S-4,8 fastener. The Sarnabar Tube SBT-20 is shown in two views: a side view and a top view. The side view shows a tube with a length L and a diameter of $\varnothing 19,8$ at the top and $\varnothing 13$ at the bottom. The top view shows a circular head with a diameter of $\varnothing 10,2$ and a central hole with a diameter of $\varnothing 6,4$. The DT-S-4,8 fastener is shown in two views: a side view and a top view. The top view shows a circular head with a diameter of $\varnothing 9,7$ and a central hole with a diameter of $\varnothing 4,8$. The side view shows the fastener with a length L and a diameter of $\varnothing 4,8$ at the base.
SFS intec flat roof fasteners	Annex 78

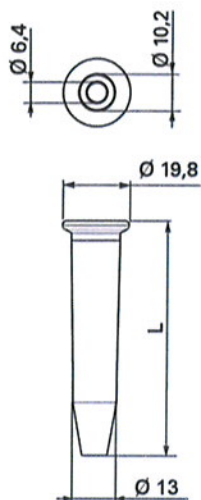
Combination 79A DT-6,3 / Sarnabar	Combination 79B DT-S-6,3 / Sarnabar
 Side view of Sarnabar profile with four circular holes. Top view of DT-6,3 fastener. DT-6,3 Ø 11 L Ø 6,0	 Side view of Sarnabar profile with four circular holes. Top view of DT-S-6,3 fastener. DT-S-6,3 Ø 11 L Ø 6,0
SFS intec flat roof fasteners	
Annex 79	

Combination 80A IW-S-5,0 / Sarnabar	Combination 80B IW-T-5,0 / Sarnabar
 Technical drawing of the Sarnabar profile and the IW-S-5,0 fastener. The profile is shown with five circular holes. The fastener is a screw with a hexagonal head and a T-shaped base. Dimensions are indicated: 9,7 for the head width, L for the screw length, and Ø 5 for the hole diameter. The head is labeled 'Pozi Nr.2'.	 Technical drawing of the Sarnabar profile and the IW-T-5,0 fastener. The profile is shown with five circular holes. The fastener is a screw with a hexagonal head and a T-shaped base. Dimensions are indicated: 9,7 for the head width, L for the screw length, and Ø 5 for the hole diameter. The head is labeled 'Pozi Nr.2'.
SFS intec flat roof fasteners	Annex 80

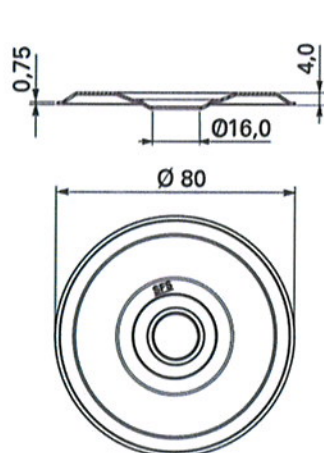
Combination 81A LBS-S-T25-8,0 / Sarnabar	Combination 81B BS-S-6,1 / FI-P-6,8
 Sarnabar LBS-S-T25-8,0 	FI-P-6,8  BS-S-6,1 
SFS intec flat roof fasteners	Annex 81

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

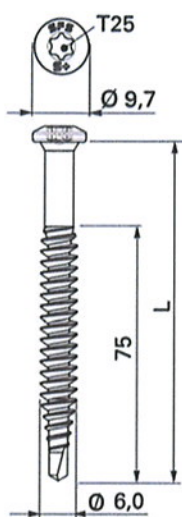
FI-R-20



FI-P-16,0

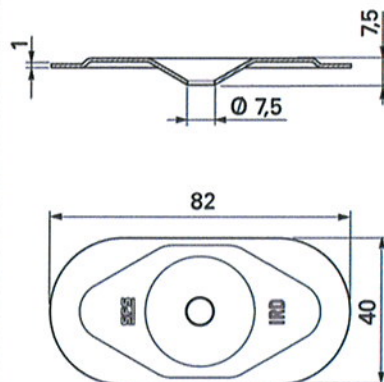


BS-S-6,1

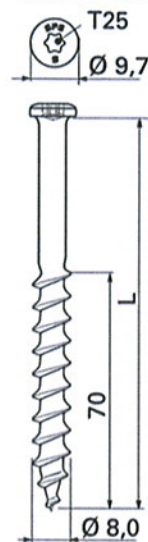


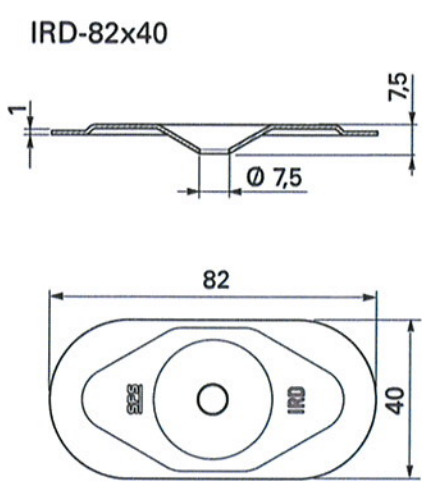
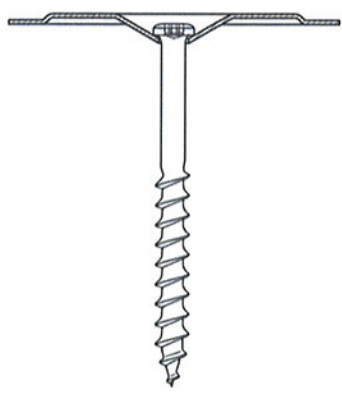
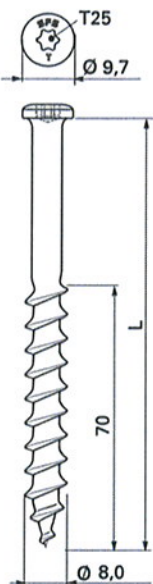
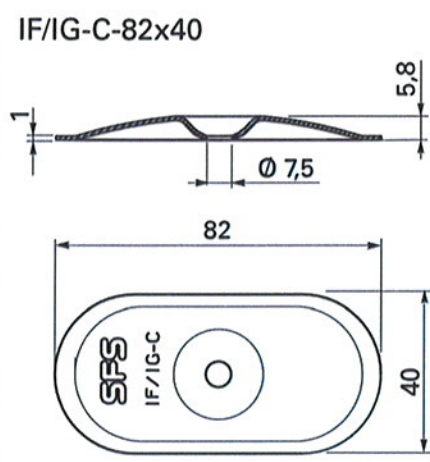
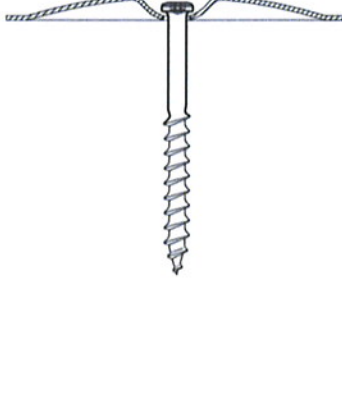
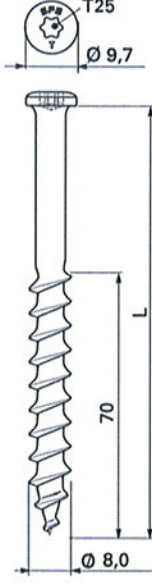
Combination 82B
LBS-S-T25-8,0 / IRD-82x40

IRD-82x40



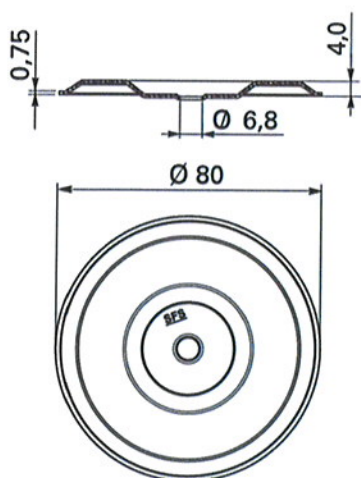
LBS-S-T25-8,0



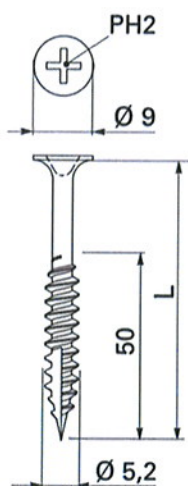
Combination 83A LBS-T25-8,0 / IRD-82x40	Combination 83B LBS-T25-8,0 / IF/IG-C-82x40
IRD-82x40  LBS-T25-8,0  	IF/IG-C-82x40  LBS-T25-8,0  
SFS intec flat roof fasteners	Annex 83

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

FI-P-6,8

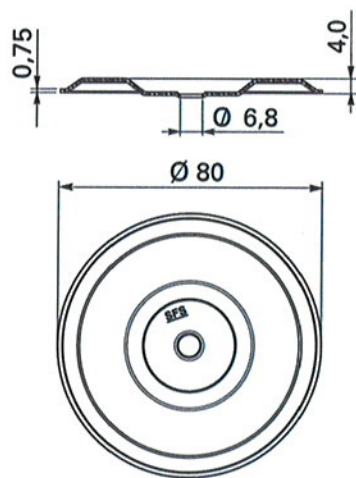


IWF-5,2

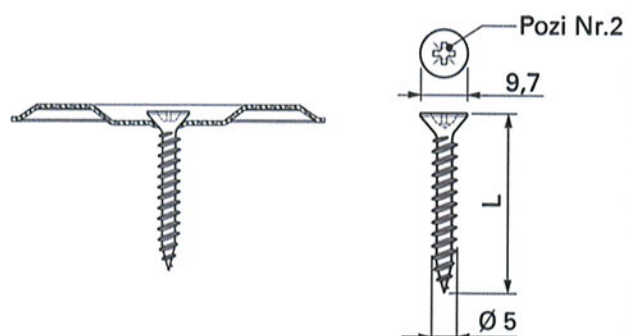


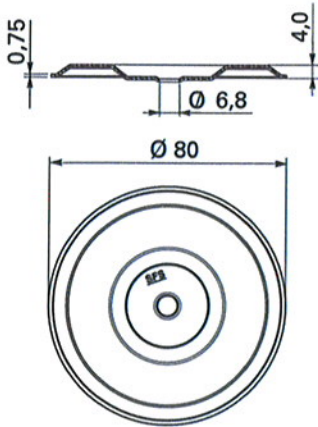
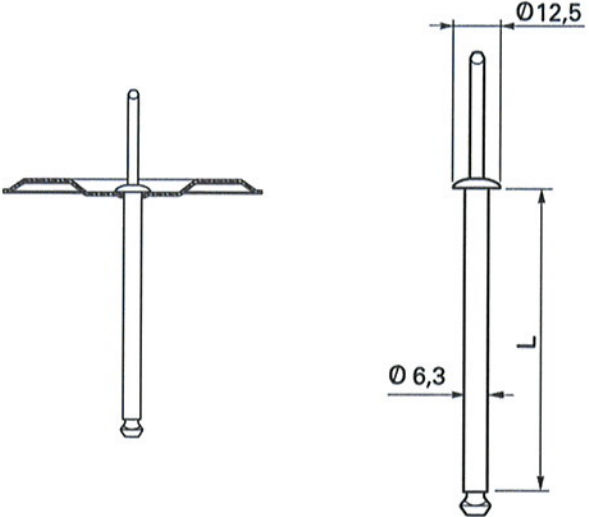
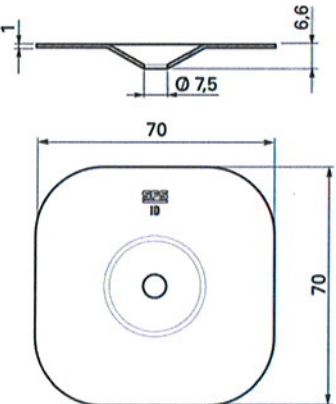
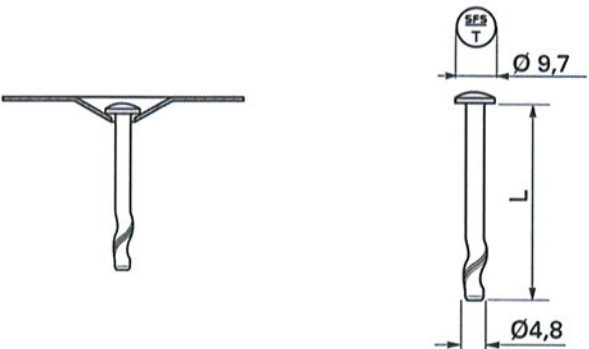
Combination 84B
IW-S-5,0 / FI-P-6,8

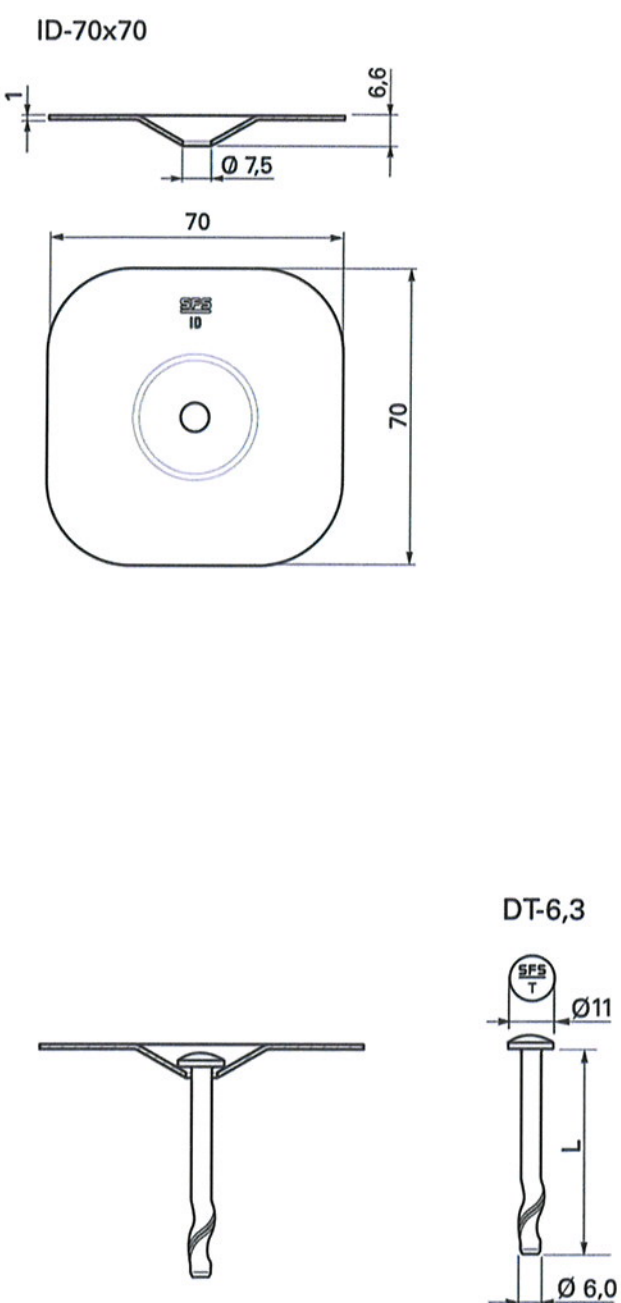
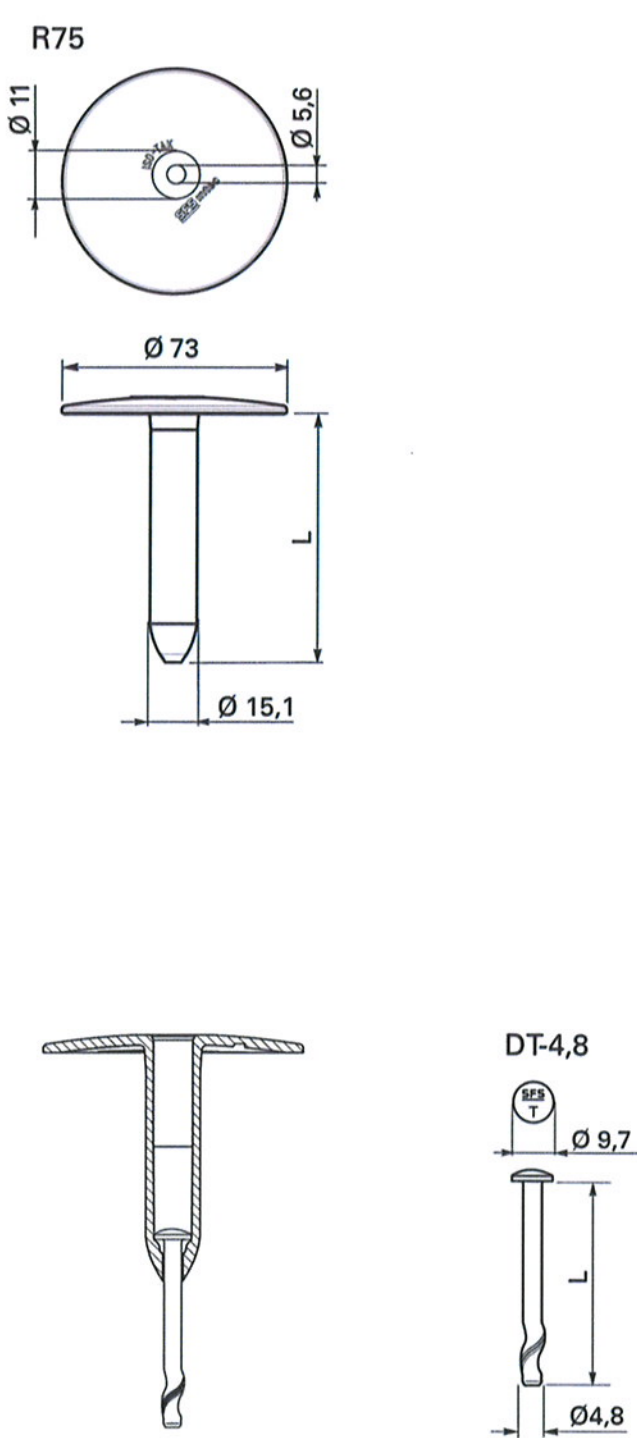
FI-P-6,8



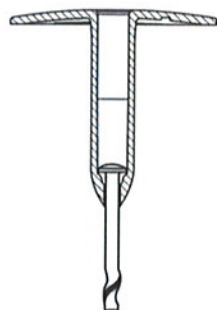
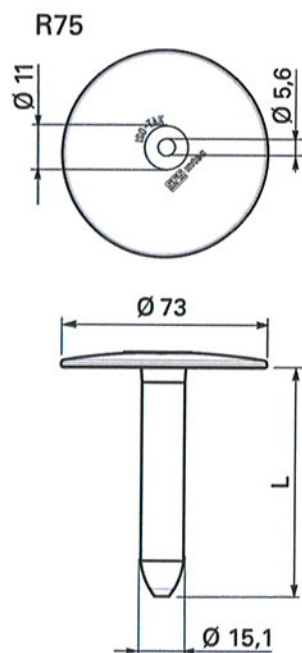
IW-S-5,0



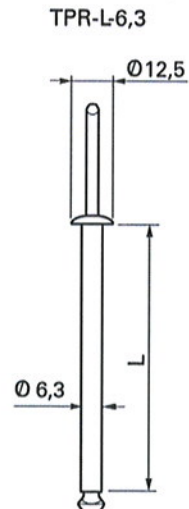
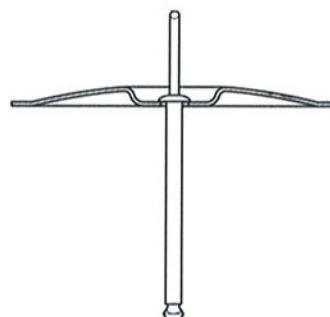
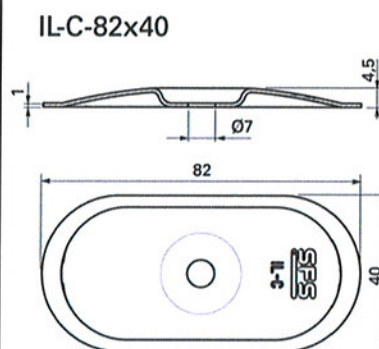
Combination 85A TPR-L-6,3 / FI-P-6,8	Combination 85B DT-4,8 / ID-70x70
FI-P-6,8  TPR-L-6,3 	ID-70x70  DT-4,8 
SFS intec flat roof fasteners	
Annex 85	

Combination 86A DT-6,3 / ID-70x70	Combination 86B DT-4,8 / R75
ID-70x70  DT-6,3	R75  DT-4,8
SFS intec flat roof fasteners	
Annex 86	

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

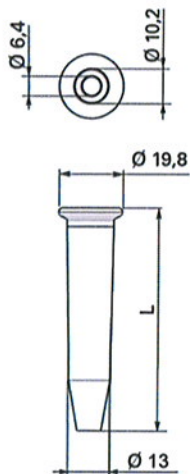


Combination 87B
TPR-L-6,3 / IL-C-82x40

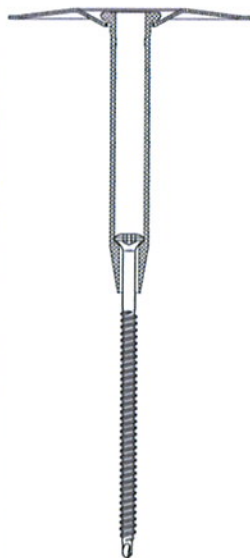
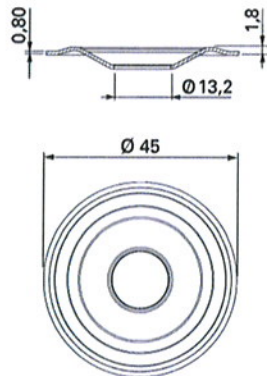


Combination 88A
BS-4,8 / IPF45 / FI-R-20

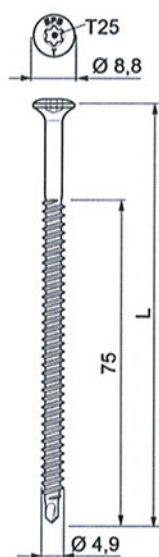
FI-R-20



IPF45

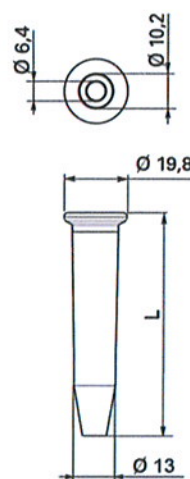


BS-4,8

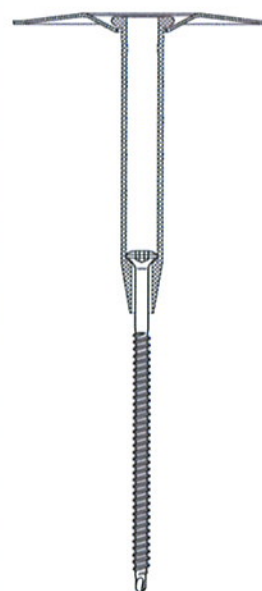
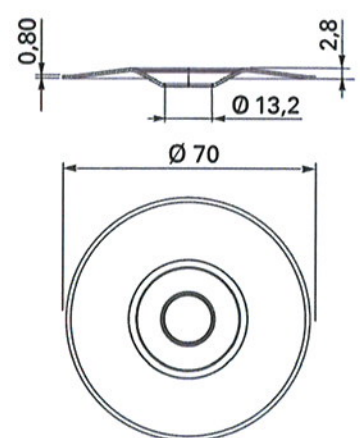


Combination 88B
BS-4,8 / IPF70 / FI-R-20

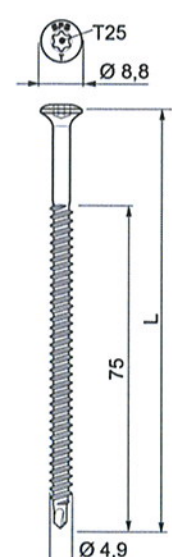
FI-R-20



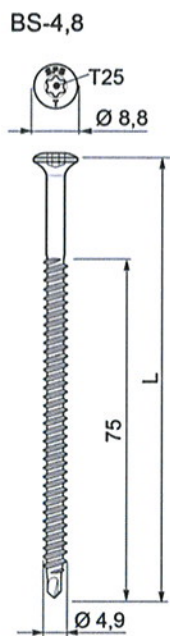
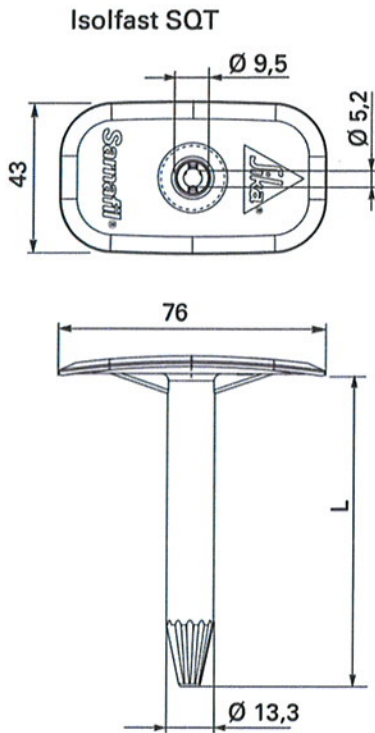
IPF70



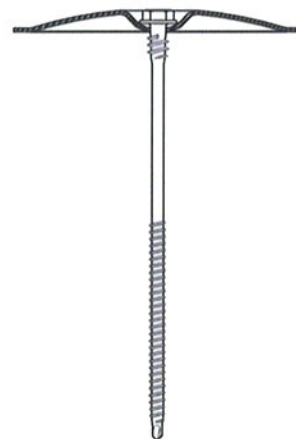
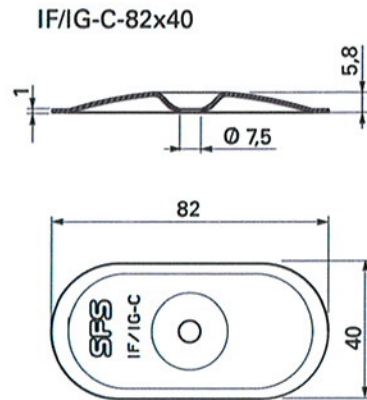
BS-4,8



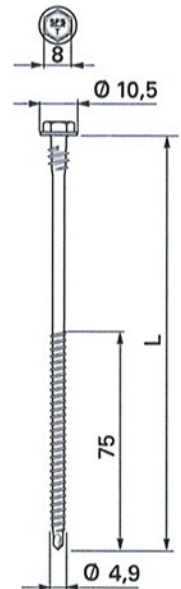
Combination 89A
BS-4,8 / Isolfast SQT

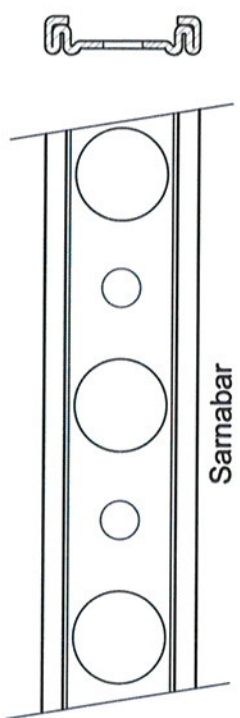
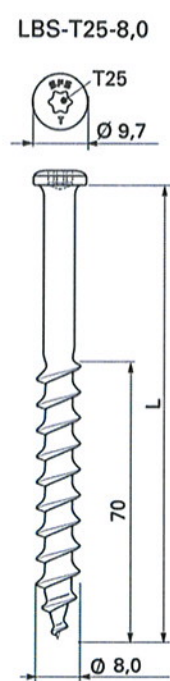
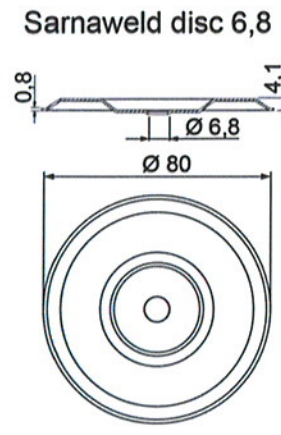
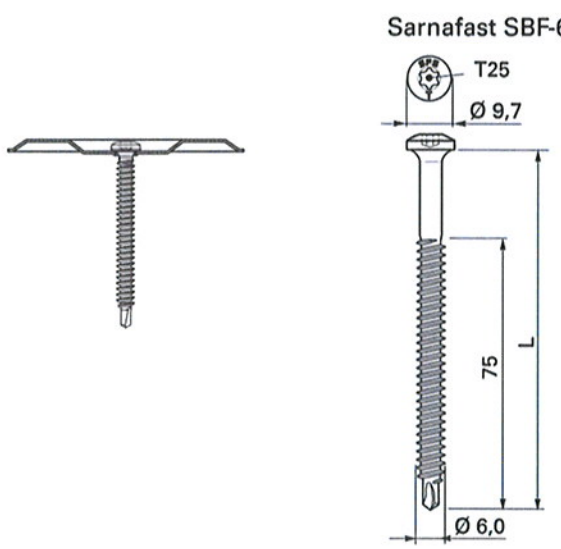


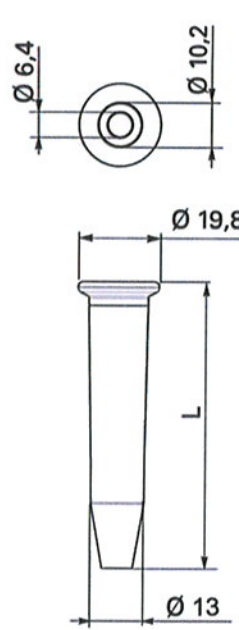
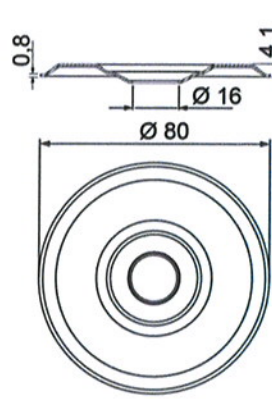
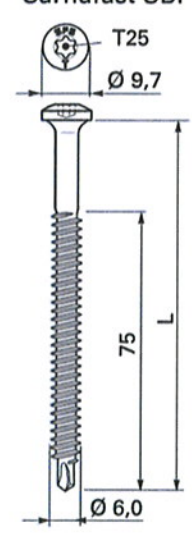
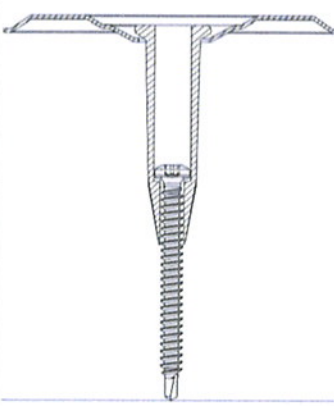
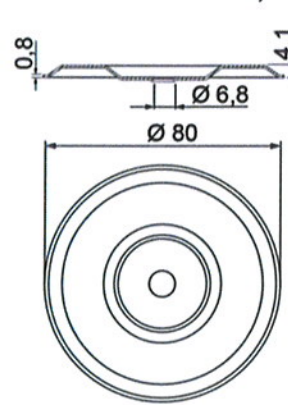
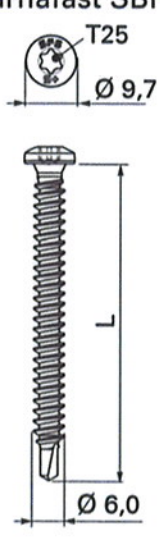
Combination 89B
Sarnafast SF-4,8 / IF/IG-C-82x40



Sarnafast SF-4,8



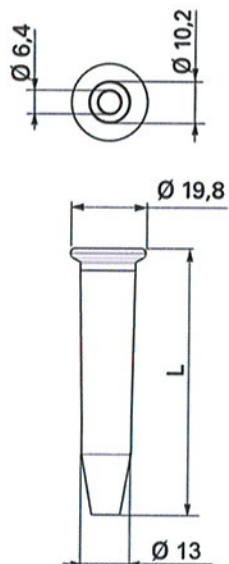
Combination 90A LBS-T25-8,0 / Sarnabar	Combination 90B Sarnafast SBF-6,0 / Sarnaweld disc 6,8
 Sarnabar LBS-T25-8,0  T25 Ø 9,7 70 Ø 8,0	Sarnaweld disc 6,8  0,8 4,1 Ø 6,8 Ø 80  Sarnafast SBF-6,0 T25 Ø 9,7 75 Ø 6,0
SFS intec flat roof fasteners	Annex 90

Combination 91A Sarnafast SBF-6,0 / Sarnaweld disc 16 / Sarnabar Tube SBT-20	Combination 91B Sarnafast SBF-S-6,0 / Sarnaweld disc 6,8
Sarnabar Tube SBT-20  Sarnaweld disc 16  Sarnafast SBF-6,0  	Sarnaweld disc 6,8  Sarnafast SBF-S-6,0  
SFS intec flat roof fasteners	Annex 91

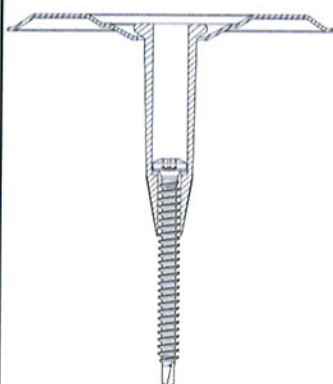
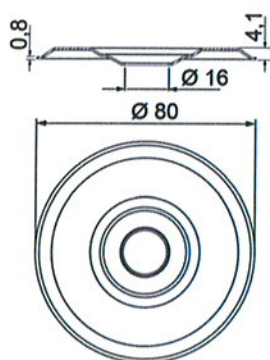
Combination 92A

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

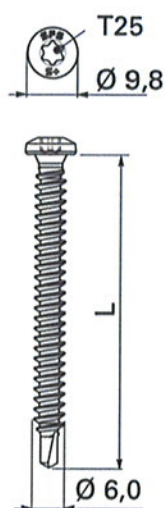
Sarnabar Tube SBT-20



Sarnaweld disc 16

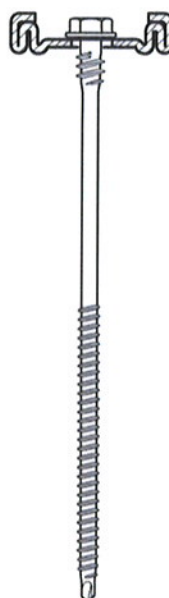
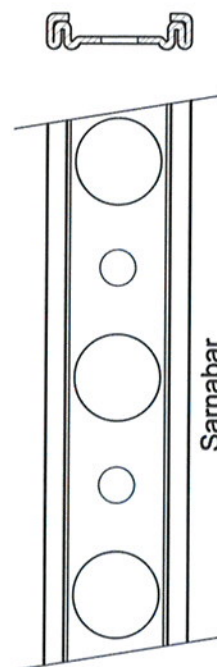


Sarnafast SBF-S-6,0

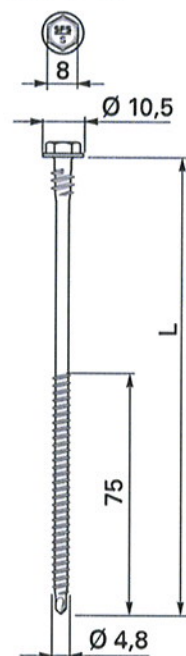


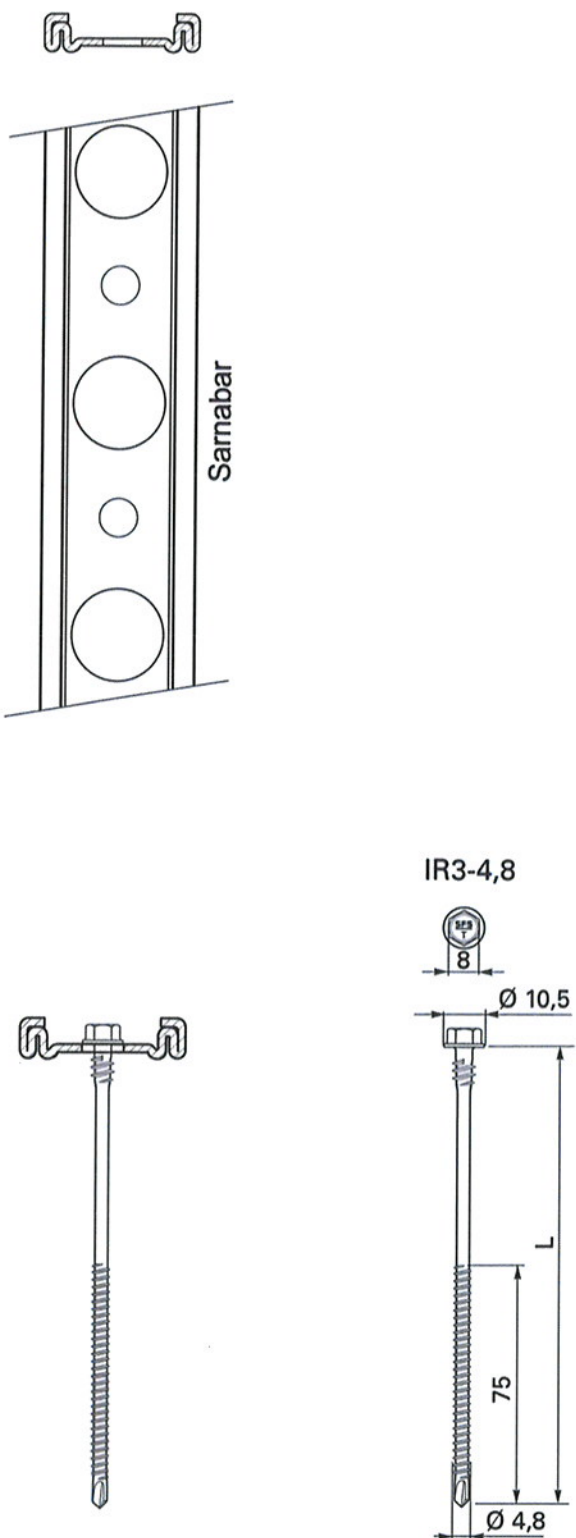
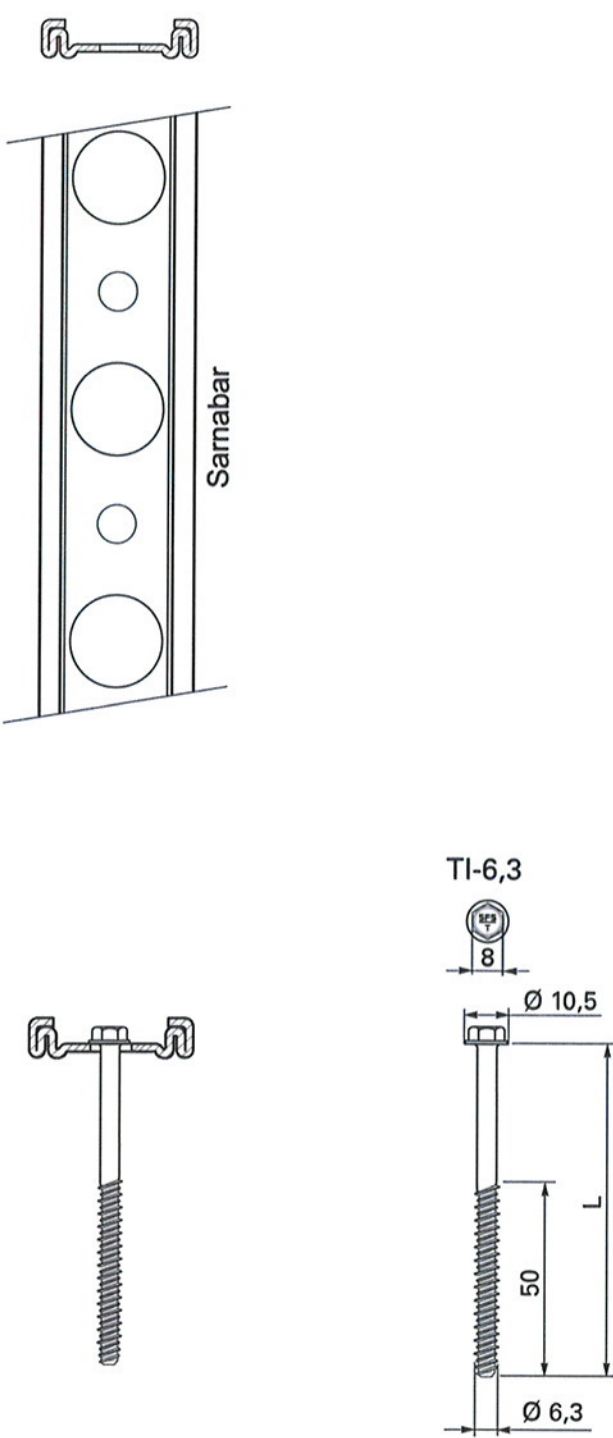
Combination 92B

IR2-S-4,8 / Sarnabar



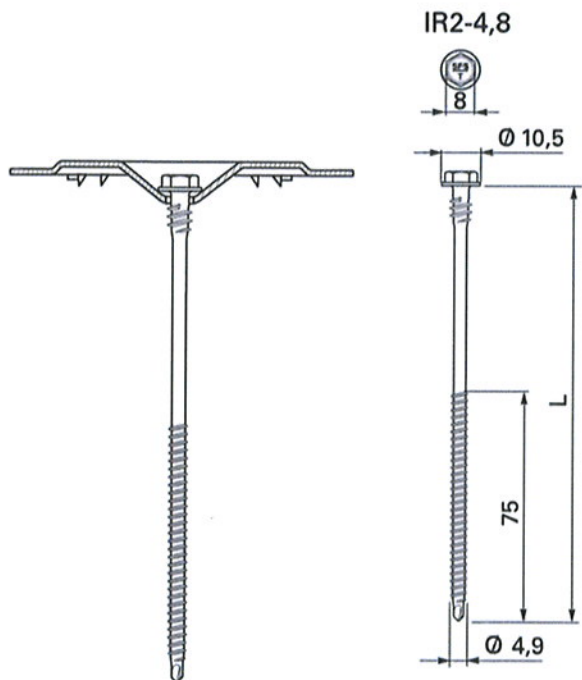
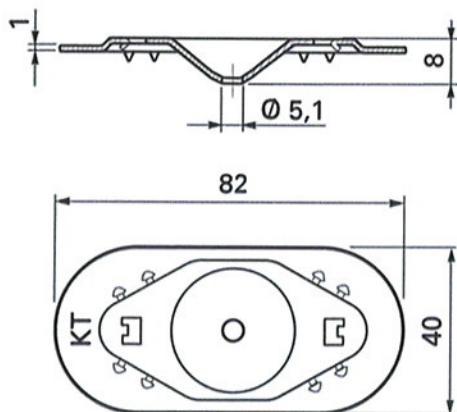
IR2-S-4,8



Combination 93A IR3-4,8 / Sarnabar	Combination 93B TI-6,3 / Sarnabar
 The drawing shows the Sarnabar profile and the IR3-4,8 fastener. The profile is a vertical section with four circular holes. The fastener is a long screw with a hexagonal head. Dimensions for the fastener are: head diameter 8, head width 10,5, total length L, threaded length 75, and shank diameter 4,8.	 The drawing shows the Sarnabar profile and the TI-6,3 fastener. The profile is a vertical section with four circular holes. The fastener is a long screw with a hexagonal head. Dimensions for the fastener are: head diameter 8, head width 10,5, total length L, threaded length 50, and shank diameter 6,3.
SFS intec flat roof fasteners	Annex 93

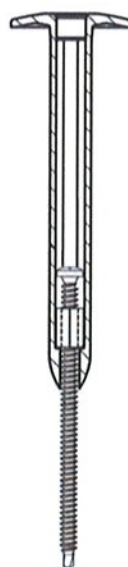
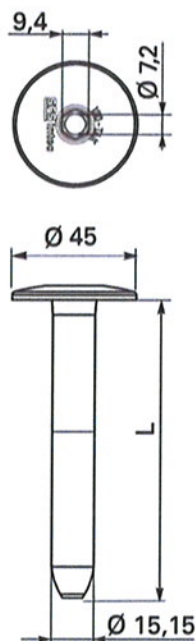
Combination 94A
IR2-4,8 / Sarnafast KT-82x40

Sarnafast KT-82x40

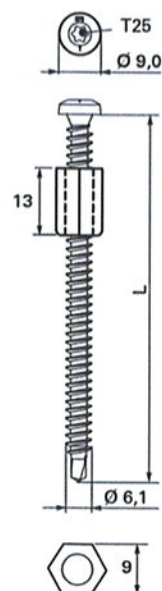


Combination 94B
BSF-N-6,1 / RH45

RH45



BSF-N-6,1



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

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

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

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

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

²⁾ predrill-diameter = 7,0 mm

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

²⁾ predrill-diameter = 7,0 mm

Combination	SFS intec flat roof fastener	Characteristic axial loading resistance N_{Rk} [kN] for metallic substructures													
		Steel sheets S320GD ¹⁾ EN 10346 $t \geq$ [mm]												Perforated Steel sheets S320GD EN 10346 $t \geq 0,75$ mm	Aluminium sheets $R_m \geq 195$ N/mm ² $t \geq 0,60$ mm
		Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	Steel sheets S350GD EN 10346 $t \geq$ [mm]	Steel sheets S420GD EN 10346 $t \geq$ [mm]	
45A	Sarnafast SBF-S-6,0	FI-P-6,8	-	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-
46A	BS-4,8	FI-P-16,0 / FI-R-20	-	-	1,09	1,34	1,52	1,67	1,91	2,21	2,21	-	1,44	2,21	1,74
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	1,92
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	1,92
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	-
56B	Sarnafast SBF-S-6,0	Isolfix SRT	-	1,21	1,42	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	2,56	-	1,58	2,19	1,92
58A	Sarnafast SBF-6,0	Sarnafast DTL-70x70	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	2,56	-	1,58	2,19	1,92
58B	Sarnafast SBF-6,0	IF/G-C-82x40	-	1,17	1,38	1,53	1,63	1,80	2,04	2,68	2,68	-	1,58	2,19	1,92

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

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

Combination	SFS intec flat roof fastener		Characteristic axial loading resistance $N_{R,k}$ [kN] for metallic substructures															
			Steel sheets															
			S320GD ¹⁾ EN 10346															
			$t \geq$ [mm]															
Fastener	Stress Plate / Sleeve / Bar	0,50	0,63	0,70	0,75	0,80	0,88	1,00	1,25	1,50	Steel sheets S350GD EN 10346 $t \geq$ [mm]	Steel sheets S420GD EN 10346 $t \geq$ [mm]	Perforated Steel sheets S320GD EN 10346 $t \geq 0,75$ mm	Aluminium sheets $R_m \geq 195$ N/mm ² $t \geq 0,60$ mm				
59A	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-			
59B	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-			
60A	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,39	-	-	-	-	-	-	-			
60B	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,66	1,66	1,66	-	-	-	-	-	-	-			
61A	Sarnafast SBF-S-6,0	-	1,21	1,47	1,66	1,81	2,04	2,10	-	-	-	-	-	-	-			
61B	Sarnafast SBF-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	-	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	0,99 ³⁾	-	-	-	-	-	-	-	-	-	-	-	-	0,69 ³⁾			
65B	BS-4,8	-	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	-	0,87	1,09	1,24	1,38	1,45	1,45	-	-	-	-	-	-	-			
66B	BS-4,8	-	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	-	-	-	-	-	-	-	-	-	-	-	-	0,87 ²⁾	-			
67B	BS-S-6,7	-	-	-	-	-	-	-	-	-	-	-	-	0,87 ²⁾	-			
70A	Sarnafast SBF-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	-	-	-	-	-	-	1,16	1,16	1,16	-	-	-	-	-			
71A	BS-4,8	-	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	-	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	-	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	-	1,17	1,38	1,53	1,63	1,80	2,04	2,56	-	1,58	2,19	1,57	1,92	-			
75A	Sarnafast SF-4,8	-	1,09	1,34	1,52	1,67	1,91	2,27	3,15	-	1,44	2,27	1,39	1,74	-			

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

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

³⁾ predrill-diameter = 7,0 mm

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

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

³⁾ predrill-diameter = 7,0 mm

SFS intec flat roof fasteners

Annex 98

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

¹⁾ for steel sheets S280GD the values have to be reduced to 92%
²⁾ predrill-diameter = 7,0 mm

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

²⁾ predrill-diameter = 7,0 mm

SFS intec flat roof fasteners

Annex 99

Combination		SFS intec flat roof fastener		Characteristic axial loading resistance N_{Rk} [kN] for non-metallic substructures												
				Timber			Concrete EN 206-1			Aerated Concrete DIN 4223-1			Pumice Panel EN 1520			
				OSB3 EN 300 $t \geq 18$ mm ¹⁾	Structural Timber EN 338 / C24 $t \geq 22$ mm ²⁾	Plywood EN 636 $t \geq 18$ mm ³⁾	C12/15	C25/30	setting depth z [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth z [mm]	LAC 6, D 1,0	setting depth z [mm]	pre-drill diameter [mm]
Fastener	Stress Plate / Sleeve / Bar															
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/NW-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⁾ effective setting depth (penetration length of threaded part) ≥ 18 mm

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

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

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

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

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

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

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

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

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

⁴⁾ pre-drill diameter = 15 mm

Characteristic axial loading resistance N_{Rk} [kN] for non-metallic substructures																	
Combination	SFS intec flat roof fastener		Timber					Concrete EN 206-1				Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Structural Timber EN 338 / C24 t ≥ 22 mm ²⁾	Plywood EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	setting depth ≥ [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth ≥ [mm]	LAC 6, D 1,0	setting depth ≥ [mm]	pre-drill diameter [mm]		
	Fastener	Stress Plate / Sleeve / Bar															
25A	TI-6,3	IF/G-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	-	-	-	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-
									2,73	3,79	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	-	-	-	-	-
28B	BS-4,8	Sarnafast Tube SFT-50	1,45	1,32	1,66	1,66	1,66	1,66	-	-	-	-	-	-	-	-	-
29A	BS-4,8	Sarnafast Tube SBT-20 / Sarnabar	1,45	1,32	2,09	2,09	2,09	2,09	-	-	-	-	-	-	-	-	-
29B	BS-S-4,8	Sarnafast Tube SFT-50	1,28	1,66	1,66	1,66	1,66	1,66	-	-	-	-	-	-	-	-	-
30A	BS-S-4,8	Sarnafast Tube SBT-20 / Sarnabar	1,28	1,74	1,96	1,96	1,96	1,96	-	-	-	-	-	-	-	-	-
30B	Sarnafast SF-4,8	Sarnafast KT-82x40	1,45	1,32	2,18	2,18	2,18	2,18	-	-	-	-	-	-	-	-	-
31A	Sarnafast SF-4,8	Sarnafast DT-70x70	1,45	1,32	2,18	2,18	2,18	2,18	-	-	-	-	-	-	-	-	-
31B	Sarnafast SBF-6,0	Sarnafast Tube SFT-50	1,32	1,66	1,66	1,66	1,66	1,66	0,72	1,45	32	5,0	0,35	0,58	75	-	-

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

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

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

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

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

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

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

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

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

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

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

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

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

Characteristic axial loading resistance N_{Rk} [kN] for non-metallic substructures													
Combination		SFS intec flat roof fastener		Timber			Concrete EN 206-1				Aerated Concrete DIN 4223-1		
				OSB3 EN 300 t ≥ 18 mm ¹⁾	Structural Timber EN 338 / C24 t ≥ 22 mm ²⁾	Plywood EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	setting depth z [mm]	pre-drill diameter [mm]	P 3.3	P 4.4	setting depth z [mm]
40A	TI-T25-6,3	FI-P-6,8	FI-P-6,8	-	-	-	1,83	1,83	20	5,0	-	-	-
40B	BS-6,1	FI-P-6,8	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	FI-P-6,8	-	-	-	2,40	2,83	25	4,8	-	-	-
41B	DT-S-4,8	FI-P-6,8	FI-P-6,8	-	-	-	2,65	2,83	25	4,8	-	-	-
42A	DT-6,3	FI-P-6,8	FI-P-6,8	-	-	-	2,93	3,82	32	6,3	-	-	-
42B	DT-S-6,3	FI-P-6,8	FI-P-6,8	-	-	-	2,23	3,10	32	6,3	-	-	-
43A	LBS-T25-8,0	FI-P-6,8	FI-P-6,8	-	-	-	-	-	-	-	0,93	1,44	60
43B	LBS-S-T25-8,0	FI-P-6,8	FI-P-6,8	-	-	-	-	-	-	-	0,93	1,44	60
44A	TS-T25-6,0	FI-P-6,8	FI-P-6,8	1,31	1,43	2,30	0,44	0,89	32	5,0	1,07	1,78	75
44B	Sarnafast S8F-6,0	FI-P-6,8	FI-P-6,8	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75
45A	Sarnafast S8F-S-6,0	FI-P-6,8	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	FI-P-6,8	-	-	-	-	-	-	-	-	-	50
46A	BS-4,8	FI-P-16,0 / FI-R-20	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	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	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	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	FI-P-16,0 / FI-R-20	-	-	-	2,17	2,17	25	4,8	-	-	-

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Characteristic axial loading resistance $N_{R,k}$ [kN] for non-metallic substructures														
Combination	SFS intec flat roof fastener		Timber			Concrete EN 206-1			Aerated Concrete DIN 4223-1			Pumice Panel EN 1520		
			OSB3 EN 300 t ≥ 18 mm ¹⁾	Structural Timber EN 338 / C24 t ≥ 22 mm ²⁾	Plywood EN 636 t ≥ 18 mm ³⁾	C12/15	C25/30	setting depth z [mm]	pre-drill diameter [mm]	P 3.3	setting depth z [mm]	LAC 6, D 1.0 [mm]	setting depth z [mm]	pre-drill diameter [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	-	-
						3,07	3,34	50	-	-	-	-	-	
74A	TI-T25-6,3	IRD-82x40	-	-	-	1,83	1,83	20	5,0	-	-	-	-	-
						2,56	2,56	30	-	-	-	-	-	-
74B	IWF-5,2	IR-82x40	1,35	1,94	2,20	-	-	-	-	-	-	-	-	-
75A	Sarnafast SF-4,8	Sarnabar	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-
75B	Sarnafast SBF-6,0-	Sarnabar	1,32	2,16	2,11	0,72	1,45	32	5,0	0,35	0,58	75	-	-
76A	Sarnafast SBF-S- 6,0-	Sarnabar	1,25	2,02	2,22	0,42	0,84	32	5,0	0,82	1,37	75	-	-
76B	IR2-4,8	Sarnabar	1,45	1,32	2,18	-	-	-	-	-	-	-	-	-
77A	DT-4,8	Sarnabar	-	-	-	2,40	3,34	25	4,8	-	-	-	-	-
77B	DT-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	2,10	2,10	25	4,8	-	-	-	-	-
78A	DT-S-4,8	Sarnabar	-	-	-	2,65	3,69	25	4,8	-	-	-	-	-
78B	DT-S-4,8	Sarnabar Tube SBT-20 / Sarnabar	-	-	-	2,10	2,10	25	4,8	-	-	-	-	-
79A	DT-6,3	Sarnabar	-	-	-	2,93	4,07	32	6,3	-	-	-	-	-
79B	DT-S-6,3	Sarnabar	-	-	-	2,23	3,10	32	6,3	-	-	-	-	-
80A	IW-S-5,0	Sarnabar	1,08	1,12	2,04	-	-	-	-	-	-	-	-	-
80B	IW-T-5,0	Sarnabar	1,08	1,12	2,12	-	-	-	-	-	-	-	-	-
81A	LBS-S-T25-8,0	Sarnabar	-	-	-	-	-	-	-	0,93	1,43	60	-	-

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

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

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

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

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

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

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

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

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

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

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

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

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

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