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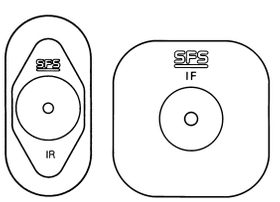
Roof deck fastening

Waterproof membranes and insulation fastening to steel decks



To steel decks

To concrete

To concrete

To lightweight concrete

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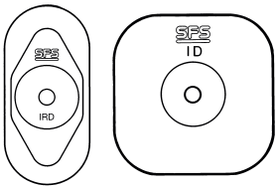
To timber



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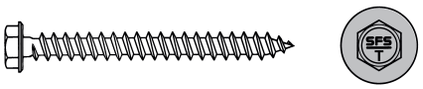

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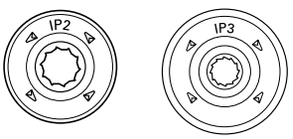
To woodwool



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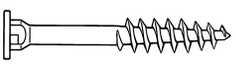
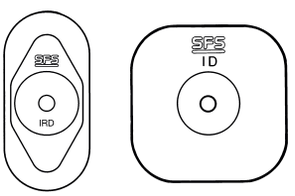
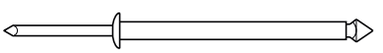


To "problem" decks



Peel Rivet TPR Page 9.5



Materials:

= stainless steel

= corrosion protected carbon steel

Stress plates = aluzinc coated steel

Installation tools

Automatic tool IF 240 Page 10.4

IF 80-L, IF 80-S
for assembled fasteners Page 10.5

Screw driver DI 600 Page 10.6

CF 400 Page 10.7
for magazinised deck fasteners

DI 412 Page 10.8
Battery screwdriver

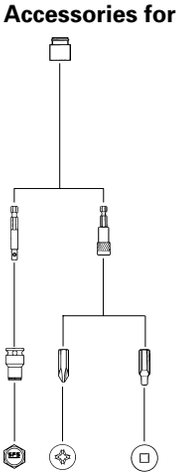
CF 40-G Page 10.9
for IGR fasteners

Automatic setting tool Page 10.10
IF 160-G

Electro-pneumatic Page 10.11
hammer drill DB 620

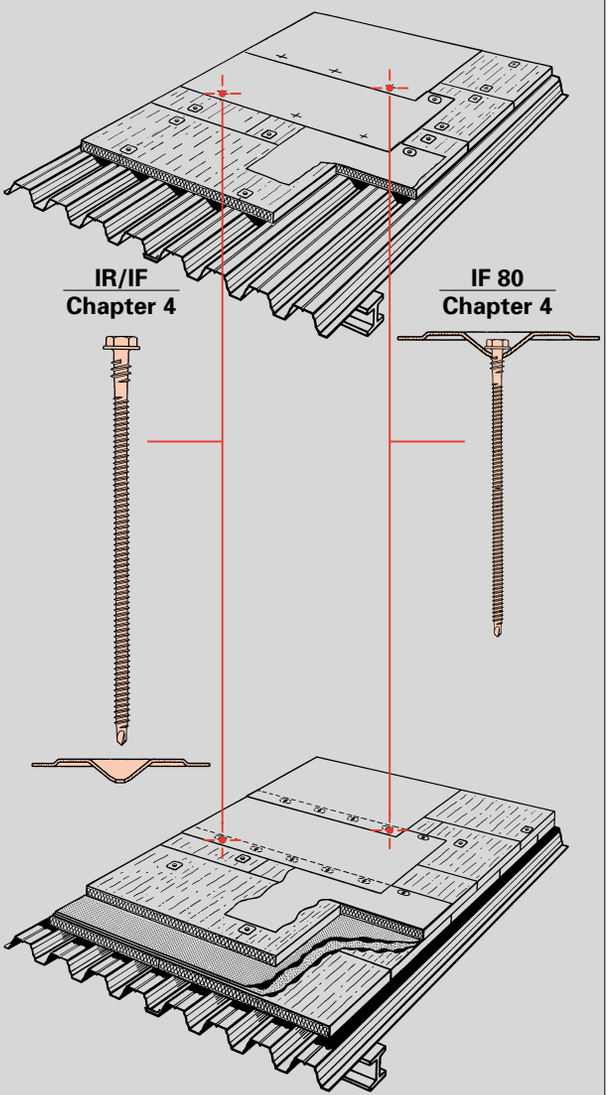
Rivetting tool TPR 50
Page 10.12

Accessories for DI 600 Page 10.13

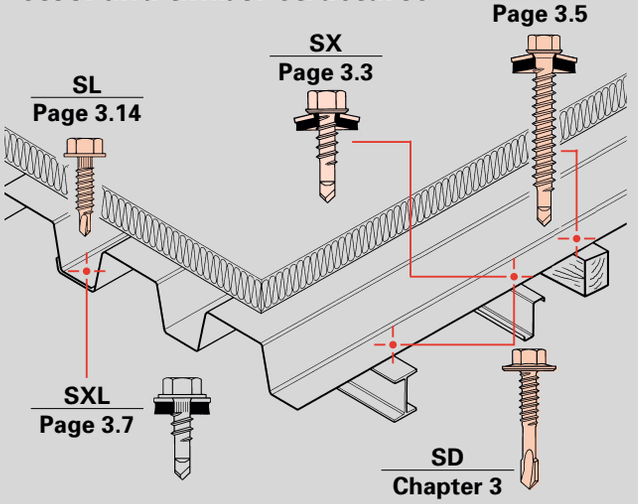


Application index

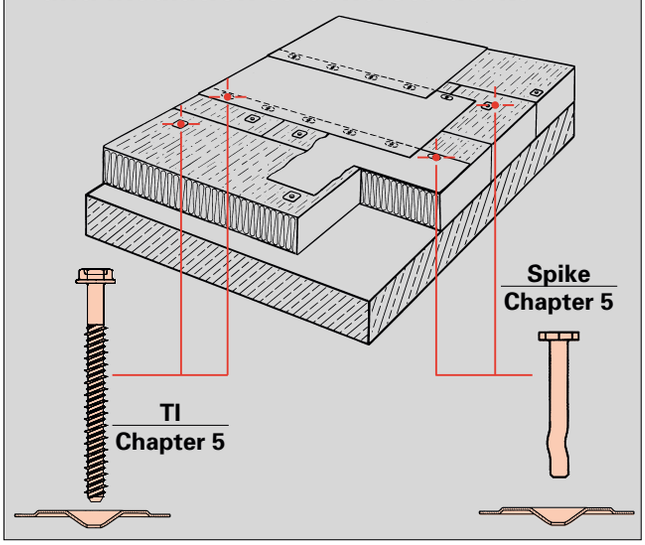
Fastening of waterproof membranes and insulation to steel decks



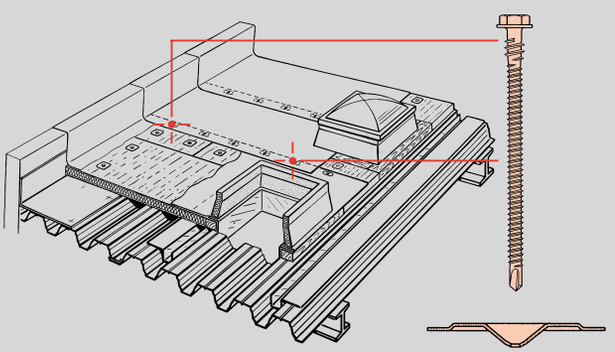
Fastening steel decks to steel and timber structures



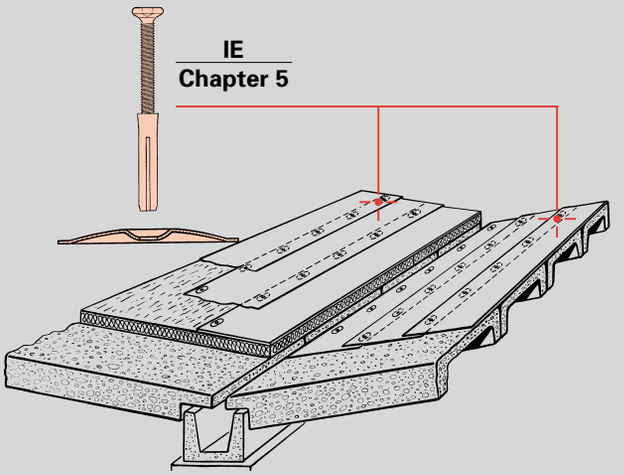
Fastening of waterproof membranes and insulation to concrete decks



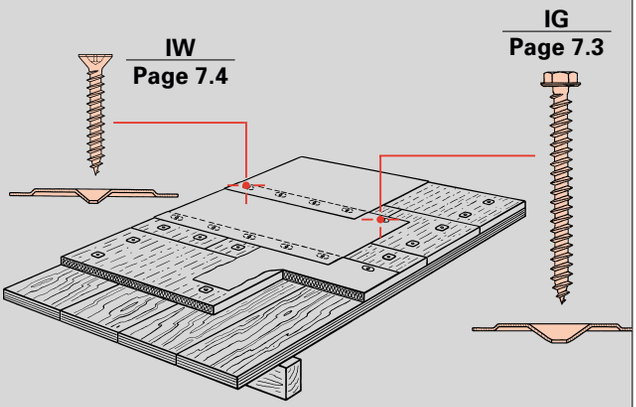
Fastening of waterproof membranes and insulation to steel closures and flashings



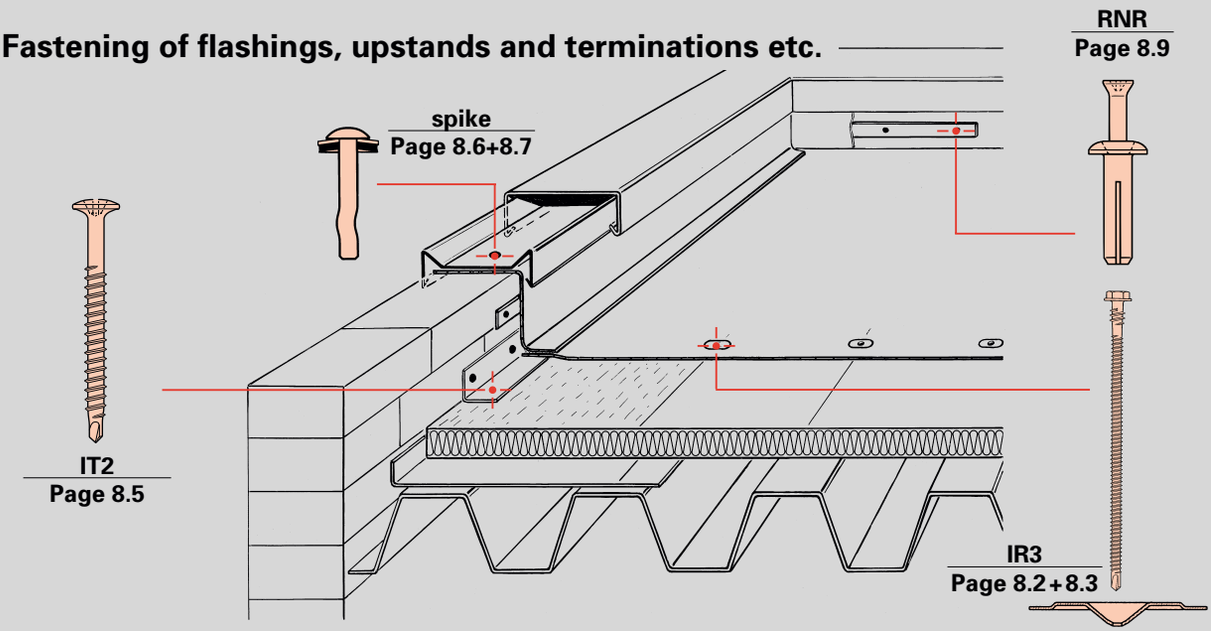
Fastening of waterproof membranes and insulation to thin concrete roof liner trays



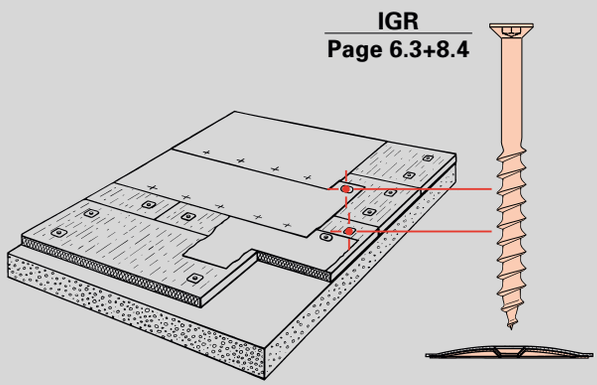
Fastening of waterproof membranes and insulation to timber decks



Fastening of flashings, upstands and terminations etc.



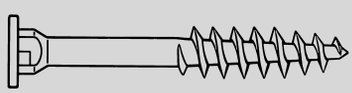
Fastening of waterproof membranes and insulation to lightweight concrete decks



Special fasteners

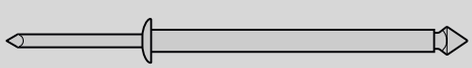
IP
for fastening of waterproof membranes and insulation to woodwool decks

Page 9.3

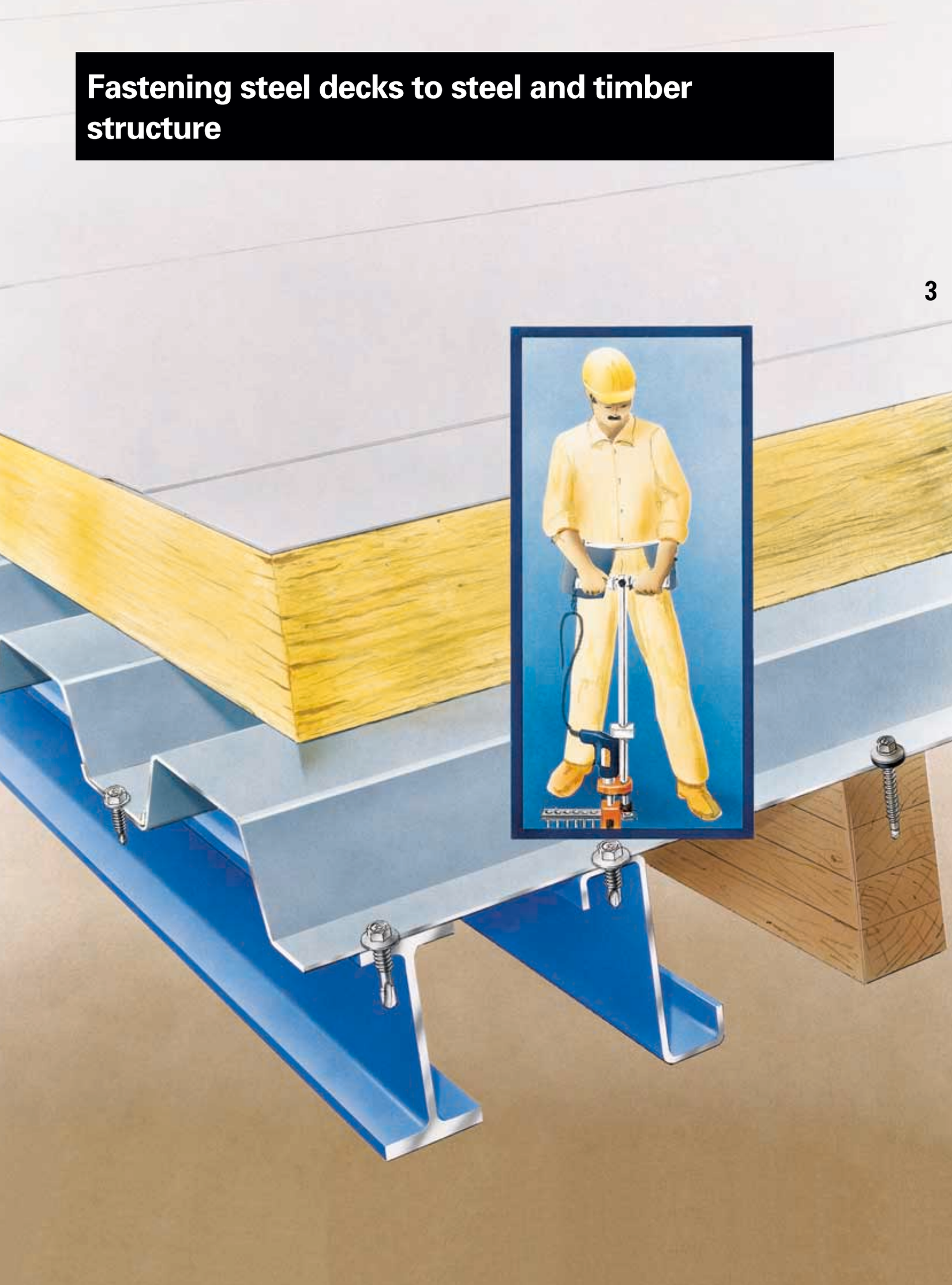


TPR
Peel Rivet for fastening of waterproof membranes and insulation to aluminium, woodwool and "problem" decks

Page 9.5



Fastening steel decks to steel and timber structure



Austenitic stainless steel self drilling fasteners for fastening steel deck to steel structure

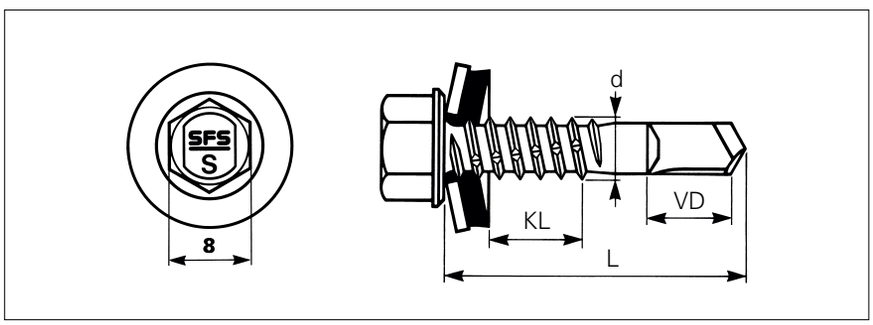
Technical information

SX

Material:

Fastener:	Austentic stainless steel, grade 304 (grade 1.4301 according to European Standard 10088) or grade 316 (grade 1.4401 according to European Standard 10088)*
Washer:	S = Stainless steel, grade 304 or 316 with vulcanised EPDM
Drill point:	Case hardened, carbon steel

Application:
Stainless steel fastening of steel/aluminium decks to steel structures in one operation: drilling, thread forming and sealing.
– whene the internal environment/atmosphere has a permanently high relative humidity of 70% or more.
– in chemical aggressive atmospheres or conditions
– where an extended design live warranty is required by the client
– in aggressive tropical climates



Installation tools:
CF 400 Automatic setting tool for magazined hexagon head fasteners (Page 10.7).

DI 600
The thinner the purlin or substrate the greater is the chance of the fastener stripping it's thread during installation. Purpose designed screwdriver and depth locators are available (Page 10.6).

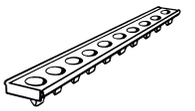
***Special programme:**
Available on request in SX3 and SX6 fastener types only.

Austenitic stainless steel self drilling fasteners for fastening steel deck to steel structure

Product/Order code

Type	Max.drilling capacity **VD** (mm)	Washer: Material, Diameter	Diameter **d** (mm)	Length **L** (mm)	Total thickness **KL** (mm)
SX	**6–**	**S16**	**5,5×**	**...**	

Additional information

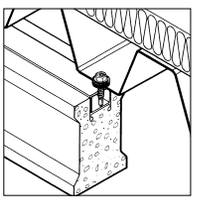


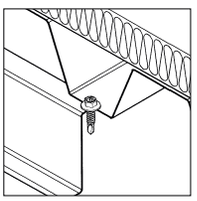
Magazinised screws (Page 10.7)

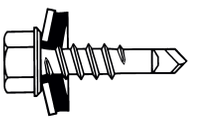
Installation tool Chapter 10

CF 400 or DI 600

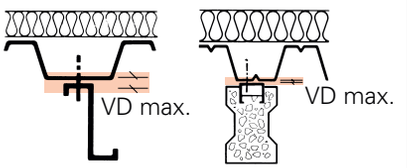
Application



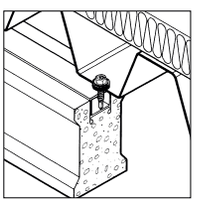


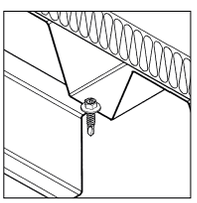


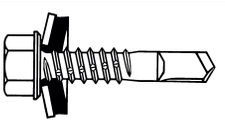
SX3/4–S16–5,5× | **22** | 8



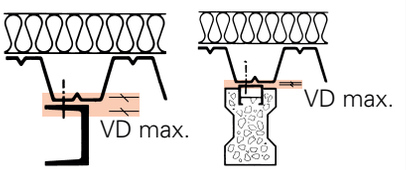
VD max.: 3,0 mm
t min.: 1,2 mm



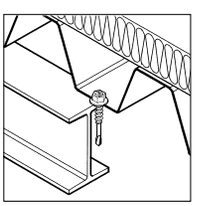


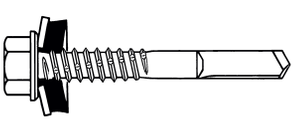


SX6/6–S16–5,5× | **26** | 9

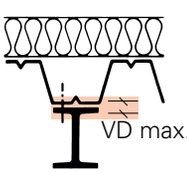


VD max.: 6,0 mm
t min.: 2,0 mm





SX12/12–S16–5,5× | **40** | 12



VD max.: 12,0 mm
t min.: 3,0 mm

Austenitic stainless steel self drilling fasteners for fastening steel deck to timber structure

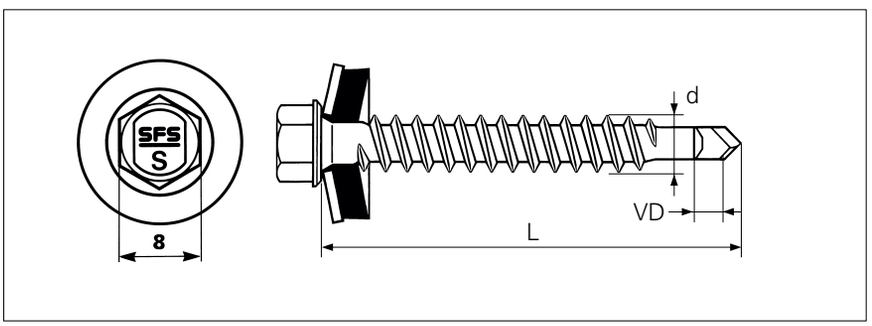
Technical information

SXW

Material:

Fastener:	SXW: Austenitic stainless steel, grade 304 (grade 1.4301 according to European Standard 10088)
Washer:	S = Stainless steel, grade 304 with vulcanised EPDM
Drill point:	Case hardened, carbon steel

Application:
Stainless steel fastening of steel or aluminium decks to timber structure.

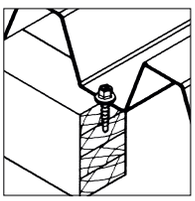


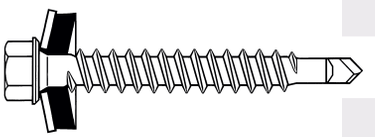
Austenitic stainless steel self drilling fasteners for fastening steel deck to timber structure

Product/Order code

Type	Washer: Material, Diameter	Thread diameter **d** (mm)	Overall Length **L** (mm)
SXW–	**S16*–**	**6,5×**	**50**

*Alternative washer:
Ø S19



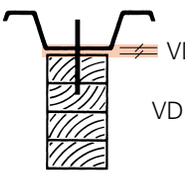


SXW–S16*–6,5× **50**

System and tool information

Setting tools and accessories Chapter 10

DI 600



VD

VD: 1 x 0,5 mm
to
2 x 1,0 mm

Austenitic stainless steel self drilling fasteners for the side lap stitching of steel decks

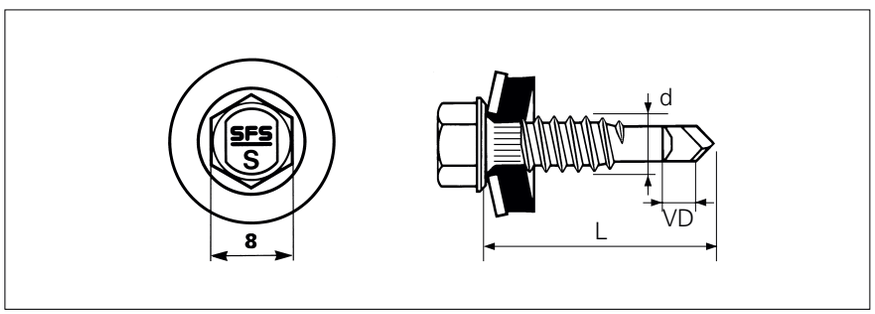
Technical information

SXL / SL-S

Material:

Fastener:	SXL and SL-S: Austenitic stainless steel, grade 304 (grade 1.4301 according to European Standard 10088) or grade 316 (grade 1.4401 according to European Standard 10088)*
Washer:	S = Stainless steel, grade 304 or 316 with vulcanised EPDM
Drill point:	Case hardened, carbon steel

Application:
Stainless steel fastening of side laps. The thread-free zone under the fastener head prevents stripping of the threads in the sheets. The sheets are pulled together tightly, clamped in the thread-free zone and sealed.



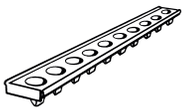
***Special programme:**
Available on request.

Austenitic stainless steel self drilling fasteners for the side lap stitching of steel decks

Product/Order code

Type	Max. drilling capacity **VD** (mm)	Material S = Stainless steel	Washer: Material, Diameter	Diameter **d** (mm)	Length **L** (mm)
SL	**2–**	**S–**	**S14–**	**4,8×**	**...**

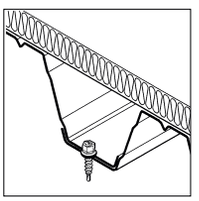
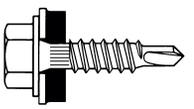
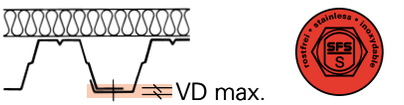
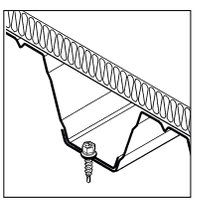
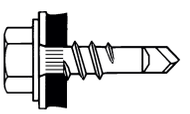
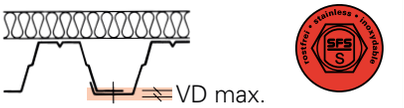
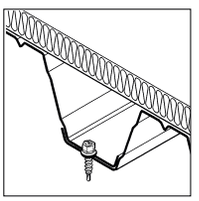
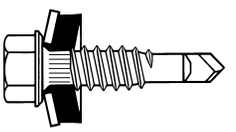
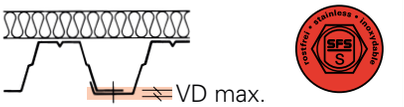
Additional information



Magazinised screws (Page 10.7)

Installation tool Chapter 10

CF 400 or DI 600

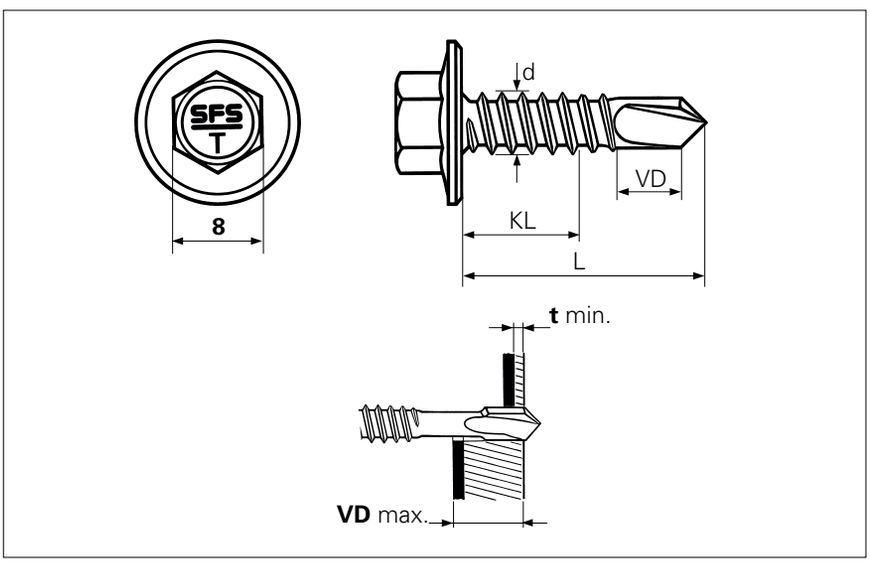
		Application	Industry Standards
	 **SL2–S–S14–4,8×**	**20**	 VD max. VD max.: 2 x 0,63 mm to 2 x 1,00 mm Sealed Fool proof	FM APPROVED
	 **SXL2–S14–5,5×**	**22**	 VD max. VD max.: 2 x 0,4 mm to 2 x 1,0 mm Sealed	FM APPROVED
	 **SXL2–S16–6,3×**	**25**	 VD max. Sealed Aluminium or steel deck	

Technical information

SD–H15

Material:
Hardened carbon steel, corrosion protected

Application:
For fastening steel decks to steel structures. The special 15 mm dia. integral flanged hexagon head provides an increased load bearing area over the metal deck, resulting in higher resistance to pull-over.



Suitable Installation Tools:
CF 400 Automatic installation tool for use with magazinised screws. (Page 10.7)

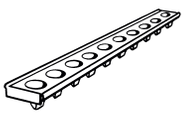
DI 600
Special lightweight screwdriver. (Page 10.6)

Self drilling fasteners for fastening steel deck to steel structure

Product/Order code

Type	Max.drilling capacity **VD** (mm)	with flanged head	Diameter **d** (mm)	Length **L** (mm)	Total thickness **KL** (mm)
SD	**5–**	**H15**	**5,5×**	**...**	

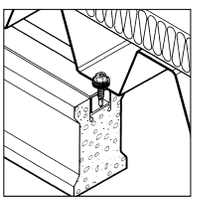
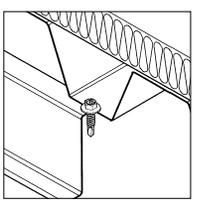
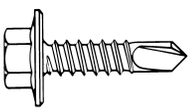
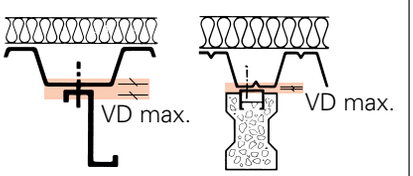
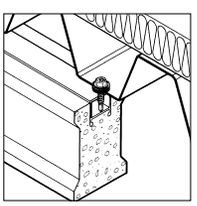
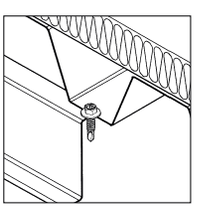
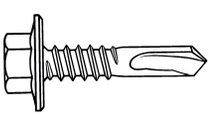
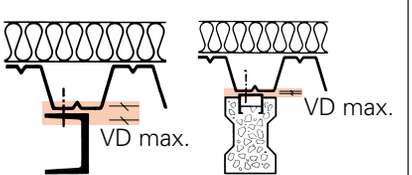
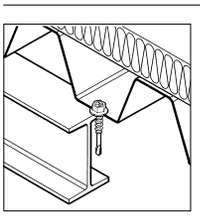
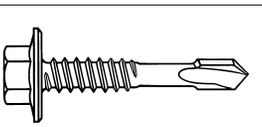
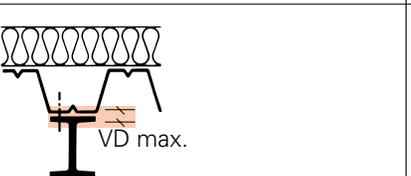
Additional information



Magazinised screws (Page 10.7)

Installation tool Chapter 10

CF 400 or DI 600

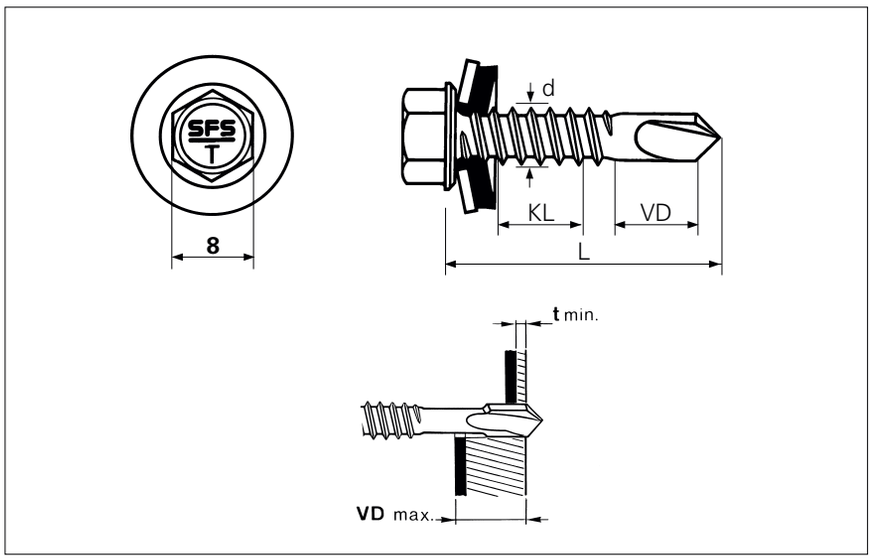
			Application	Industry Standards
 	 **SD5–H15–5,5×**	**22**	8	 VD max.: 5,0 mm t min.: 1,5 mm 	FM APPROVED Conforms to DTU 43.3 (France)
 	 **SD8–H15–5,5×**	**25**	9	 VD max.: 8,0 mm t min.: 1,5 mm 	Conforms to DTU 43.3 (France)
	 **SD12–H15–5,5×**	**32**	12	 VD max.: 12,0 mm t min.: 3,0 mm 	FM APPROVED Conforms to DTU 43.3 (France)

Technical information

SD–T15

Material:
Hardened carbon steel, corrosion protected

Application:
For fastening steel decks to steel structures. The 15 mm dia. pre-assembled sealing washer provides air/vapour sealing and increased resistance to pull over.



Suitable Installation Tools:
CF 400 Automatic installation tool for use with magazinised screws. (Page 10.7)

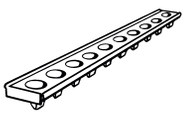
DI 600
Special lightweight screwdriver. (Page 10.6)

Self drilling fasteners for fastening steel deck to steel structures

Product/Order code

Type	Max.drilling capacity **VD** (mm)	with washer ∅ (mm)	Diameter **d** (mm)	Length **L** (mm)	Total thickness **KL** (mm)
SD	**5–**	**T15–**	**5,5×**	**...**	

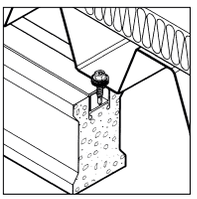
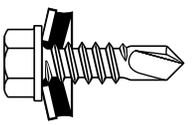
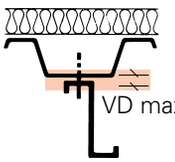
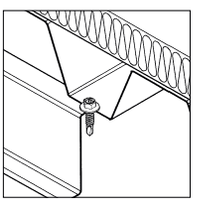
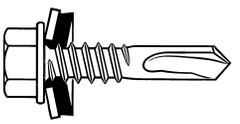
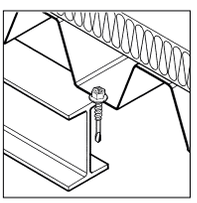
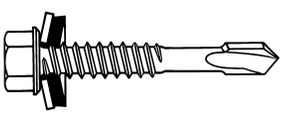
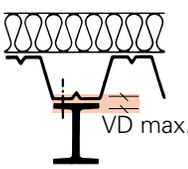
Additional information



Magazinised screws (Page 10.7)

Installation tool Chapter 10

CF 400 or DI 600

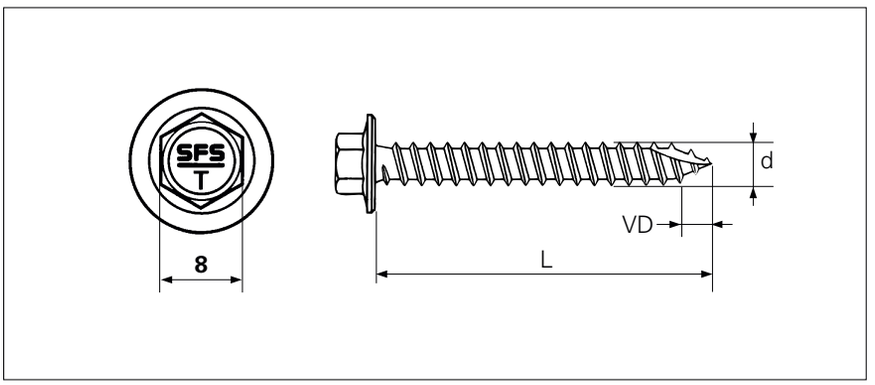
				Application
	 **SD5–T15–5,5×**	**25**	12	 VD max. VD max.: 5,0 mm t min.: 1,5 mm
	 **SD8–T15–5,5×**	**25**	8	VD max.: 8,0 mm t min.: 2,0 mm
	 **SD12–T15–5,5×**	**36**	12	 VD max. VD max.: 12,0 mm t min.: 3,0 mm

Technical information

SW-T

Material:
Hardened carbon steel, corrosion protected.

Application:
For fastening steel decks to steel structures. The special 15 mm dia. integral flanged hexagon head provides an increased load bearing area over the metal deck, resulting in higher resistance to pull-over.

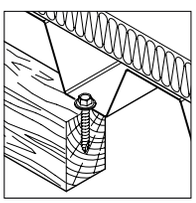
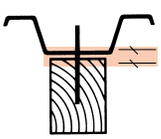
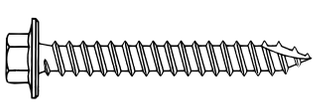


Product/Order code

Type	Material: T = carbon steel	with flanged head	Diameter **d** (mm)	Length **L** (mm)
SW–	**T–**	**H15–**	**6,5×**	**...**

System and tool information

Installation tool
DI 600, Page 10.6

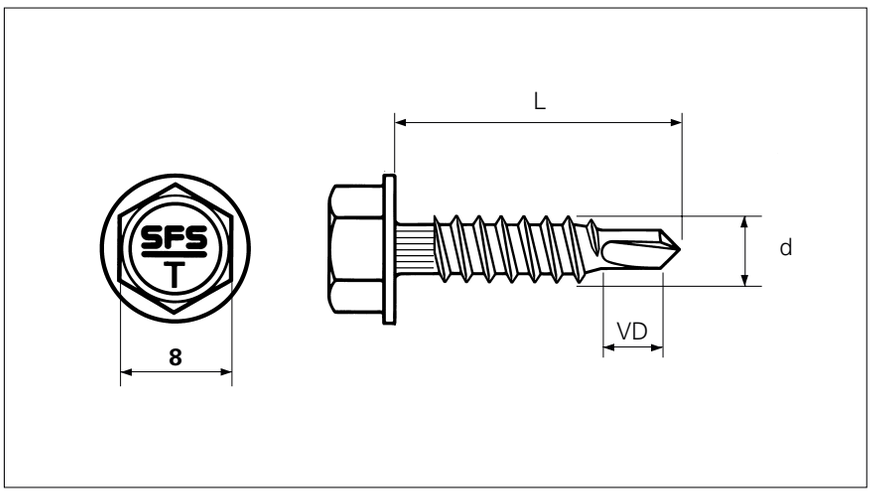
	Application	Industry Standards
	 VD max.:	Conforms to DTU 43.3 (France)
SW–T–H15–6,5× 	VD max.: 1 x 1,0 mm 2 x 0,9 mm 3 x 0,7 mm	
51		

Technical information

SL

Material:
Hardened carbon steel, corrosion protected

Application:
SL: The thread-free zone under the fastener head prevents the threads stripping in the sheets. Sheets are pulled together tightly, clamped in the thread-free zone. Also with sealing washer for sealed applications.
SL–H15: High performance self drilling stichers with flanged head for structural steel decks.



Suitable Installation Tools:
CF 400 Automatic installation tool for use with magazinised screws. (Page 10.7)

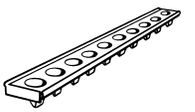
DI 600
Special lightweight screwdriver. (Page 10.6)

Self drilling fasteners for the side lap stitching of steel decks

Product/Order code

Type	Max. drilling capacity **VD** (mm)	T = carbon steel	with washer ∅ (mm)	Diameter **d** (mm)	Length **L** (mm)
SL	**2–**	**T–**	**A14–**	**4,8×**	**...**

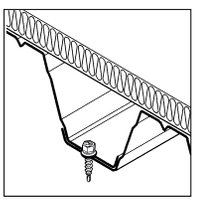
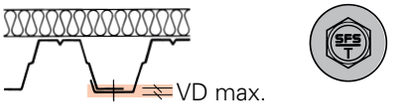
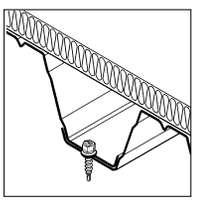
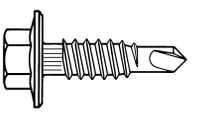
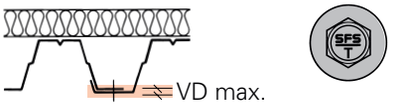
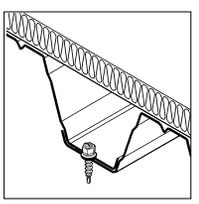
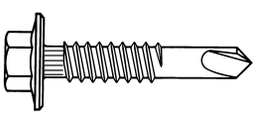
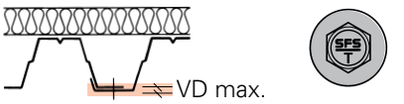
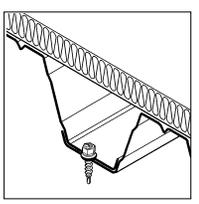
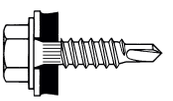
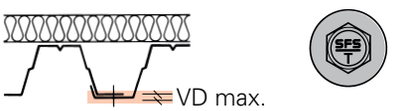
Additional information



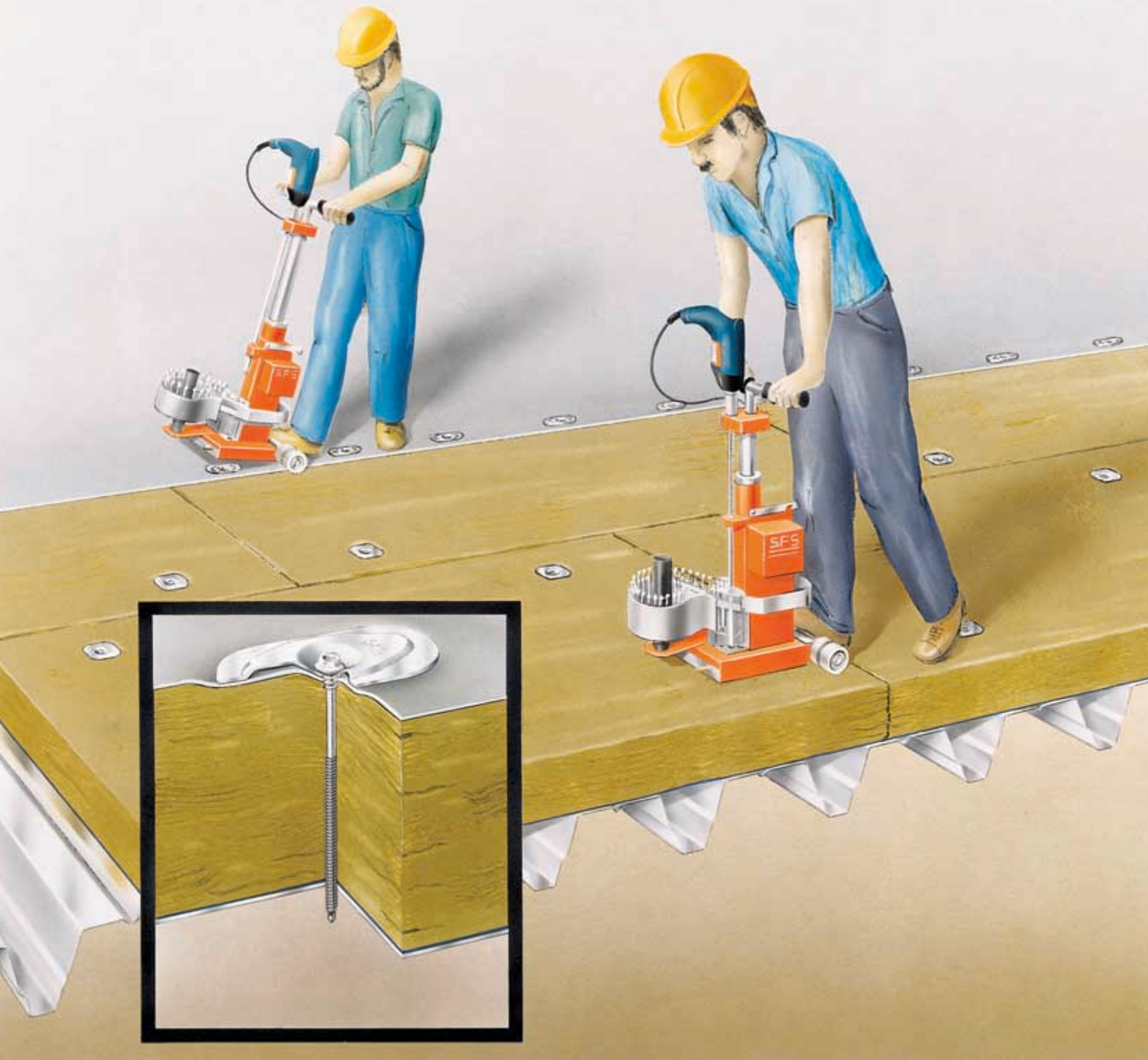
Magazinised screws (Page 10.7)

Installation tool Chapter 10

CF 400 or DI 600

		Application	Industry Standards
	 **SL2–4,8×** **20**	 VD max.: 2 x 0,63 mm to 2 x 1,00 mm. Fool proof	FM APPROVED. Conforms to DTU 43.3 (France)
	 **SL2–H15–6,3×** **22**	 VD max.: 2 x 0,63 mm to 2 x 1,00 mm. High load	FM APPROVED. Conforms to DTU 43.3 (France)
	 **SL3–H15–6,3×** **32**	 VD max.: 2 x 1,1 mm to 2 x 1,5 mm. High load thick deck sheets	Conforms to DTU 43.3 (France)
	 **SL2–T–A14–4,8×** **20**	 VD max.: 2 x 0,4 mm to 2 x 1,0 mm. Sealed	Conforms to DTU 43.3 (France)

Fastening of waterproof membranes and insulation to steel decks



Technical information

isofast IR and plate – treadfast

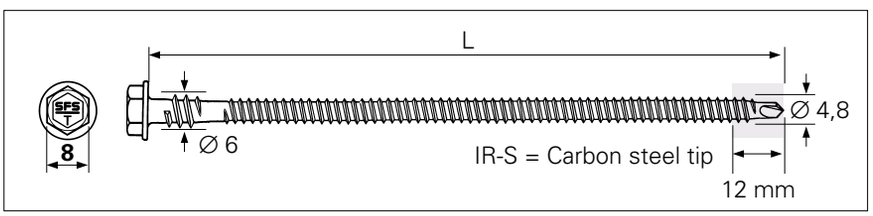
Material:

Screws:	**IR** hardened carbon steel Durocoat corrosion protection Resistance at 15 cycles Kesternich **IR-S** stainless steel, austenitic grade 316; (grade 1.4401 according to European Standard 10088)
Stress plate:	steel, aluzinc plated

Applications:

IR for fastening membranes and insulation to steel deck

IR-S
- where the inside atmosphere has a permanently high relative humidity over 70%
- in chemically aggressive atmospheres or conditions
- for refurbishment when the condition of the remaining roof build-up is not known in detail or when the old roof covering damages the corrosion protection and makes it ineffective
- where an extended design life/warranty is required by the client
- in aggressive tropical climates



Generally:
The supporting thread under the screw head prevents damage to the waterproof membrane when compressible insulation is used. The IR screw is collated for use with the automatic installation tool, IF 160/240.

Recommended design load:
IR 82 x 40 stress plate – 500 N with reinforced membranes and steel deck 0,7 mm thick (min.) 400 N with homogenous and bituminous membranes.

The design load can vary for each roof system. Please check with the membrane manufacturers' data.

Installation tools for optimum efficiency:
IF 240 (Page 10.4)
DI 600 (Page 10.6)

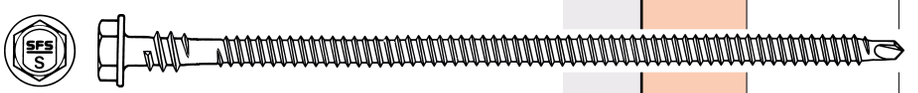
Stainless steel fastening to steel deck from 0,63 mm to 2 x 1,0 mm

Product/Order code

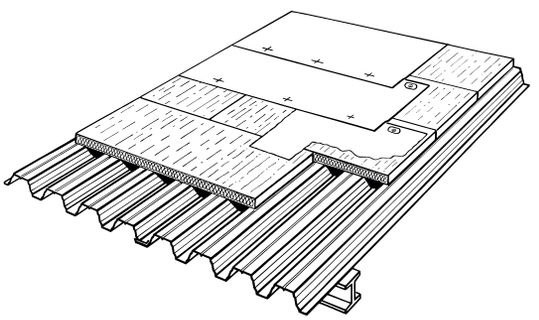
Type	Material: S = Stainless steel	m = collated	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR2–	**S–**	**m*–**	**4,8×**	**…**	

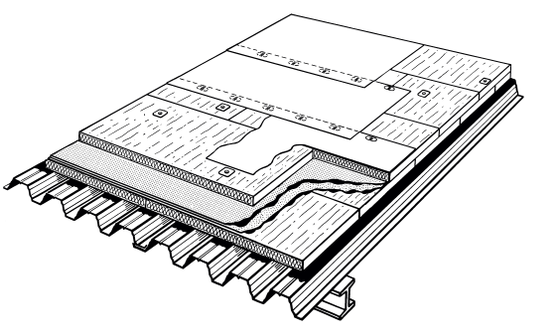
loose

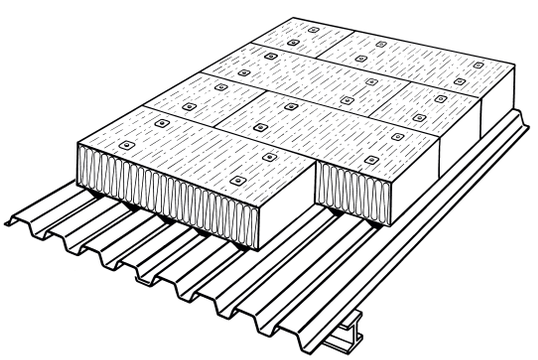
*** All fixing elements may be supplied in bulks**
Product code: IR2–S–4,8 × …



IR2–S–m*–4,8×	L (mm)	KL max. (mm)	IF 240
	60	40	●
	80	60	●
	100	80	●
	120	100	●
	140	120	●
	160	140	●
	180	160	●
	200	180	●
	220	200	●
	240	220	●





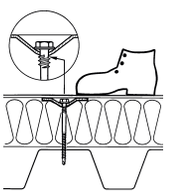


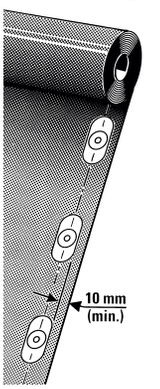
Additional information

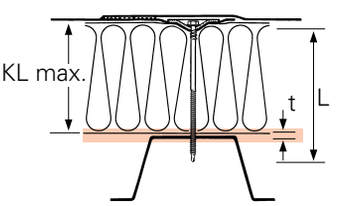
FM APPROVED

collated

Installation tool:
DI 600
with depth locator
Z 661/IF
Page 10.6







t min.: 0,63 mm
t max.: 2 x 1,0 mm

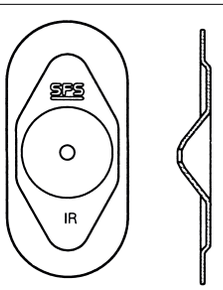
Screw length: Build-up + 20 mm

Attention:
The isofast IR system can be only used with the **IF 240** or the modified **IF 160** setting tool.

Stainless steel fasteners for build-up thicknesses over 220 mm on request.

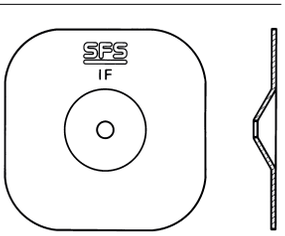
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm



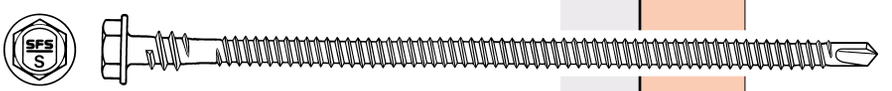
Stainless steel fastening to steel deck from 1,0 mm to 2 x 1,5 mm

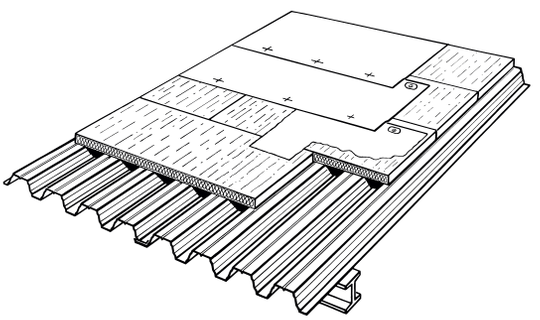
Product/Order code

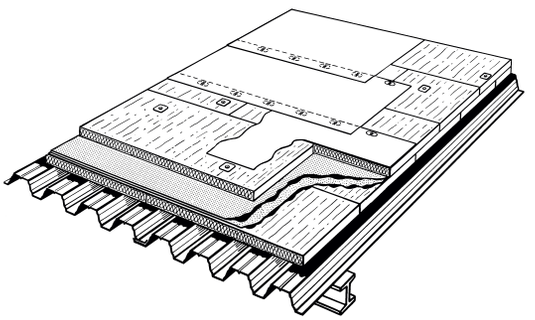
Type	Material: S = Stainless steel	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3–	**S–**	**4,8×**	**...**	
IR3–S–4,8×			**60**	40
			80	60
			100	80
			120	100
			140	120
			160	140
			180	160
			200	180

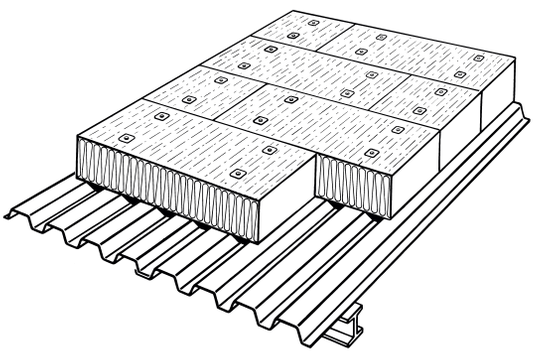
Additional information

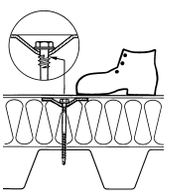
Installation tool: DI 600
with depth locator Z 661/IF
Page 10.6

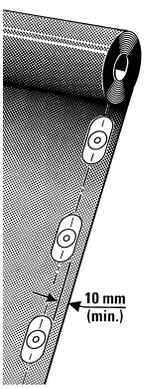


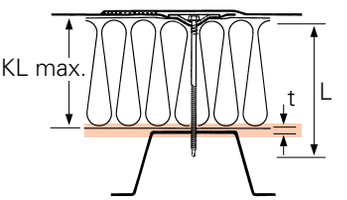












t min.: 1,0 mm
t max.: 2 x 1,5 mm

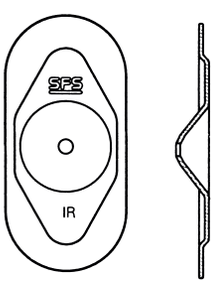
Screw length: Build-up
+ 20 mm

Stainless steel fasteners for build-up thicknesses over 180 mm on request.

IR3–S collated on request for use with IF240 tool.

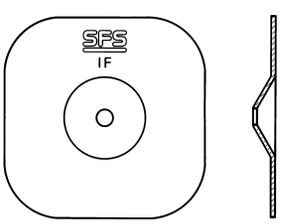
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm



Fastening to steel deck from 0,63 mm to max. 2 x 1,25 mm

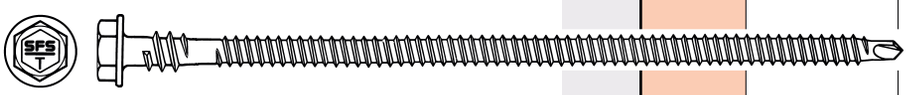
Product/Order code

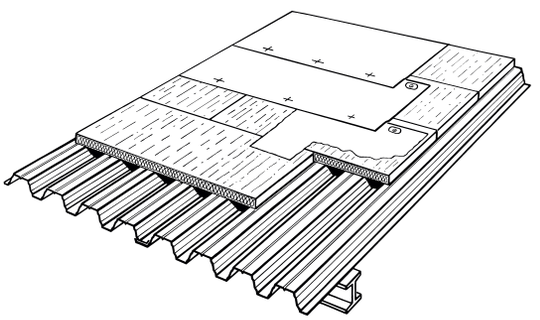
Additional information

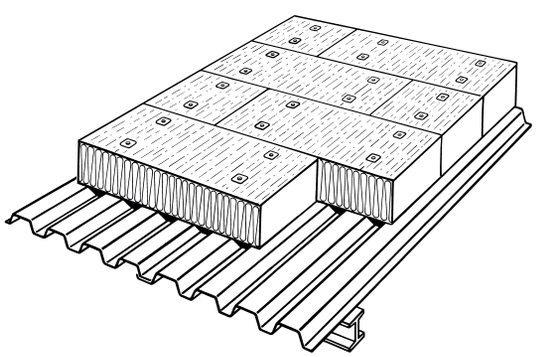
Type	m = collated	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	IF 240
IR2– m*–4,8×			**…**		
IR2–4,8×			**50**	30	●
			60	40	●
			70	50	●
			80	60	●
			90	70	●
			100	80	●
			110	90	●
			120	100	●
			130	110	●
			140	120	●
			150	130	●
			160	140	●
			180	160	●
			200	180	●
			220	200	●
			240	220	●
			260	240	only available as loose screws
			280	260	
			300	280	

loose

*** All fixing elements may be supplied in bulks**
Product code: IR2–S–4,8 × …



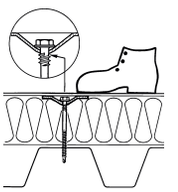


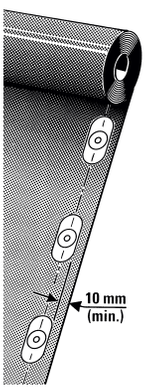


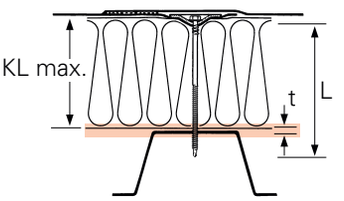
FM APPROVED

collated

Installation tool:
DI 600
with depth locator
Z 661/IF
Page 10.6







t min.: 0,63 mm
t max.: 2 x 1,25 mm

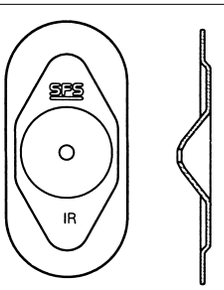
Screw length: Build-up + 20 mm

Attention:
The isofast IR system can be only used with the **IF 240** or the modified **IF 160** setting tool.

For longer fasteners contact SFS.

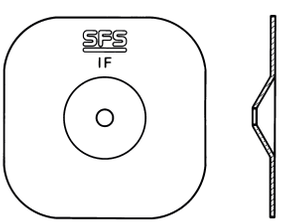
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm



SFS intec

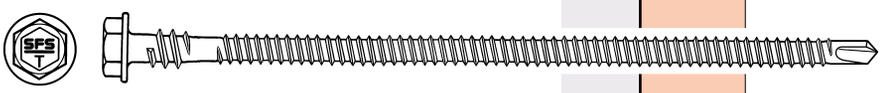
Fastening to steel deck from 1,0 mm to 2 x 1,5 mm

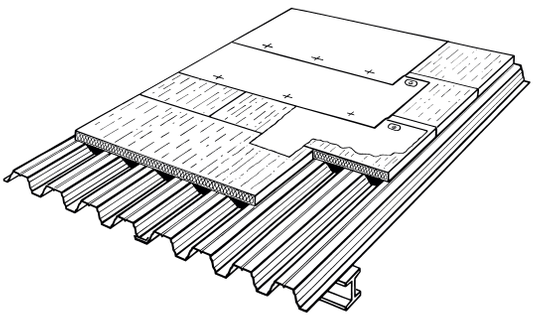
Product/Order code

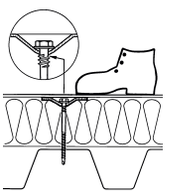
Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3–	**4,8×**	**...**	
IR3–4,8×		**60**	40
		80	60
		100	80
		120	100
		140	120
		160	140
		180	160
		200	180
		220	200
		240	220
		260	240
		280	260
		300	280

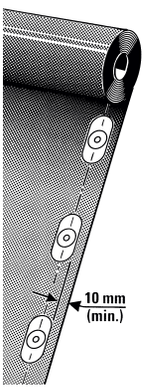
Additional information

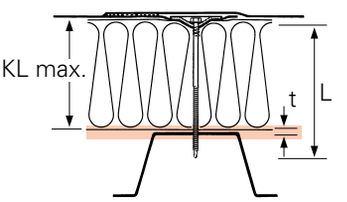
Installation tool: DI 600
with depth locator Z 661/IF
Page 10.6







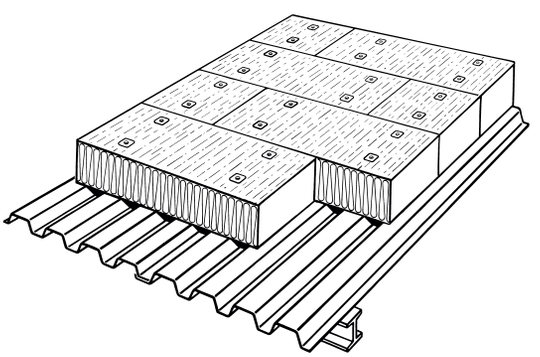




t min.: 1,0 mm
t max.: 2 x 1,5 mm

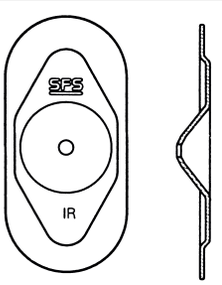
Screw length: Build-up
+ 20 mm

IR3 collated on request for use
with IF240 tool.



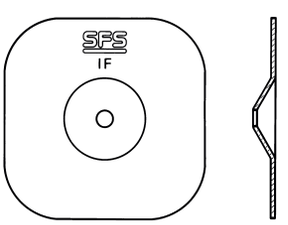
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm

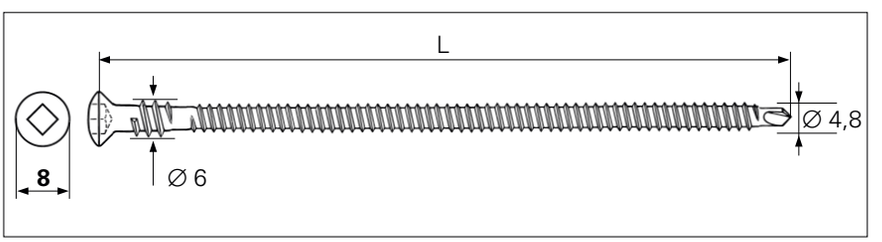


Technical information

isofast IR2-C

Material: hardened carbon steel
Durocoat corrosion protection

Applications:
For fastening membranes over hard surface/insulation, to steel deck.



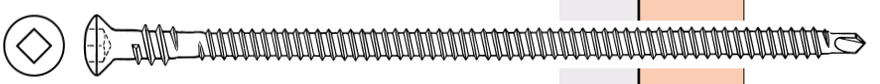
Generally:
The supporting thread under the screw head prevents damage to the waterproof membrane when compressible insulation is used.

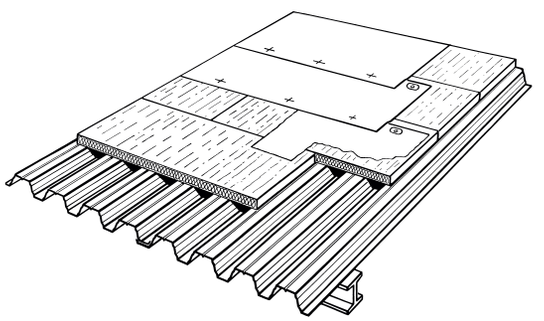
Installation tool:
DI 600 (Page 10.6)

Fastening to steel deck from 0,63 mm to 2 x 1,25 mm

Product/Order code

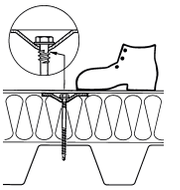
Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR2–C– 4,8×		**...**	
IR2–C–4,8×		**50**	30
		60	40
		70	50
		80	60
		90	70
		100	80
		120	100
		140	120
		160	140
		180	160
		200	180

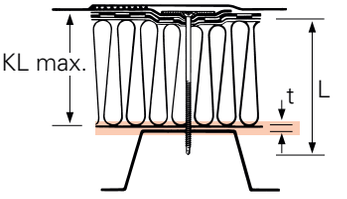




Additional information

Installation tool
DI 600, Page 10.6





t min.: 0,63 mm
t max.: 2 x 1,25 mm

Screw length: Build up
+ 20 mm

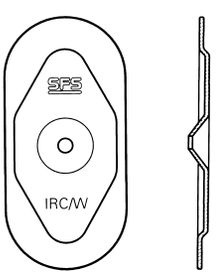
Application:
Membranes directly over hard surface/insulation.

Required tooling:
- Bit holder ZA 1/4" universal
- Square drive bit SQ3
- Depth locator Z 661/IF

Stress plate

In-Seam

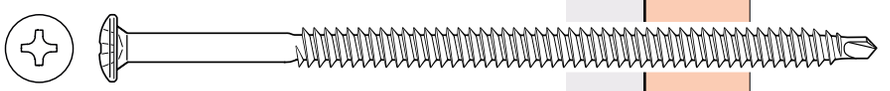
Type	Dimensions
IRC/W	**82 x 40 mm**

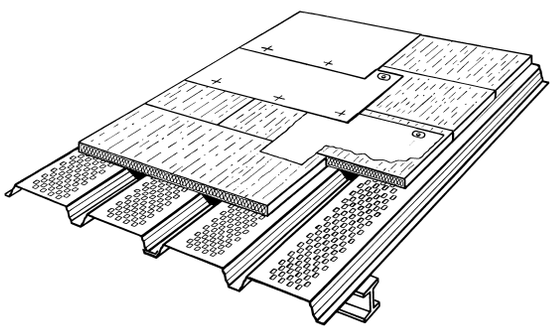


Fastening to perforated steel deck

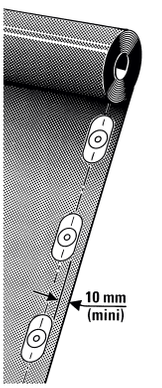
Product/Order code

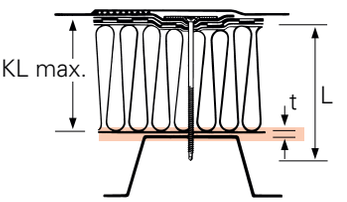
Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IF2–	**6,7×**	**...**	
IF2–6,7×		**51**	31
		76	56
		102	82
		127	107
		152	132
		178	158





Installation tool
DI 600, Page 10.6





t min.: 0,63 mm
t max.: 2 x 1,25 mm

Screw length: Build up + 20 mm

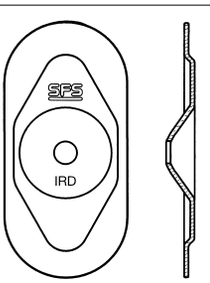
Application:
Fastening to perforated steel decks.

Required tooling:
- Drive bit PH 3
- Bit holder ZA 1/4" universal
- Depth locator Z 661/IF

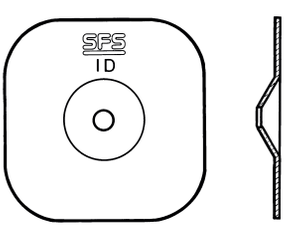
Elements de fixation plus longs sur demande

Stress plates

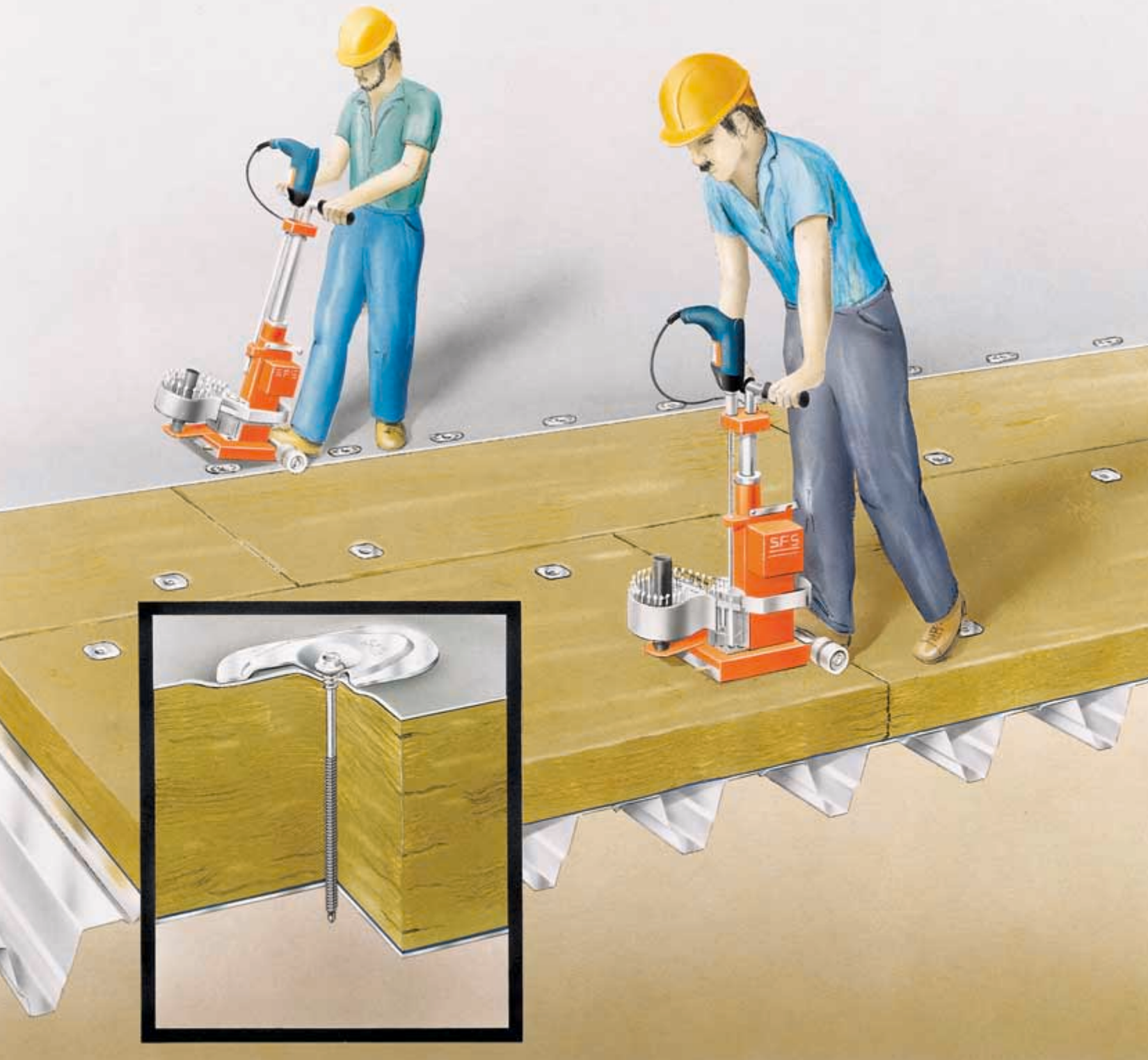
Type Dimension
IRD 82 x 40 mm

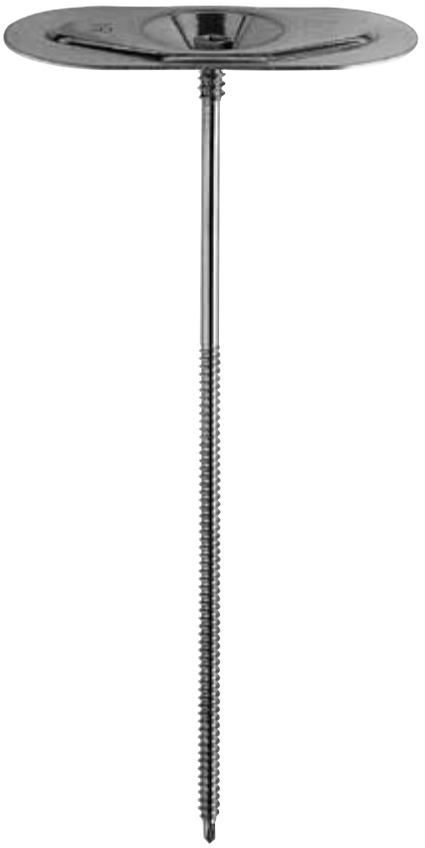


Type Dimension
ID 70 x 70 mm



Fastening of waterproof membranes and insulation to steel decks





Technical information

isofast IF 80

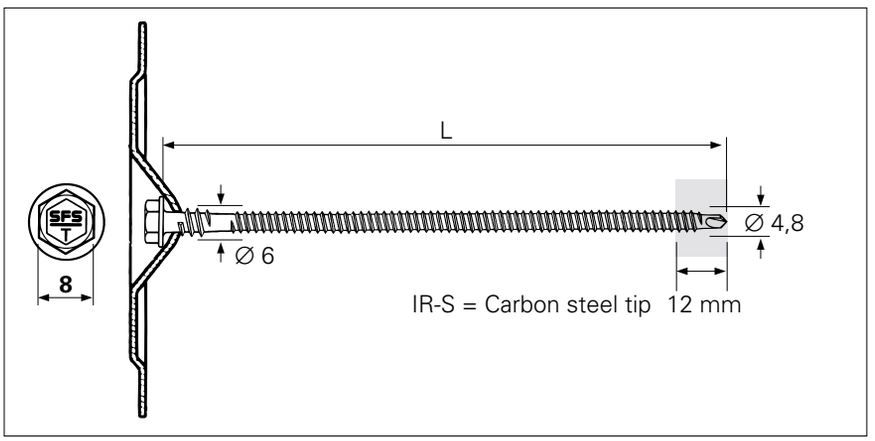
Material:

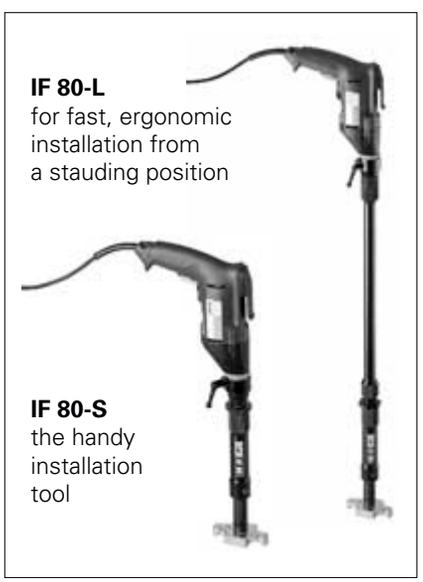
Screws:	**IR:** hardened carbon steel Durocoat corrosion protected Resistance at 15 cycles Kesternich **IR-S:** stainless steel, austenitic grade 316; (grade 1.4401 according to European Standard 10088)
Stress plate:	steel, aluzinc plated

Applications:

IR for fastening membranes and insulation to steel deck

IR-S
- where the inside atmosphere has a permanently high relative humidity over 70%
- in chemically aggressive atmospheres or conditions
- for refurbishment when the condition of the remaining roof build-up is not known in detail or when the old roof covering damages the corrosion protection and makes it ineffective
- where an extended design life/warramty is required by the client
- in aggressive tropical climates





IF 80-L
for fast, ergonomic installation from a stauding position

IF 80-S
the handy installation tool

Generally:
The stress plate is pre-assembled on the screw for increased efficiency. Fasteners must be installed with IF 80 tool.

Installation tools for optimum efficiency:
IF 80-L (Page 10.5)
IF 80-S (Page 10.5)

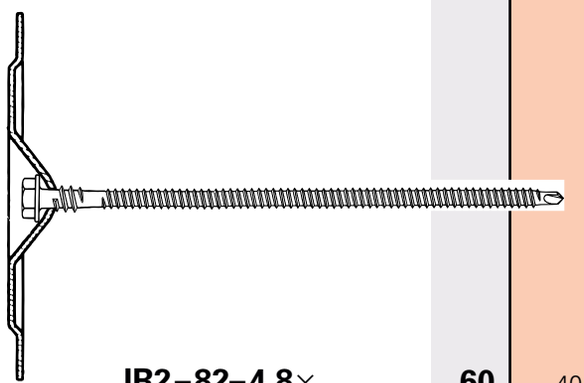
Fastening to steel deck from 0,63 mm to 2 x 1,25 mm

Product/Order code | **Additional information**

Type	Dimension stress plate	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR2–	**82–**	**4,8×**	**...**	

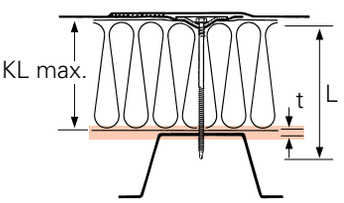
FM APPROVED

Installation tools:
IF 80-S, IF 80-L
Page 10.5



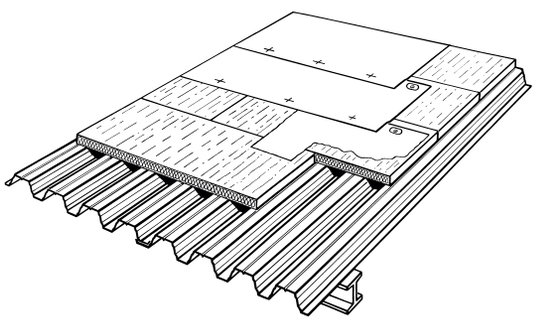
IR2–82–4,8×

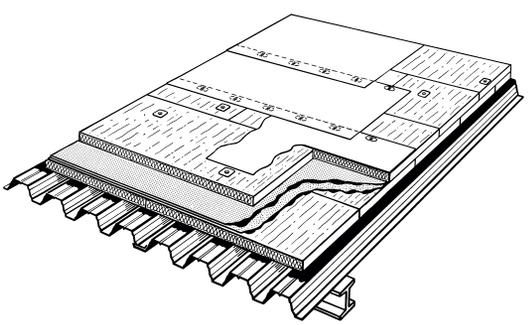
60	40
80	60
100	80
120	100
140	120
160	140
180	160
200	180
220	200
240	220
260	240
280	260
300	280



t min.: 0,63 mm
t max.: 2 x 1,25 mm

Screw length: Build-up + 20 mm





Stainless steel fastening to steel deck from 0,63 mm to 1,0 mm

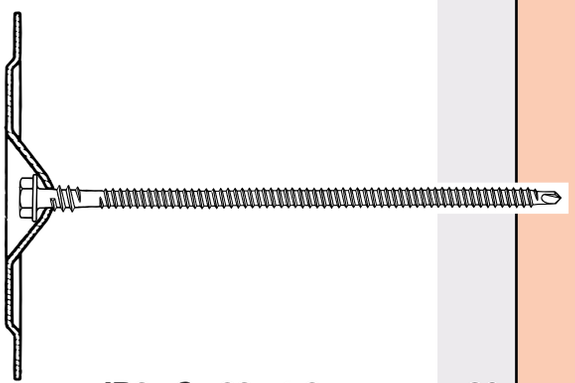
Product/Order code

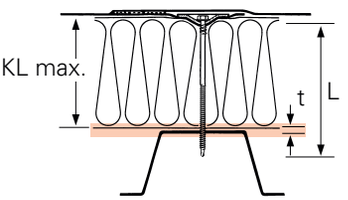
Type	Material: S = stainless steel	Dimension stress plate	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR2–	**S–**	**82–**	**4,8×**	**…**	
IR2–S–82–4,8×				**80**	60
				100	80
				120	100
				140	120
				160	140
				180	160
				200	180

Additional information

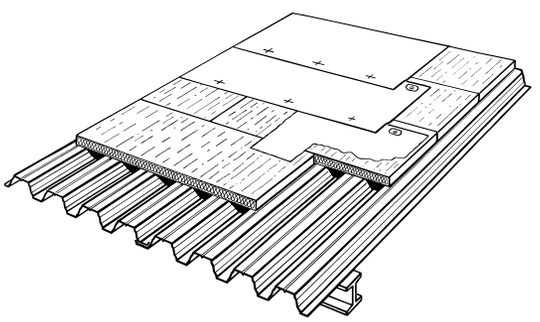
FM APPROVED

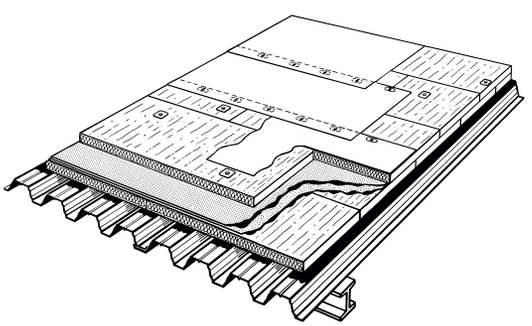
Installation tool:
IF 80-S, IF 80-L
Page 10.5





t min.: 0,63 mm
t max.: 2 x 1,0 mm





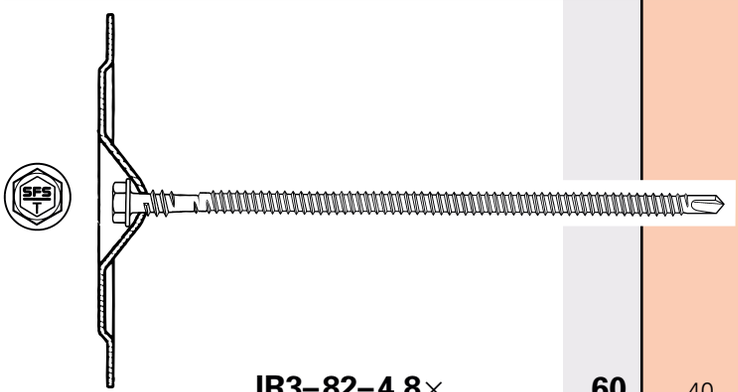
Screw length: Build-up + 20 mm

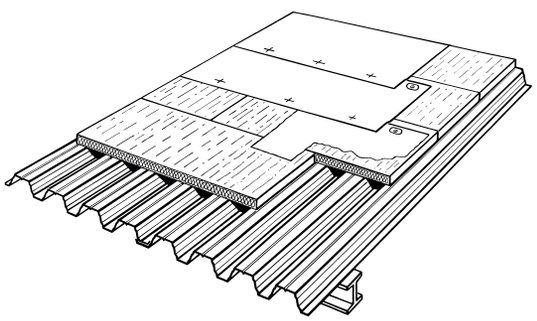
Fastening to steel deck from 1,0 mm to 2 x 1,5 mm

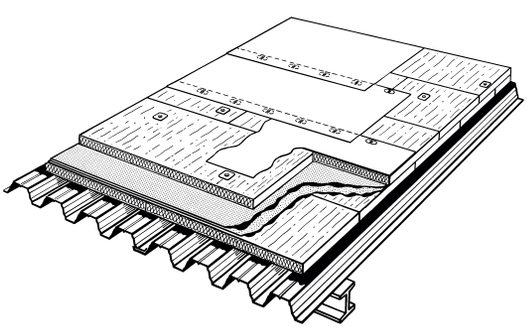
Product/Order code | **Additional information**

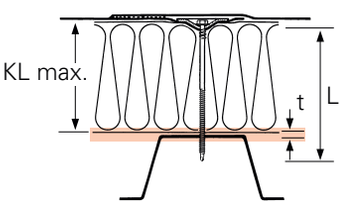
Type	Dimension stress plate	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3–	**82–**	**4,8×**	**...**	
IR3–82–4,8×			**60**	40
			80	60
			100	80
			120	100
			140	120
			160	140
			180	160
			200	180
			220	200
			240	220
			260	240
			280	260
			300	280

Installation tools:
IF 80-S, IF 80-L
Page 10.5









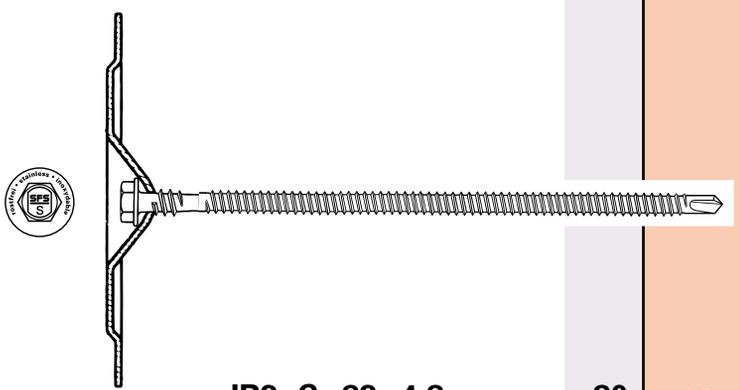
t min.: 1,0 mm
t max.: 2 x 1,5 mm

Screw length: Build-up + 20 mm

Stainless steel fastening to steel deck from 1,0 mm to 2 x 1,5 mm

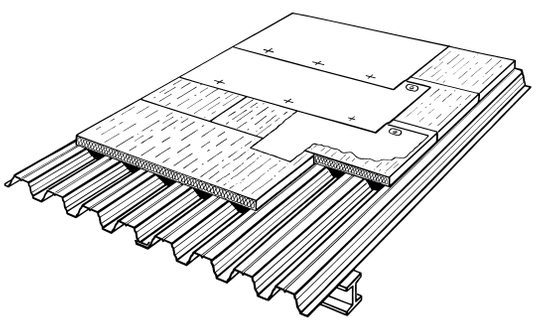
Product/Order code

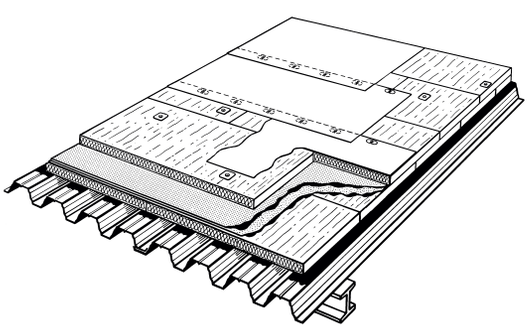
Type	Material: S = stainless steel	Dimension stress plate	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3–	**S–**	**82–**	**4,8×**	**...**	



IR3–S–82–4,8×

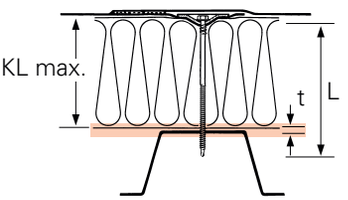
Length **L** (mm)	Build-up thickness **KL** max. (mm)
80	60
100	80
120	100
140	120
160	140
180	160
200	180





Additional information

Installation tool:
IF 80-S, IF 80-L
Page 10.5

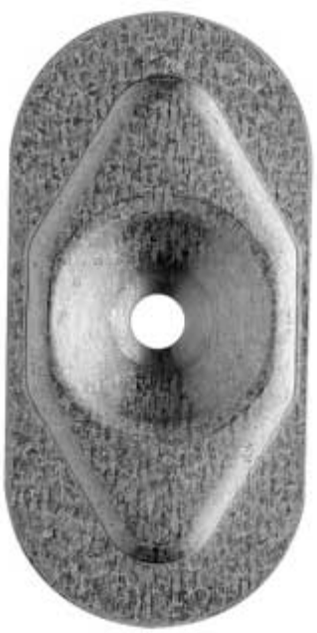


t min.: 1,0 mm
t max.: 2 x 1,5 mm

Screw length: Build-up + 20 mm

NB:
IR3-S is a special programme avalable on request

Fastening of waterproof membranes and insulation to concrete decks



Technical information

spike

Material:

spike D:	heat treated carbon steel with Durocoat corrosion protection
spike D-S and DL-S:	stainless steel, austenitic grade 316 (grade 1.4401 according to European Standard 10088)
spike DL:	heat treated carbon steel, zinc plated
Stress plates:	Aluzinc coated steel

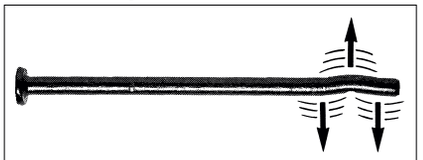
Application:
For fastening membranes and insulation to solid, dense concrete of minimum B25 grade (25 N/mm^2 compressive strength).

Recommended design load:
With IRD 82 x 40 stress plate 500 N per fastener when reinforced membranes are used, otherwise 400 N max.
On-site pull-out tests required to confirm performance, if concrete quality is unknown.

The design load can vary for each roof system. Please check with the membrane manufacturers' data.

Installation tools for optimum performance:
DB 620 electro pneumatic
hammer drill with SDS drive (Page 10.11)
Accessories (Page 10.11)

**Simple installation –
consistant performance**

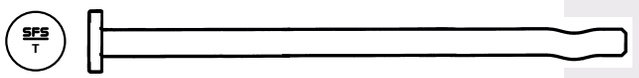


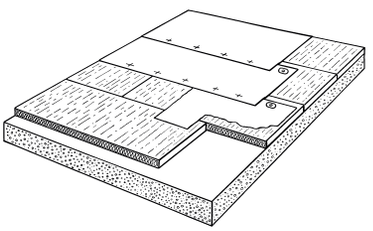
- One-piece anchor
- Fast "Drill and Drive" installation
- Vibration resistant
- temperature resistant

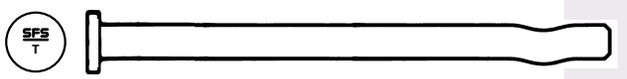
Fastening of waterproof membranes and insulation to concrete decks

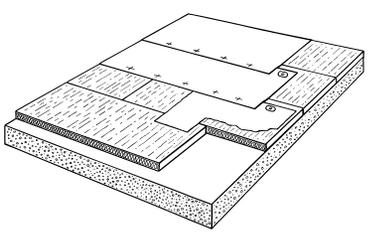
Product/Order code

Type	Build-up thickness (mm)	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	Drill bits
D	**70–**	**4,8×**	**102**	70	
D	**19–**	**4,8×**	**51**	19	4,8 x 160
D	**32–**	**4,8×**	**64**	32	160
D	**44–**	**4,8×**	**76**	44	160
D	**57–**	**4,8×**	**89**	57	210
D	**70–**	**4,8×**	**102**	70	210
D	**83–**	**4,8×**	**115**	83	210
D	**108–**	**4,8×**	**140**	108	260
D	**120–**	**4,8×**	**152**	120	260
D	**133–**	**6,3×**	**165**	133	6,3 x 260
D	**146–**	**6,3×**	**178**	146	260
D	**159–**	**6,3×**	**191**	159	285
D	**171–**	**6,3×**	**203**	171	360
D	**184–**	**6,3×**	**216**	184	360
D	**197–**	**6,3×**	**229**	197	360
D	**209–**	**6,3×**	**241**	209	360
D	**222–**	**6,3×**	**254**	222	360
D	**235–**	**6,3×**	**267**	235	410
D	**247–**	**6,3×**	**279**	247	410
D	**260–**	**6,3×**	**292**	260	410
D	**273–**	**6,3×**	**305**	273	410
D	**298–**	**6,3×**	**330**	298	510







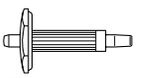


For longer fasteners contact SFS

Additional information

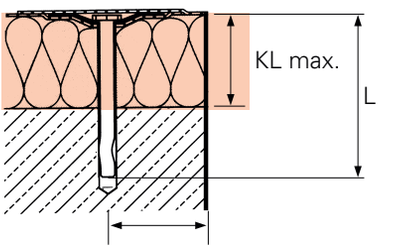
Hammer drill
Page 10.11

Hand setting tool
Page 10.11



ZD 15

Drill bits Page 5.7



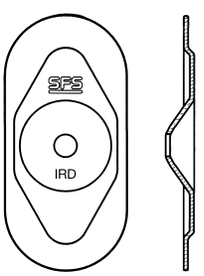
Distance from edge
min. 30 mm

Insulation, compressive strength
0,07 N/mm² minimum

Note
Depth of pilot hole to be min. 20 mm more than length of spike, or deeper if required by site conditions.

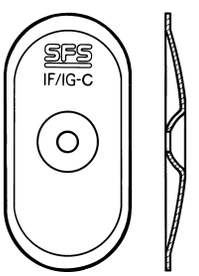
Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm



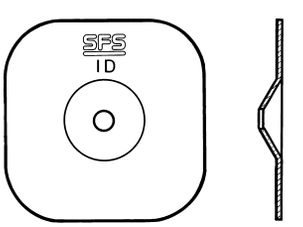
Type
IF/IG-C
Dimensions
82 x 40 mm

On hard surfaces



insulation

Type Dimensions
ID 70 x 70 mm

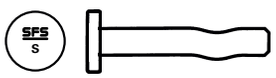


Stainless steel fastening of waterproof membranes and insulation to concrete decks

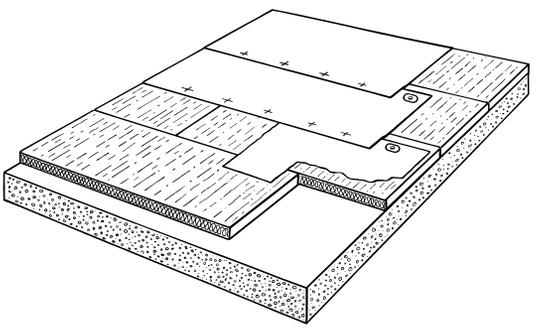
Product/Order code

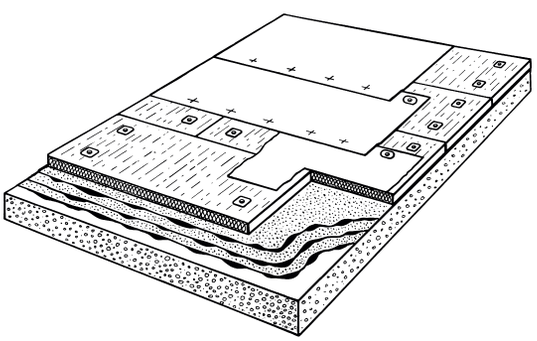
Additional information

Type	Build-up thickness (mm)	Material S=Stainless steel	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	Drill bits
D	**44–**	**S–**	**4,8×**	**76**	44	
D 32–S–4,8×				**64**	32	4,8 × 160
D 44–S–4,8×				**76**	44	160
D 57–S–4,8×				**89**	57	210
D 70–S–4,8×				**102**	70	210
D 83–S–4,8×				**115**	83	210
D 95–S–4,8×				**127**	95	260
D 108–S–4,8×				**140**	108	260
D 120–S–4,8×				**152**	120	260



For longer fasteners contact SFS

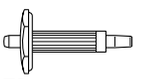




Hammer drill
Page 10.11

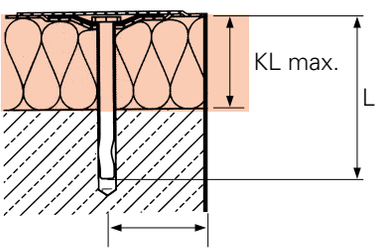
DB 620

Hand setting tool
Page 10.11



ZD 15

Drill bits
Page 5.7



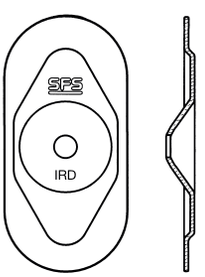
Distance from edge min. 30 mm

Insulation, compressive strength 0,07 N/mm² minimum

Note
Depth of pilot hole to be min. 20 mm more than length of spike, or deeper if required by site conditions.

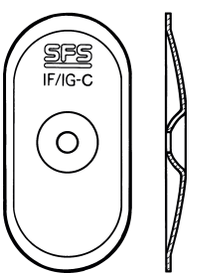
Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm



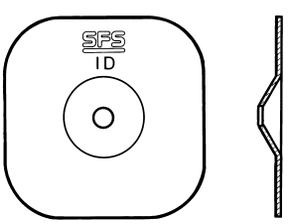
Type
IF/IG-C
Dimensions
82 x 40 mm

On hard surfaces



insulation

Type Dimensions
ID 70 x 70 mm



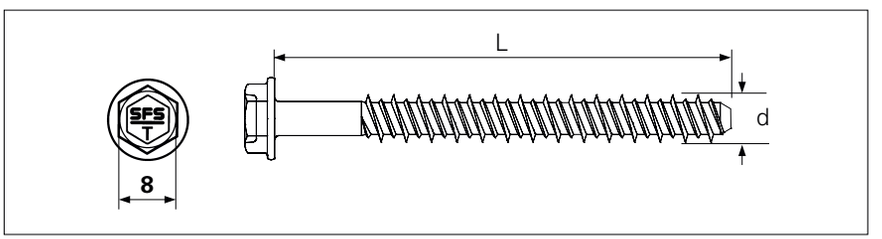
Technical information

isofast TI

Material:

Screw:	hardened carbon steel, Durocoat corrosion protection
Stress plates:	Aluzinc coated steel

Applications:
For fastening waterproof membranes to various concrete decks.
For fastening insulation to various concrete decks.



Generally:
Installation to be with slow speed screw gun.

Pull out tests must always be made on all refurbishment projects to confirm pilot hole dia. and performance.

Minimum concrete thickness 25 mm.
Minimum embedment 20 mm.

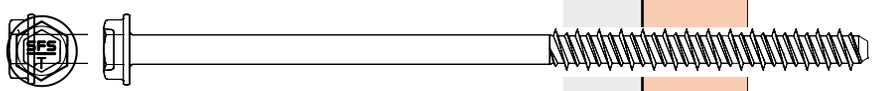
Recommened design load:
With IRD 82x40 stressplate 500N per fastener when reinforced membranes are used, otherwise 400N max.
The design load can vary for each roof system. Please check with the membrane manufacturers'data.

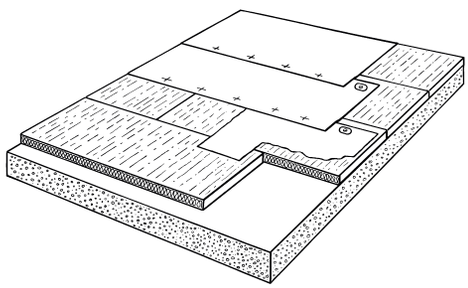
Installation tools for optimum efficiency:
DB 620 hammer drill (Page 10.11)
DI 600 screwdriver (Page 10.6)

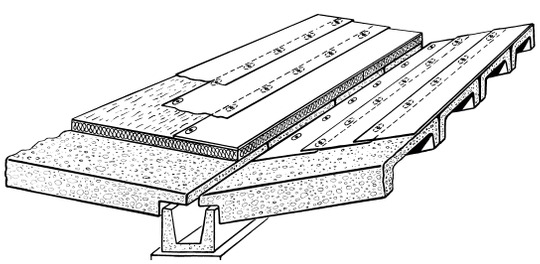
Fastening to solid, hollowpot and thin walled concrete decks

Product/Order code

Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** min. (mm)	Drill bits
TI	**6,3×**	**...**		
TI–6,3×		**25**	5	4,8x110
		32	12	110
		45	25	160
		55	35	160
		65	45	160
		75	55	160
		85	65	210
		95	75	210
		115	95	210
		135	115	210
		155	135	260







For longer fastener contact SFS

Additional information

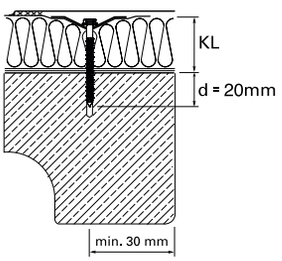
Installation tool
Page 10.6

DI 600

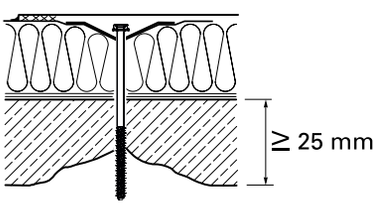
Hammer drill
Page 10.11

DB 620

Drill bits
Page 5.7



edge distance
min. 30 mm



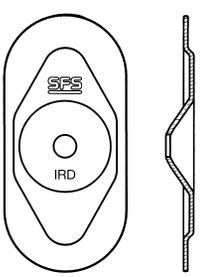
Required tooling:
- Drive shaft ZA 1/4"
- Socket E 380
- Depth locator Z 661/IF

Insulation to have minimum compressive strength 0,07 N/mm².
If tread fast required contact SFS

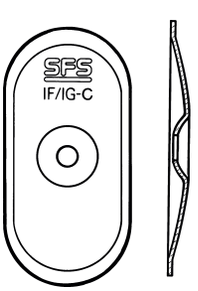
Note
depth of pilot hole to be min.
20 mm more than length of screw.

Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm

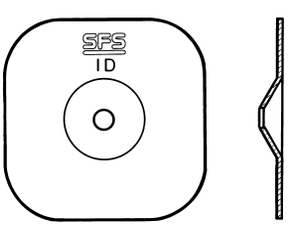


Type
IF/IG–C
Dimensions
82 x 40 mm
On hard surfaces



insulation

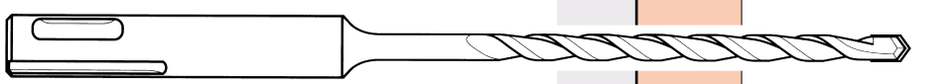
Type Dimensions
ID 70 x 70 mm



Hammer drill bits for spike and TI

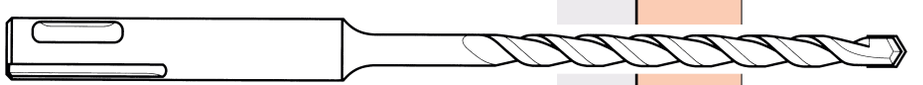
Product/Order code				Additional information
	Diameter	Length (mm)	Working length (mm)	
	4,8×	**110**	50	

Carbide tipped drill bits with SDS drive



4,8×	**110**	50	For use with spike 4,8 dia. and TI fasteners
	160	100	
	210	150	
	260	200	
	310	250	

Carbide tipped drill bits with SDS drive



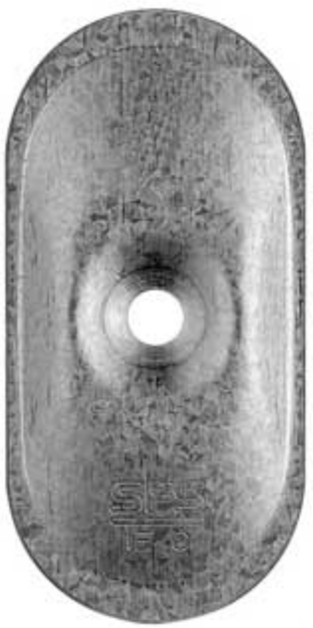
6,3×	**260**	200	For use with spike 6,3 dia.
	285	225	
	360	300	
	410	350	
	510	450	

Advice for using carbide tipped drill bits in flat roof applications

- Max. pressure 5–10 kg
- Drill perpendicular with no bending pressure
- Remove dust by “pumping”occasionally
- Remove bit frequently during last 20 mm
- Dust removal is dependant on bit flutes. Therefore clean bitumen deposits frequently.

Fastening of waterproof membranes and insulation to thin concrete roof liner trays

Fastening of waterproof membranes and insulation to thin concrete roof liner trays

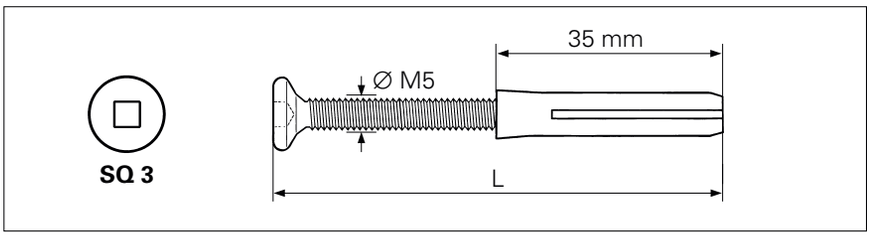


Technical information

isofast IE

Material:
Expanding sleeve: Aluminium
Screw: heat treated carbon steel with Durocoat
Stress plate: Aluzinc coated steel

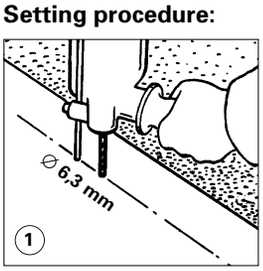
Application:
For fastening of waterproof membranes and insulation to thin concrete roof liner trays and hollow core beams. (min. B25) Min. panel thickness: 25 mm.

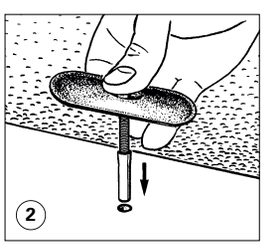


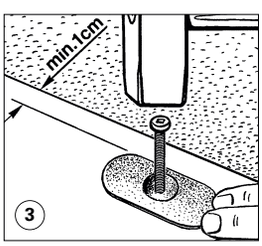
Note:
During the final operation the special screw forms a thread in the sleeve. Radial forces arising during this operation expand the sleeve, thus creating the non-slip fastening which is resistant to vibration and unscrewing.

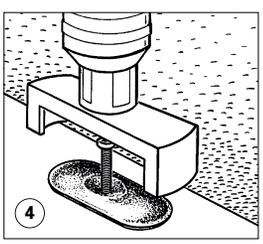
Installation tools for optimum performance:
DB 620 Hammer drill (Page 10.11)
DI 600 Screw driver (Page 10.6)

Setting procedure:









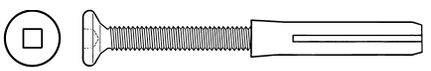
Min. panel thickness: 25 mm
Min. concrete strength: ßw = 25N/mm²
Design load Frec: 0,4 kN

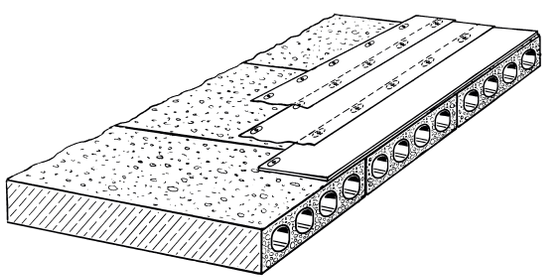
Fastening of waterproof membranes and insulation to thin concrete roof liner trays

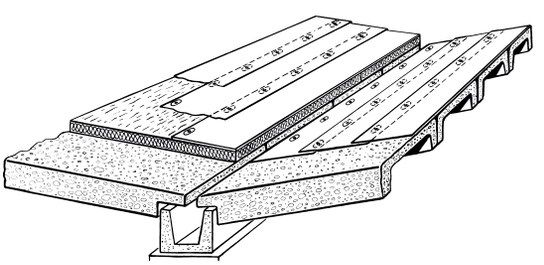
Product/Order code

Additional information

Type	Max. build-up thickness (mm)	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	Drill bits
IE /	**15 –**	**6,3 ×**	**79**	0 – 15	
IE/ 15 – 6,3 ×			**79**	0 – 15	6,3 x 160
IE/ 30 – 6,3 ×			**94**	15 – 30	6,3 x 160
IE/ 50 – 6,3 ×			**114**	30 – 50	6,3 x 210
IE/ 70 – 6,3 ×			**134**	50 – 70	6,3 x 210
IE/ 90 – 6,3 ×			**154**	70 – 90	6,3 x 260
IE/110 – 6,3 ×			**174**	90–110	6,3 x 260
IE/130 – 6,3 ×			**194**	110–130	6,3 x 260
IE/150 – 6,3 ×			**214**	130–150	6,3 x 285







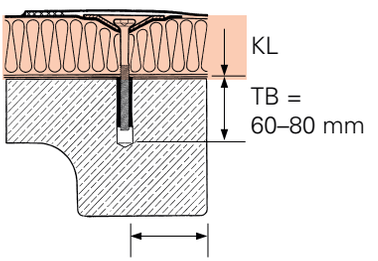
Installation tool
Page 10.6

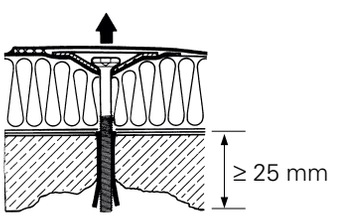
DI 600

Hammer drill
Page 10.11

DB 620

Drill bits Page 5.12





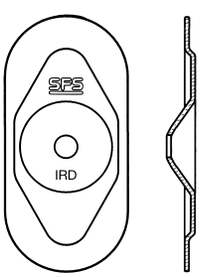
Required tooling:
- Bit holder ZA 1/4" universal
- Square bit SQ3
- Depth locator Z 661/IE

Insulation to have minimum compressive strength 0,07 N/mm²

Note
depth of pilot hole to be min. 20 mm more than length of screw.

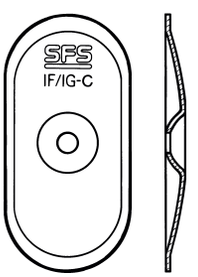
Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm



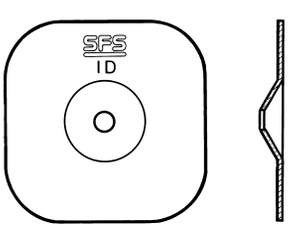
Type
IE – C
Dimensions
82 x 40 mm

On hard surfaces

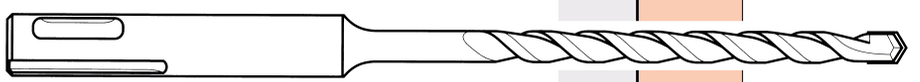


insulation

Type Dimensions
ID 70 x 70 mm



Hammer drill bits for IE

Product/Order code			Additional information
Diameter **d** (mm)	Length **L** (mm)	Working length (mm)	
6,3×	**160**	100	
			Application
Hammer drill bits with SDS drive			
			
6,3×	**160**	100	
	210	150	
	260	200	
	285	225	
	360	300	
	410	350	
	510	450	

Advice for using carbide tipped drill bits in flat roof applications

- Max. pressure 5–10 kg
- Drill perpendicular with no bending pressure
- Remove dust by “pumping”occasionally
- Remove bit frequently during last 20 mm
- Dust removal is dependant on bit flutes. Therefore clean bitumen deposits frequently.

Austenitic stainless steel self drilling fasteners for composite panels

Austenitic stainless steel self drilling fasteners for composite panels to steel and timber structure

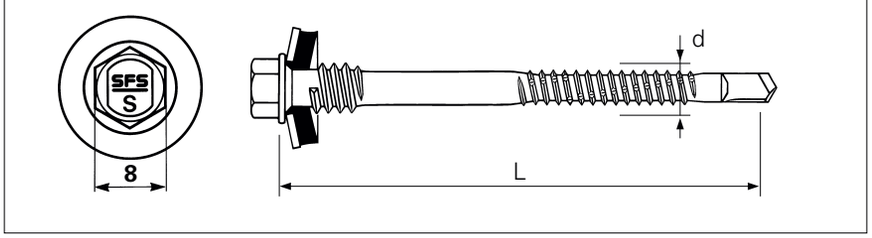
Technical information

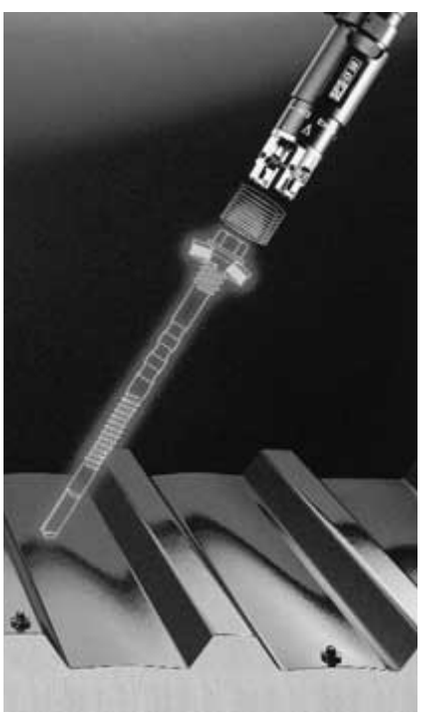
SXC, SXCW

Material:

Fastener:	Austenitic stainless steel, grade 304 (European Standard 1.4301) Grade 316 (European Standard 1.4401)*
Washer:	S = Stainless steel, Grade 304 or 316 A = Aluminium with vulcanised EPDM
Drill point:	Case hardened, carbon steel

Application:
Fastening composite panels to steel or timber structure. The unique thread free zone underneath the head and stress rings on the shank of the heavy section fastener all ensures a long term problem free fastening.

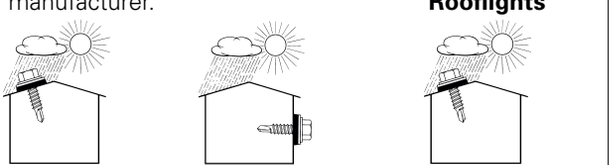


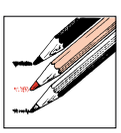


Purpose designed setting tool CF50:
The depth locator and supporting sleeve prevents scratching of the outer panels and reduces the danger of overdriving. (Page 13.5)

Washer Recommendation

Please check the recommendations of the cladding manufacturer.





Coloured fasteners:
Colour heads are achieved trough powder coating.

***Special programme:**
Available on request in SXC5 fastener type only.

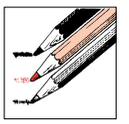
Austenitic stainless steel self drilling fasteners for composite panel to steel structure

Example/Order code

Type	Max. drilling capacity **VD** (mm)	Washer: Material, Diameter	Thread diameter **d** (mm)	Overall length **L** (mm)	Panel thickness **D** (mm)
SXC	**5–**	**S19*–**	**5,5×**	**62**	

***Select washer to suit application eg:**
S16 for walls, **S19** for walls and roofs
S29 for crown fix rooflights } (Please note the panel
A32 for valley fix rooflights } thickness is reduced by 2 mm)

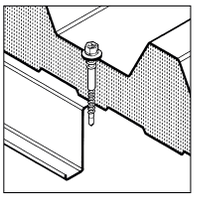
System and tool information

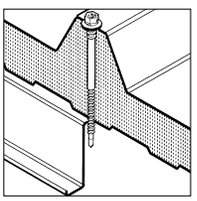


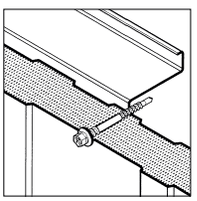
Coloured fasteners (Page 12.2)

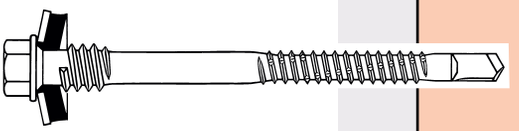
Installation tool Page 13.5

CF 50



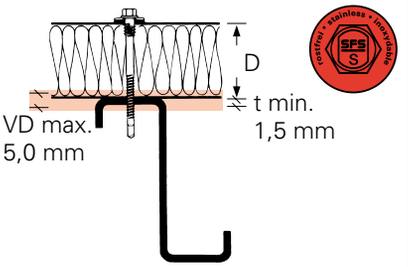






SXC5–S19*–5,5×

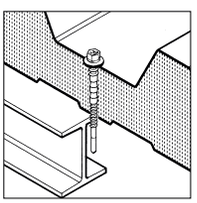
	Min.-Max.
62	29– 37
77	39– 52
87	49– 62
107	59– 82
130	70–102
154	100–132

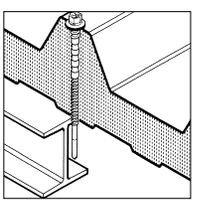


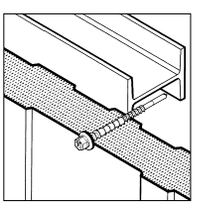
Max. drilling capacity (VD max.)

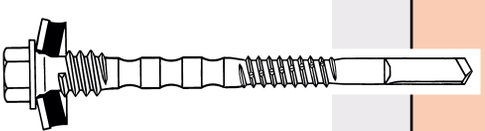
BS 5427: pt. 1: 1996 annex A.4.3. conformity

DTU 40.35
40.36



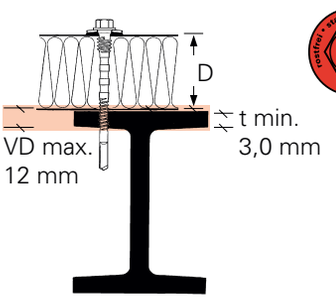






SXC12–S19*–5,5×

	Min.-Max.
73	29– 37
76	39– 42
96	48– 62
124	62– 86
140	81–102
165	100–132



Max. drilling capacity (VD max.)

BS 5427: pt. 1: 1996 annex A.4.3. conformity

DTU 40.35
40.36

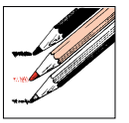
Austenitic stainless steel self drilling fasteners for composite panel to timber structure

Example/Order code

Type	Washer: Material, Diameter	Thread diameter **d** (mm)	Overall length **L** (mm)	Panel thickness **D** (mm)
SXCW–	**S19*–**	**6,5×**	**95**	

***Select washer to suit application eg:**
S16 for walls, **S19** for walls and roofs
S29 for crown fix rooflights } (Please note the panel
A32 for valley fix rooflights } thickness is reduced by 2 mm)

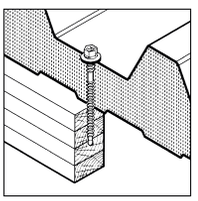
System and tool information

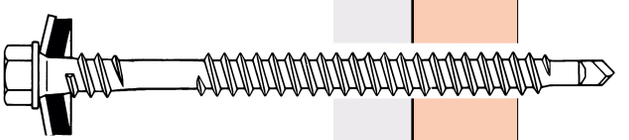


Coloured fasteners (Page 12.2)

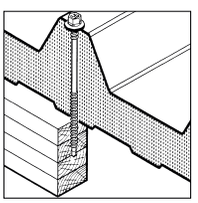
Installation tool Page 13.5

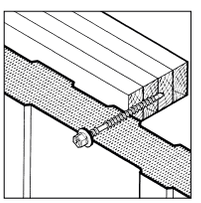
CF 50



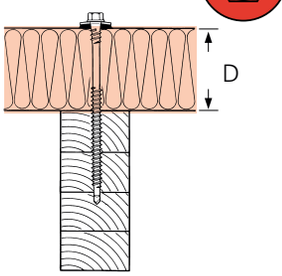


SXCW–S19–6,5×





	Min.-Max.
95	28– 37
110	38– 52
120	48– 62
140	68– 82
160	78–102
190	100–132



VD max.: 2,0 mm

Max. drilling capacity (VD max.)

BS 5427: pt. 1: 1996 annex A.4.3. conformity

DTU 40.35 40.36

Austenitic stainless steel self drilling fasteners for concealed fixing of architectural wall panels to steel structure

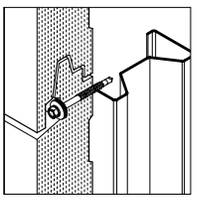
Example/Order code

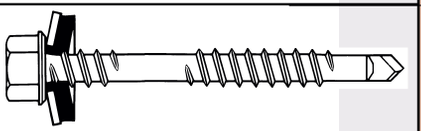
Type	Max. drilling capacity **VD** (mm)	Effective thread length **KL** (mm)	Washer: Material, Diameter	Thread diameter **d** (mm)	Overall length **L** (mm)	Effective thread length **KL** (mm)
SX	**3**	**/20–34–S16 –**		**5,5×**	**52**	Min.-Max.

System and tool information

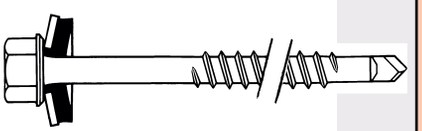
Installation tool
Page 13.7

DI 600

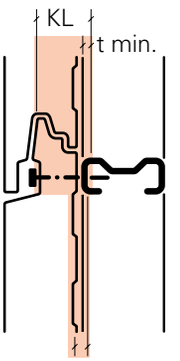




SX3/20–34–S16–5,5× **52** 21–34

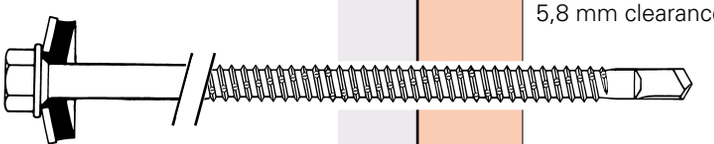


SX3/20–44–S16–5,5× **65** 21–44
/20–55 **75** 21–55



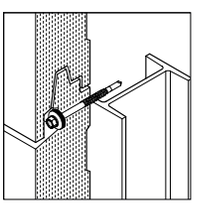
VD max.: 3,0 mm
t min. steel: 1,2 mm
t min. alu: 2,0 mm

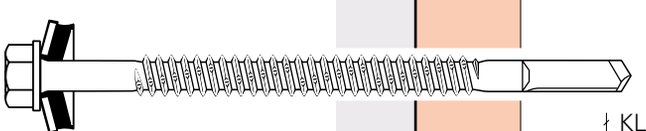
Pre drill panel with
5,8 mm clearance hole



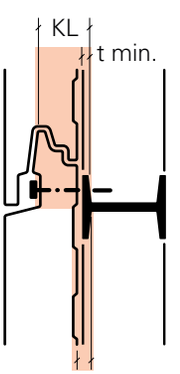
SX5/185–S16–5,5× **207** 136–185
/227– **248** 177–227

VD max.: 5,0 mm
t min. steel: 1,5 mm
t min. alu: 2,0 mm





SX12/ 36–S16–5,5 **65** 4–36
/ 56– **85** 24–56
/ 73– **102** 42–73
/162– **191** 122–162
/214– **245** 176–214



VD max.: 12,0 mm
t min. steel: 3,0 mm
t min. alu: 4,0 mm

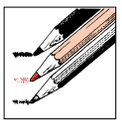
Pre drill panel with
5,8 mm clearance hole

Austenitic stainless steel self drilling fasteners for side lap stitching composite panels

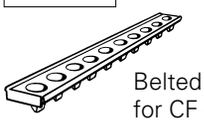
Example/Order code

Type	Max. drilling capacity **VD** (mm)	Material: A = Aluminium	Washer: Material, Diameter	Thread diameter **d** (mm)	Overall length **L** (mm)	Sheet thickness **t** (mm)
SXL	**2–**		**S16–**	**6,3×**	**25**	
SL	**2–**	**A–**	**A14–**	**5,5×**	**20**	

System and tool information



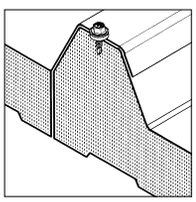
Coloured fasteners (Page 12.2)

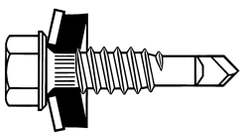


Belted fasteners for CF 400 (Page 12.3)

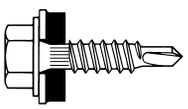
Setting tools and accessories Chapter 13

DI 600

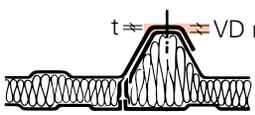




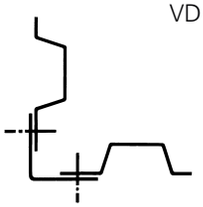
SXL2–S16–6,3× — **25** — 2 x 0,4 to 2 x 1,0



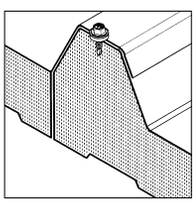
SL2–S–S14–4,8× — **20** — 2 x 0,4 to 2 x 1,0

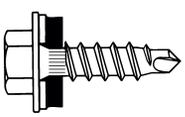


VD max.: 2 x 1,0 mm

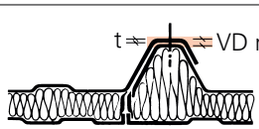


Technical information Page 3.8





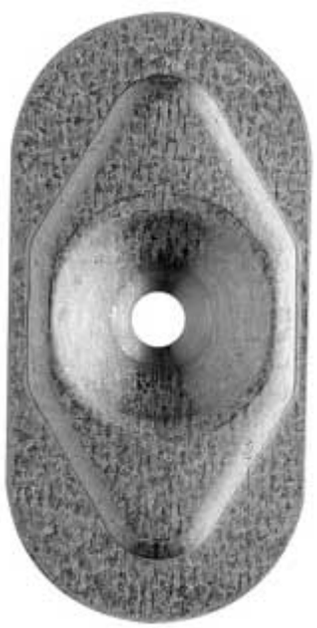
SL2–A–A14–5,5× — **20** — 2 x 0,4 to 2 x 0,9



VD max.: 2 x 0,9 mm

Only for aluminium sheet and flashing

Fastening of waterproof membranes and insulation to timber decks



Technical information

isofast IG/IW

Material:

Screws:	**IG** hardened carbon steel Durocoat corrosion protection **IW-T** hardened carbon steel Durocoat corrosion protection **IW-S** stainless steel, austenitic grade 304; (grade 1.4301 according to European Standard 10088)
Stress plates:	steel, aluzinc plated

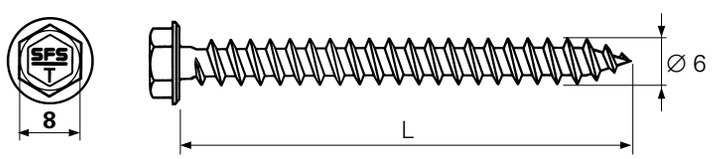
Applications:
isofast IG: for the fastening of waterproof membranes and insulation (min. compressive strength 0,07 N/mm²) to timber decks.
isofast IW: for the fastening of waterproof membranes to timber decks.

Generally:
Timber to be minimum 18 mm thick plywood, to BS 6566/pt 2 1985.
Oriented strand board minimum 18 mm. Type F2 to BS 5669/pt 3 1992.
Solid softwood minimum 22 mm thick.

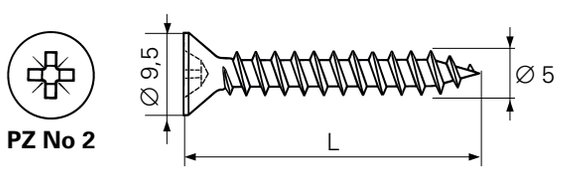
Recommended design loads:
isofast IG: with stress plate IRD 82 x 40, 500 N per fastener
isofast IW: with stress plate IRC/W 82 x 40, 500 N per fastener
Both above with reinforced membranes otherwise 400 N per fastener
The design load can vary for each roofing system.
Please check with membrane manufacturers'data.
On refurbishment contracts pullout tests required.

Installation tools for optimum efficiency:
IF 240 (Page 10.4)
DI 600 (Page 10.6)

isofast IG



isofast IW



PZ No 2

Fastening of waterproof membranes and insulation to timber decks

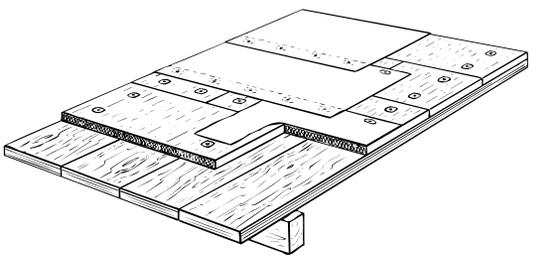
Product/Order code

Additional information

Type	m = collated	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	IF 240
IG–	**m*–6×**		**…**		
IG–6×			**60**	30	●
			70	40	●
			90	60	●
			100	70	●
			120	90	●
			140	110	●
			160	130	●
			180	150	●

collated

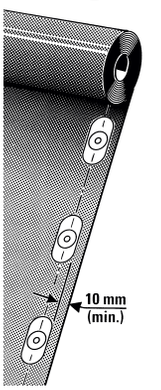
*** Also available collated for use with IF 240 Installation tool**
Product code: IG–m–6 × …

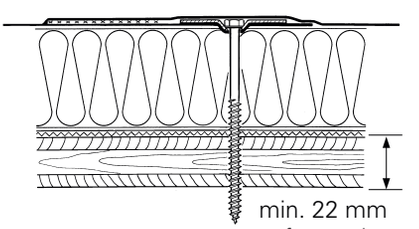


loose

Installation tool:
DI 600
with depth locator
Z 661/IF
Page 10.6

FM APPROVED





Screw length:
Build-up + 30 mm

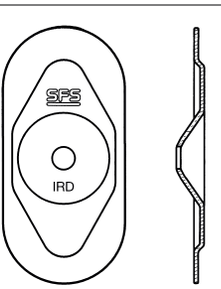
min. 22 mm
soft wood
or 18 mm
plywood

Note:
The isofast system for timber **(IG–m–6 x L** and plates **IRD 82 x 40, ID 70 x 70)** is suitable for the IF 240 automatic installation tool.
Other fasteners may be suitable for timber, contact SFS.

For longer fasteners contact SFS.

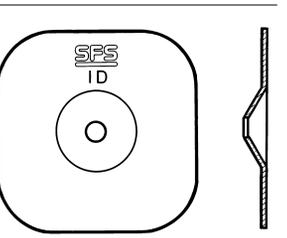
Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm



insulation

Type Dimensions
ID 70 x 70 mm



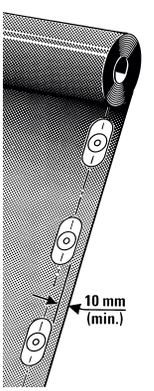
Fastening of waterproof membranes to timber decks

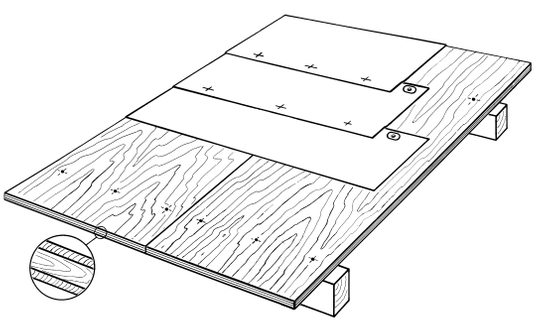
Product/Order code

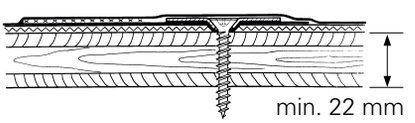
Additional information

Type	Material: S = Stainless steel, T = carbon steel	Diameter collated **d** (mm)	Length **L** (mm)	Total thickness **KL** max. (mm)
IW–	**S–**	**5×**	**...**	
IW–S–5×			**45**	15
IW–T–5×			**45**	15
IW–T–5×			**35**	5

Installation tool: DI 600
with depth locator Z 661/IF
Page 10.6





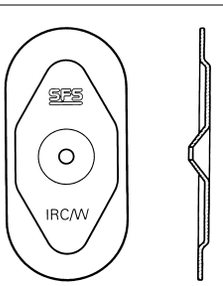


Screw length:
Build-up + 30 mm

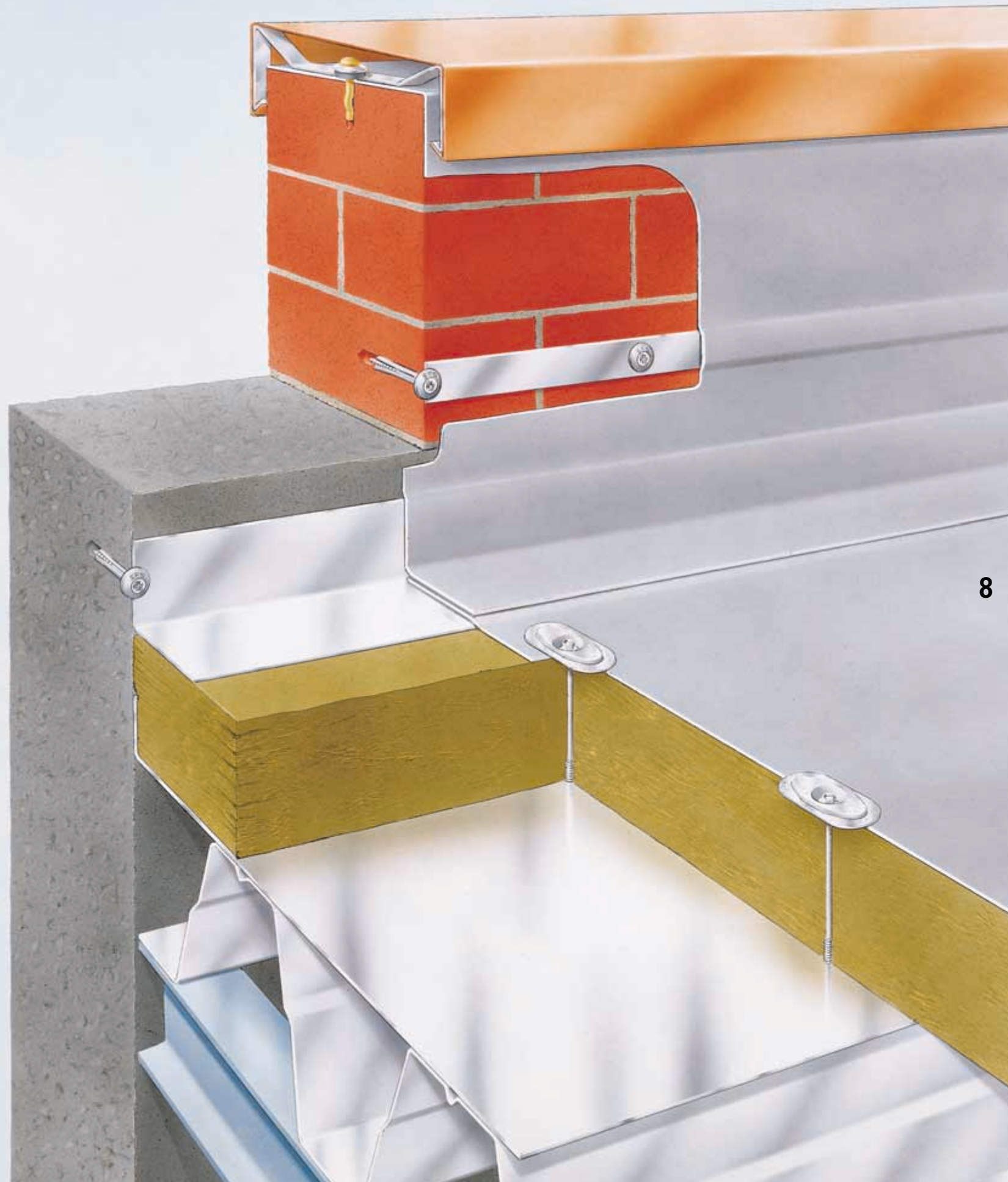
min. 22 mm
soft wood
or 18 mm
plywood

Stress plate: membrane

Typ	Dimension
IRC/W	**82 x 40 mm**



Fastening of flashings, upstands and terminations etc.



Stainless steel fastening to steel closures and flashings

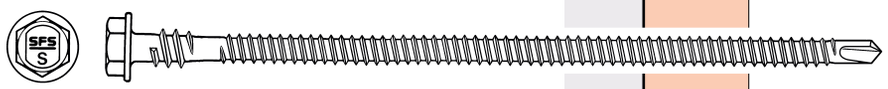
Product/Order code

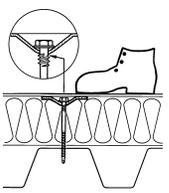
Type	Material	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3–	**S–**	**4,8×**	**...**	
IR3–S–4,8×			**60**	40
			80	60
			100	80
			120	100
			140	120
			160	140
			180	160
			200	180

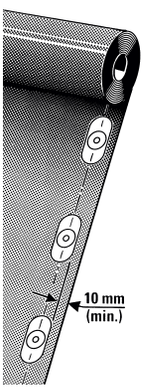
Additional information

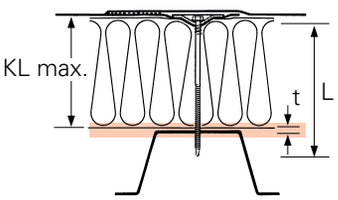
loose

Installation tool: DI 600
with depth locator Z 661/IF
Page 10.6



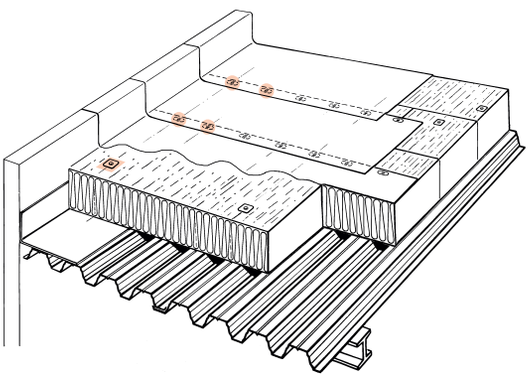


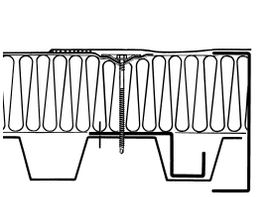


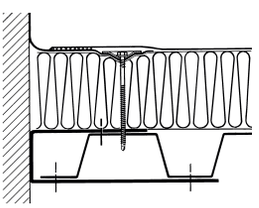


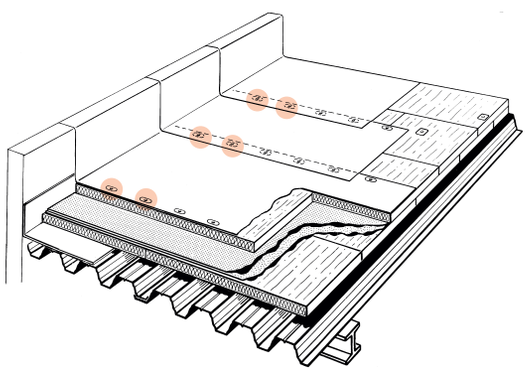
t min.: 1,0 mm
t max.: 2 x 1,5 mm

Application:
Particularly for fastening to steel closures and flashings









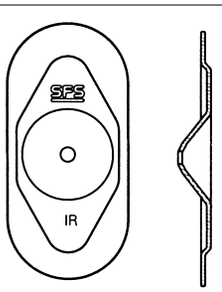
Screw length: Build-up + 20 mm

Stainless steel fasteners for build-up thicknesses over 180 mm on request

Technical information Page 4.2

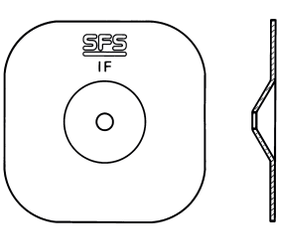
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm

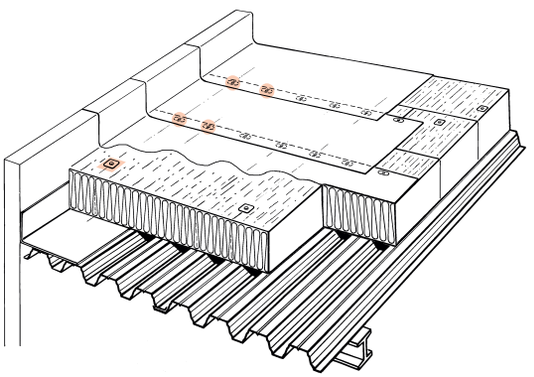


Fastening to steel closures and flashings

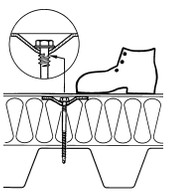
Product/Order code

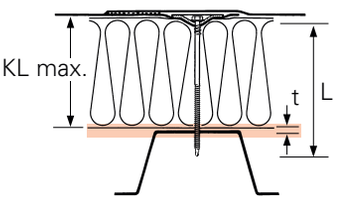
Additional information

Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IR3– 4,8×		**…**	
IR3–4,8×		**60**	40
		80	60
		100	80
		120	100
		140	120
		160	140
		180	160
		200	180
		220	200
		240	220
		260	240
		280	260
		300	280

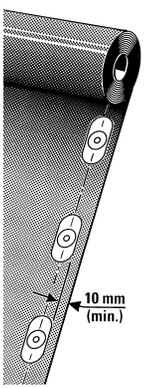


Installation tool: DI 600
with depth locator Z 661/IF
Page 10.6

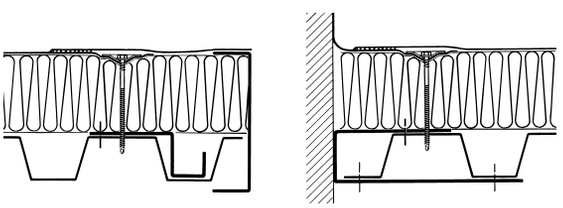




t min.: 1,0 mm
t max.: 2 x 1,5 mm



Application:
Particularly for fastening to steel closures and flashings



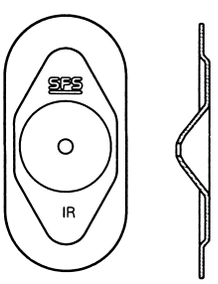
t max.: 2,5 + 1,0 mm
2,0 + 1,5 mm

Screw length: Build-up + 20 mm

Technical information Page 4.2

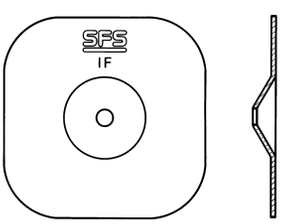
Stress plates: membrane

Type Dimensions
IR 82 x 40 mm



insulation

Type Dimensions
IF 70 x 70 mm



Fastening of termination bars and battens to lightweight concrete

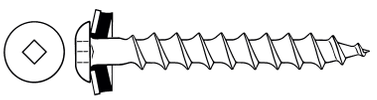
Product/Order code

Type	Material: S = stainless steel	Washer: Material,∅	Diameter **d** (mm)	Length **L** (mm)
IGF–	**S–**	**S19–**	**8×**	**...**

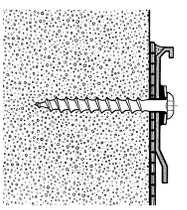
Additional information

Build-up thickness **KL** max. (mm)

Installation tool:
CF 40-G Page 10.9



IGF–S–S19–8× — **65** — 5

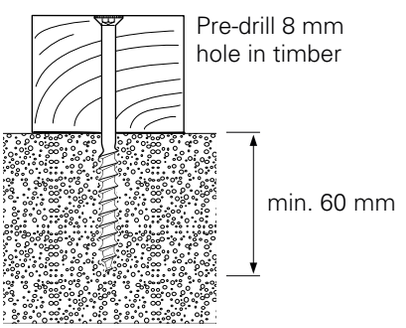


Applications:
IGF-S for the fastening of plastic coated metal and termination bars to lightweight concrete.

Technical information Page 6.2

IGR–S–8×

110	50
130	70
150	90
170	110



Applications:
For the fastening of battens to lightweight concrete.

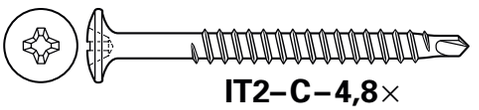
Technical information Page 6.2

Fastening of plastic coated metal to steel deck from 0,63 mm to 2 x 1,25 mm

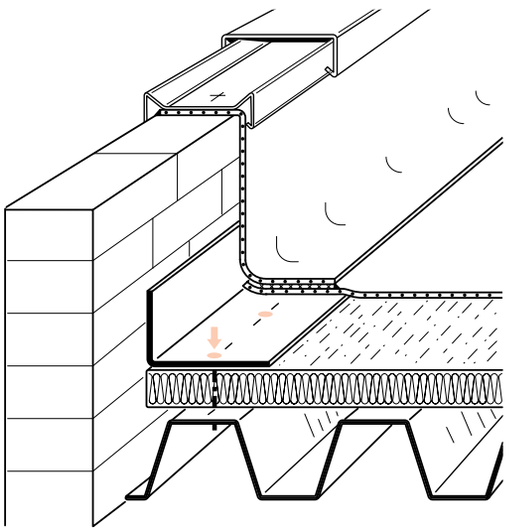
Product/Order code

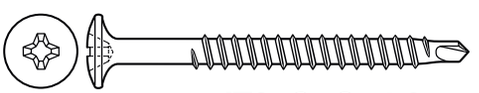
Additional information

Type	S = Stainless steel	Counter sunk head	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IT2–	**S–**	**C–**	**4,8×**	**...**	
				50	30
				60	40
				70	50
				80	60
				100	80
				120	100
				140	120
				160	140
				180	160
				200	180
				220	200
				250	230
				280	260
				300	280



IT2–C–4,8×

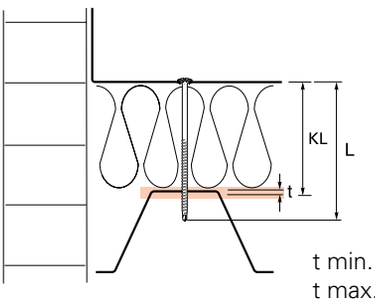




IT2–S–C–4,8×

60	
80	
100	
120	
140	
160	

Installation tool DI 600
Page 10.6



t min.: 0,63 mm
t max.: 2 x 1,25 mm for carbon steel fasteners
(2 x 1,0 mm for stainless steel fasteners)

Plastic coated metal without stress plates over rigid insulation.
If compressible insulation, use IR2–C (page 4.8)

Required tooling:
- Bit holder ZA 1/4" universal
- Drive bit PH2
- Depth locator Z 661/IF

NB
IT3/IT3-S for metal decks 1,0–1,5 mm is a special programme available on request.

* longer length available on special request.

Stainless steel fastening of termination bars and flashings to concrete

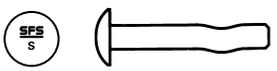
Product/Order code

Additional information

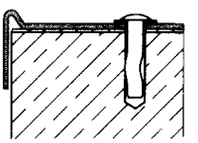
Type	Build-up thickness (mm)	Material	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	Drill bits
DL	**03–**	**S–**	**4,8×**	**25**	3	

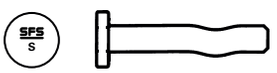
Hammer drill
Page 10.11

Drill bit Page 5.7

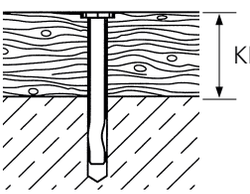


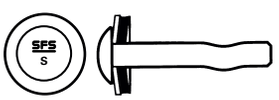
DL 03–S–4,8×	**25**	3	4,8 x 110
DL 10–S–4,8×	**32**	10	110
DL 16–S–4,8×	**38**	16	160
DL 29–S–4,8×	**51**	29	160





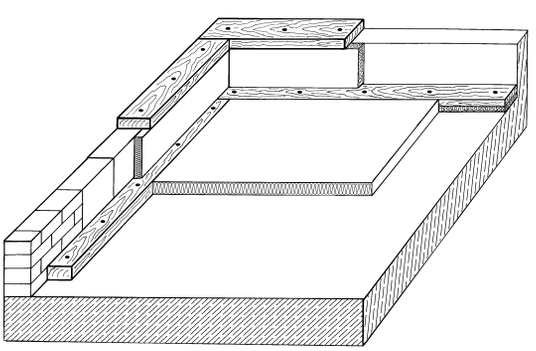
D 32–S–4,8×	**64**	32	160
D 44–S–4,8×	**76**	44	160
D 57–S–4,8×	**89**	57	210
D 70–S–4,8×	**102**	70	210
D 83–S–4,8×	**115**	83	210
D108–S–4,8×	**140**	108	260
D120–S–4,8×	**152**	120	260

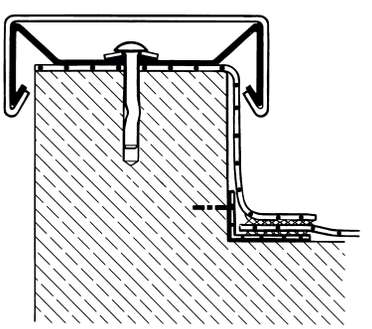




*with sealing washer S14

DL03–S–S14*–4,8×	**25**	3	4,8 x 110
DL10–S–S14*–4,8×	**32**	10	110
DL16–S–S14*–4,8×	**38**	16	160
DL29–S–S14*–4,8×	**51**	29	160





Depth of pilot hole to be 20 mm more than length of spike.

Technical information Page 5.2

Fastening of termination bars and flashings to concrete

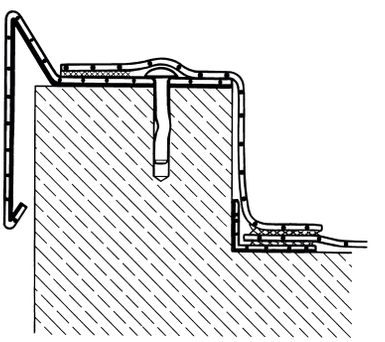
Product/Order code

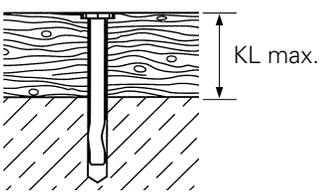
Additional information

Type	Build-up thickness (mm)	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)	Drill bits
DL	**03–**	**4,8×**	**25**	3	
DL03–4,8×			**25**	3	4,8 x 110
DL10–4,8×			**32**	10	110
DL16–4,8×			**38**	16	160
DL29–4,8×			**51**	29	160
D 32–4,8×			**64**	32	160
D 44–4,8×			**76**	44	160
D 57–4,8×			**89**	57	210
D 70–4,8×			**102**	70	210
D 83–4,8×			**115**	83	210
D108–4,8×			**140**	108	260
D120–4,8×			**152**	120	260

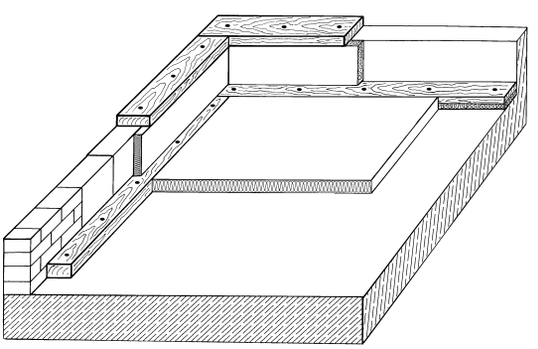
Hammer drill
Page 10.11

Drill bit Page 5.7





Depth of pilot hole to be 20 mm more than length of spike.



Technical information Page 5.2

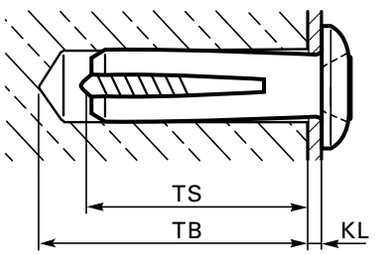
Technical information

RNR

Material:

Body:	Zinc alloy
Screw:	RNR: zinc plated carbon steel RNR-S: stainless steel, austenitic grade 304 (grade 1.4301 according to European Standard 10088)

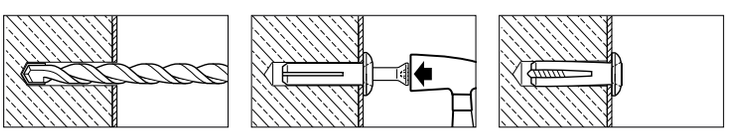
Applications:
For fastening terminations and plastic coated metal upstands directly to concrete and masonry.
The RNR hammer-screw fastener is simple to install, has high pull-out values and is removable.



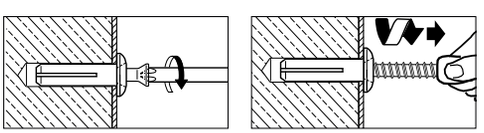
TS = embedment depth = 22 mm
TB = minimum drill depth = 30 mm

Installation:

Insertion:



Removal with PH 2 screw driver



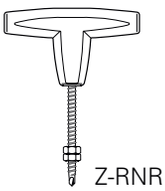
Remove screw, wind in Z–RNR tool, and withdraw fastener.

Fastening termination bars and plastic coated metal upstands to concrete and masonry

Product/Order code

Additional information

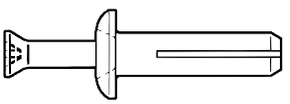
Type	Material thickness (mm)	Material: S = stainless steel	Diameter **d** (mm)	Length **L** (mm)	Total material **KL** max. (mm)
RNR	**03–**	**S–**	**6,3×**	**25**	3

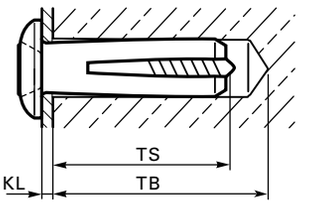


Z-RNR

Hammer drill
Page 10.11

DB 620



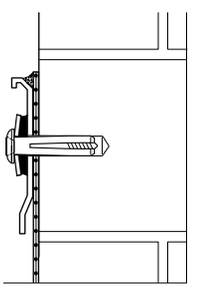


TS = embedment depth
= 22 mm
TB = min. drill depth
= 30 mm

		Drill bits
RNR03–S–6,3×	**25**	6,3x110
RNR10–S–6,3×	**32**	110
RNR16–S–6,3×	**38**	110
RNR28–S–6,3×	**50**	160

RNR03–6,3×	**25**	6,3x110
RNR10–6,3×	**32**	110
RNR16–6,3×	**38**	110
RNR28–6,3×	**50**	160

Sealing washer: A16/8.3
16 mm dia. aluminium with bonded EPDM seal



Hammer drill bits

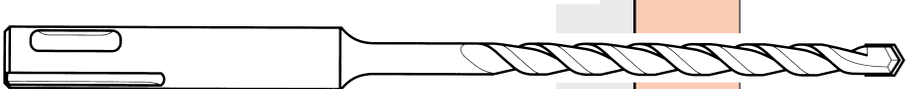
Product/Order code

Additional information

Diameter	Length (mm)	Working-length (mm)
6,3×	**160**	100

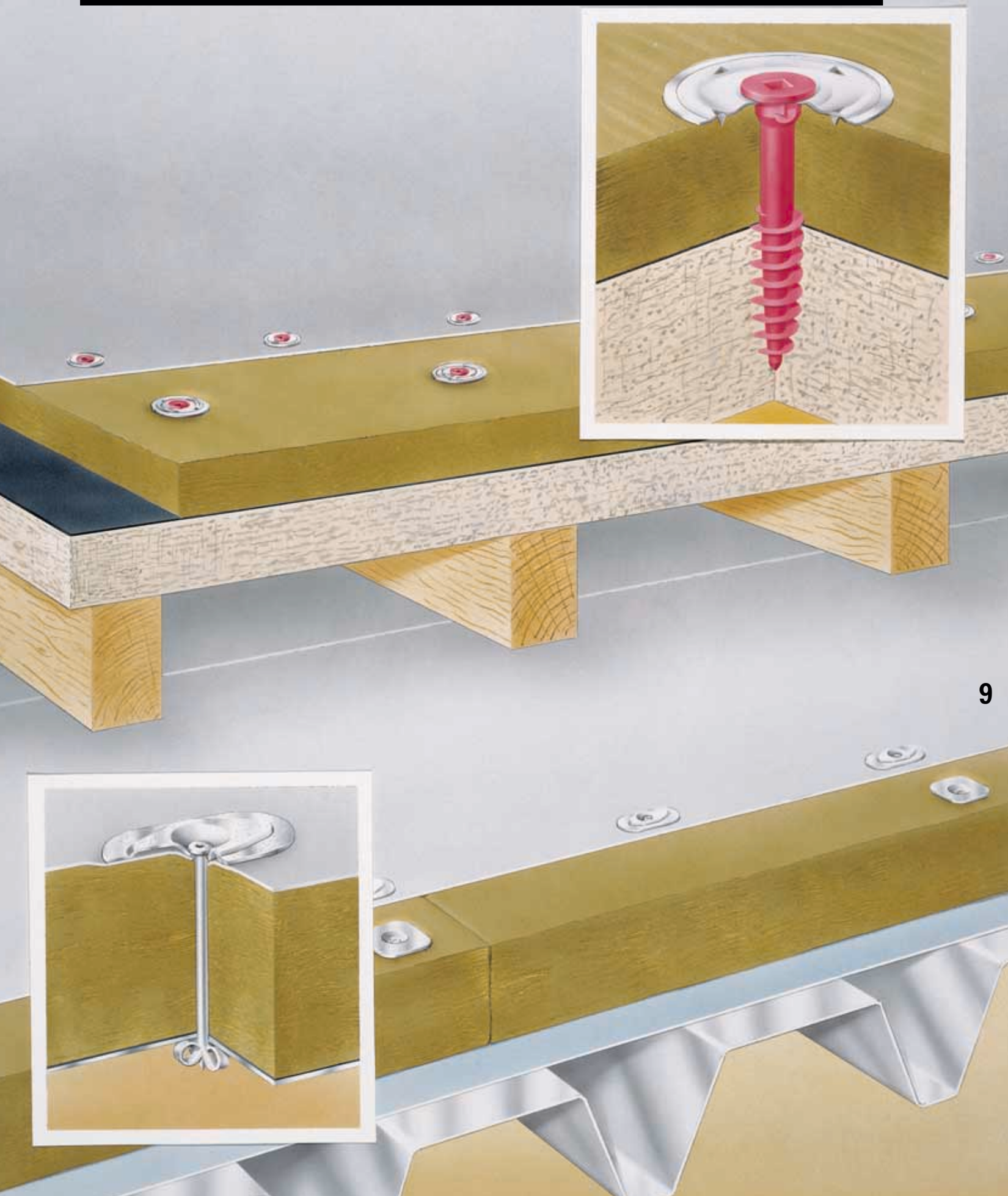
- SDS drive system

Carbide tipped drill bits with SDS drive



6,3×	**110**	50
6,3×	**160**	100

Special fasteners



Technical information

isofast IP

Material:
Screw: Fibreglass reinforced nylon (Zytel®)
Stress plates: Aluzinc coated steel

Application:
For fastening membranes and insulation to woodwool structural roof decks (to BS 1105) of minimum thickness 50 mm.

Generally:
Minimum embedment of 38 mm into the woodwool must be achieved.
Maximum pull out values are achieved by full thread engagement, i.e. 58 mm.
Unwinding under dynamic wind loads is prevented by the unique ratchet system and barbed stress plates.

Pre-screeded woodwool requires a clearance hole of 18 mm be made into the screed only.

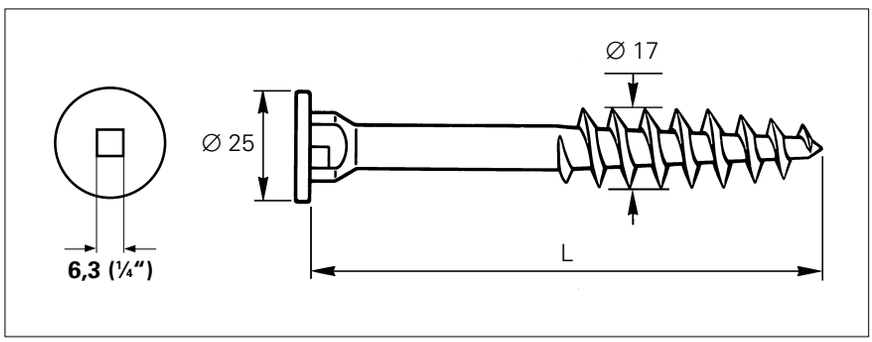
Installation must be made with slow speed (max. 700 rpm).
Normally, the isofast IP screw can be installed into woodwool without pre-drilling.

On some refurbishment contracts pre-drilling of the existing build-up may be required.

Pull-out tests must always be made on all projects to confirm performance and suitability – contact SFS.

Recommended design load to be maximum 400 N and is dependant on on-site pull-out tests.

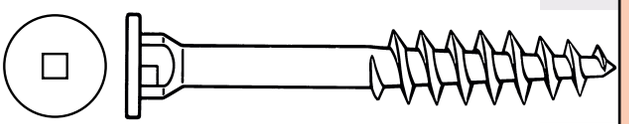
Installation tools for optimum performance:
DI 600 (speed control by trigger) electric screwdriver (Page 10.6)

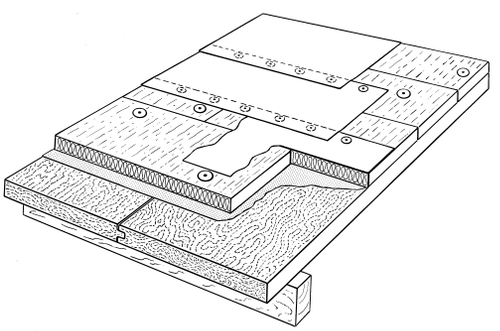


Fastening of waterproof membranes and insulation to woodwool decks

Product/Order code

Type	max. build-up (mm)	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max. (mm)
IP	**26–**	**17** ×	**...**	
IP 26–17 ×			**64**	26
IP 38–17 ×			**76**	38
IP 51–17 ×			**89**	51
IP 64–17 ×			**102**	64
IP 77–17 ×			**115**	77
IP 89–17 ×			**127**	89
IP 102–17 ×			**140**	102
IP 114–17 ×			**152**	114
IP 127–17 ×			**165**	127

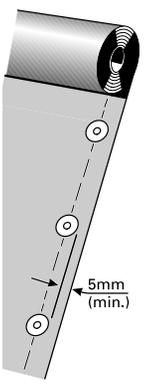


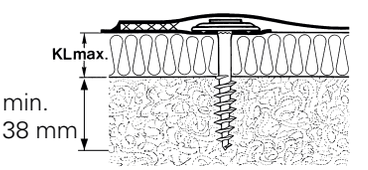


Additional information

FM APPROVED

Installation tool: DI 600
Page 10.6



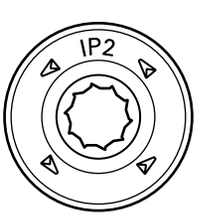


On-site pull-out tests must be made to confirm suitability and performance.

Required tooling:
- square drive bit SQ 10
- bit holder ZA¼" universal

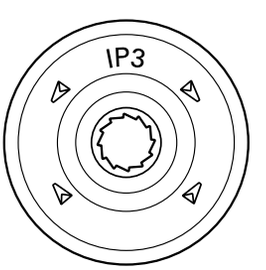
Stress plates: membrane

Type
IP2 (Ø 51 mm)



insulation

Type
IP3 (Ø 76 mm)



Technical information

Peel Rivet System TPR

Material:

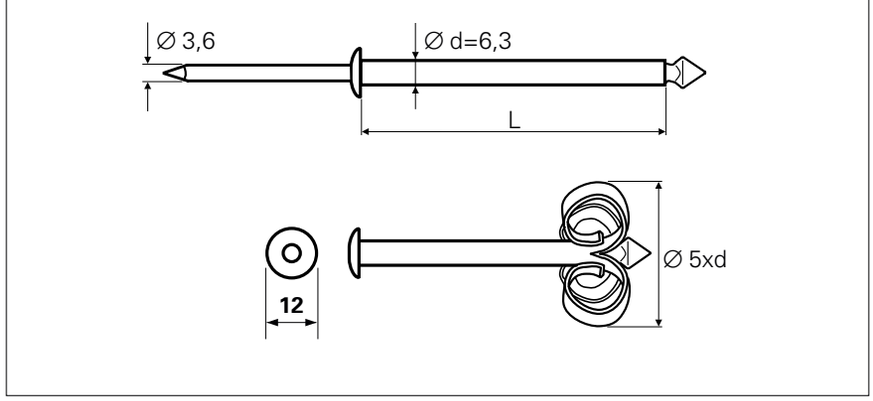
Body:	Aluminium/magnesium alloy
Mandrel:	Zinc plated steel
Stress plates:	Steel, aluzinc plated

Application:
For the fastening of waterproof membranes and insulation to aluminium, woodwool and “problem” decks, where conventional threaded fasteners may not achieve sufficient performance.

Generally:
To be installed via pilot hole.
Application tests are required on all projects to determine suitability and performance.

“Problem” decks	TPR-L L = (38–178 mm)	TPR
Thin steel	< 0,63 mm < 0,50 mm*	≥ 0,63 mm
Aluminium	< 1,0 mm < 0,60 mm*	≥ 1,0 mm
Composite panels	KL ≥ 13 mm (note: metal faced)	
Thin walled concrete	KL ≥ 13 mm**	

* = application tests are required to determine suitability and performance
KL = clamping length, for fragile materials such as aluminium, woodwool, etc. optimum results are achieved with penetration of 32–38 mm
** = without hammer drill



Installation tools:
HN2 Lever tool (Page 10.12)
TPR 50 electric rivetting tool (Page 10.12)

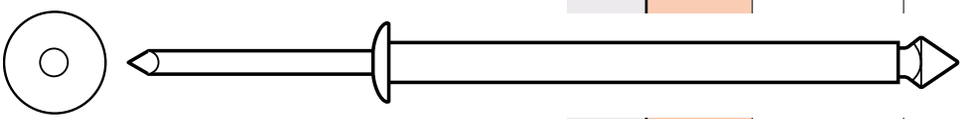
Fastening to aluminium deck, woodwool and "problem" decks

Product/Order code | **additional information**

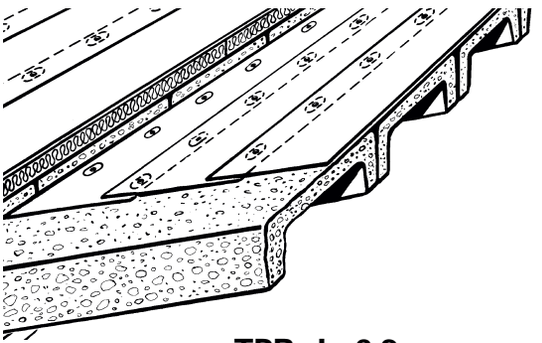
Type	Diameter **d** (mm)	Length **L** (mm)	Build-up thickness **KL** max.* (mm)
TPR–6,3× …			

FM APPROVED

Installation tools:
TPR50 rivetting tool
Page 10.12

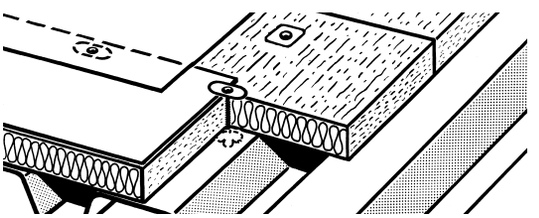


TPR–6,3×



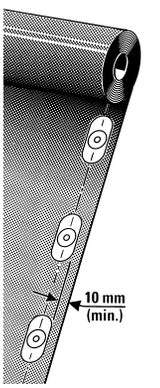
38	6
51	19
76	44
102	70
127	95
152	120
178	146
203	171
229	197
254	222

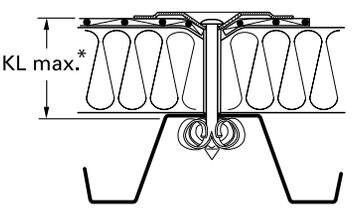
TPR–L–6,3×



38	6
51	19
76	44
102	70
127	95
152	120
178	146

Light pressure rivet for soft or fragile substrates, e.g. thin aluminium etc.

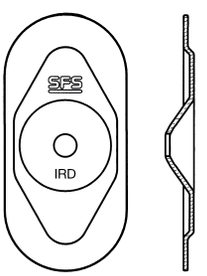




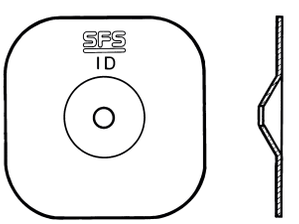
***Note:**
Reduce KL max. by 6 mm when fastening to woodwool or fragile substrates.

Stress plates: membrane

Type Dimensions
IRD 82 x 40 mm

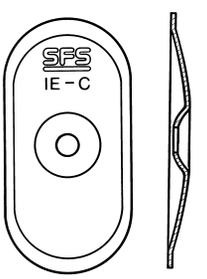


Type Dimensions
ID 70 x 70 mm

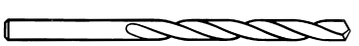


Type
IE–C
Dimensions
82 x 40 mm

On hard surfaces



Drill bits



7.0x

HSS drill

for steel or aluminium

Length **L** (mm)	Working length (mm)
74	35
109	70
156	115
225	185
290	250
370	330

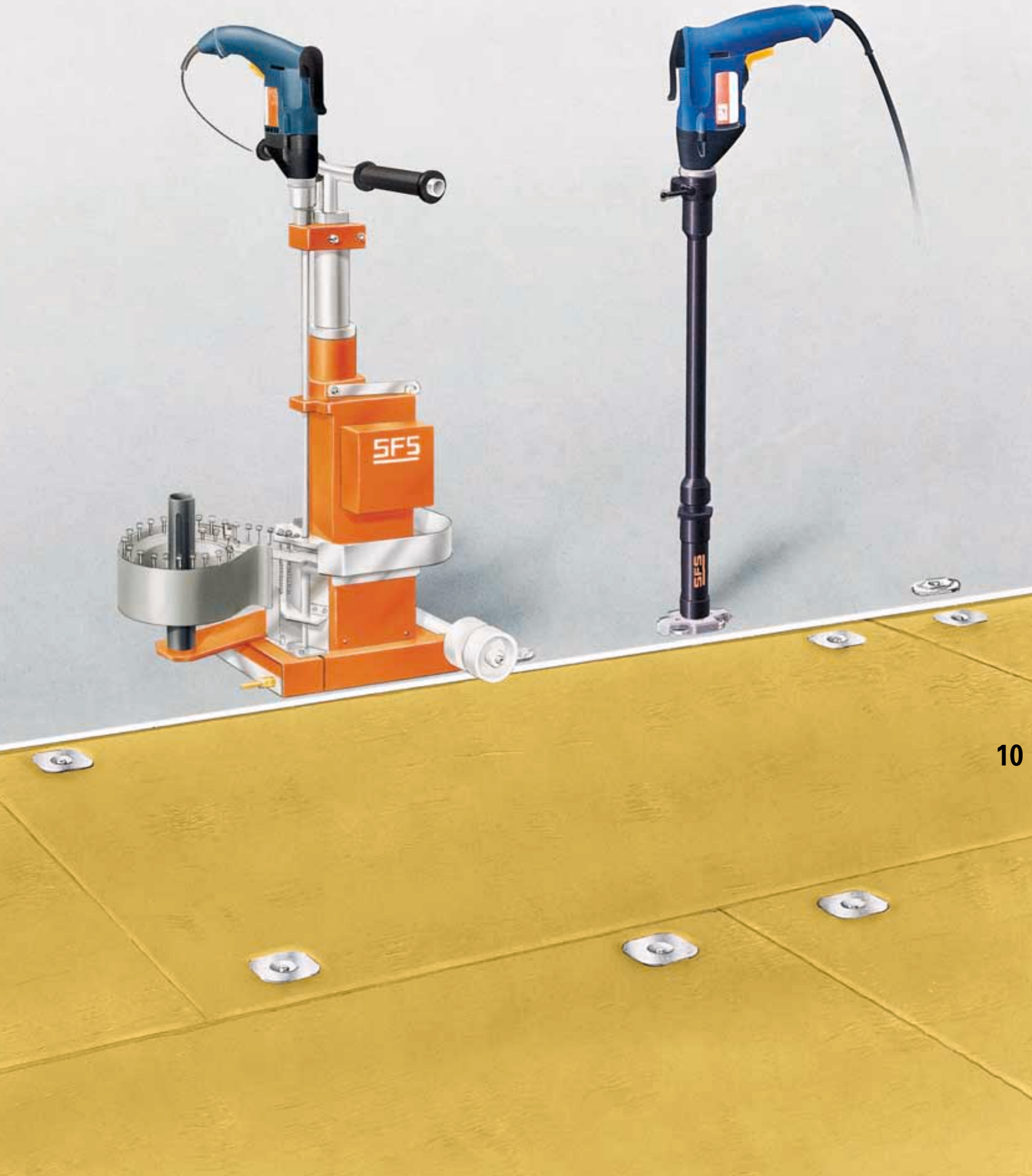
6.3x

Hammer drill with SDS drive

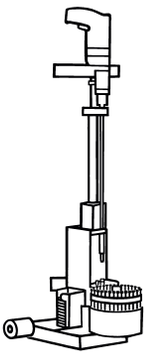
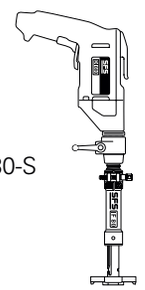
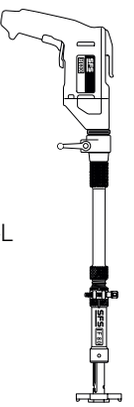
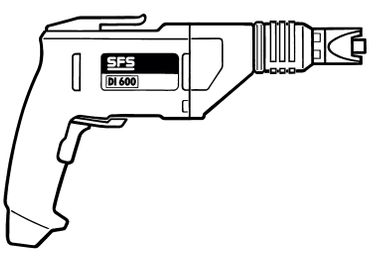
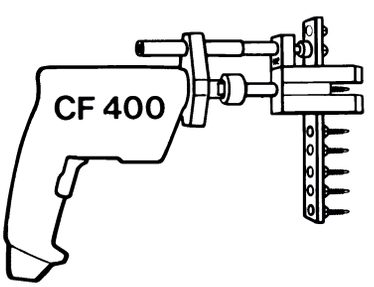
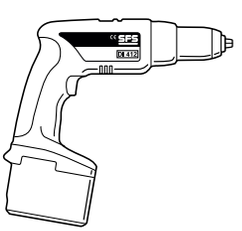
for woodwool, concrete or fibre cement (without hammer action)

Length **L** (mm)	Working length (mm)
110	50
160	100
210	160
260	200
285	225

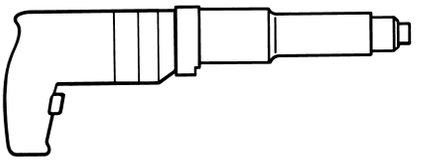
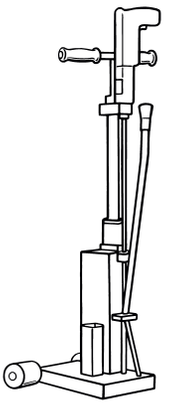
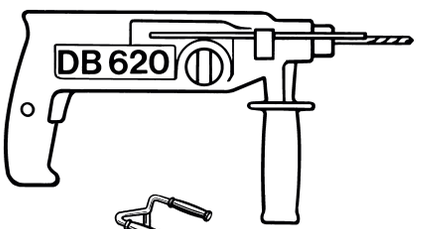
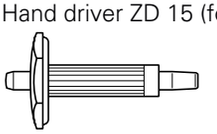
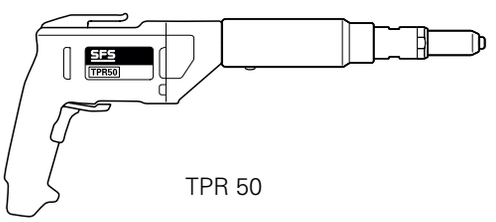
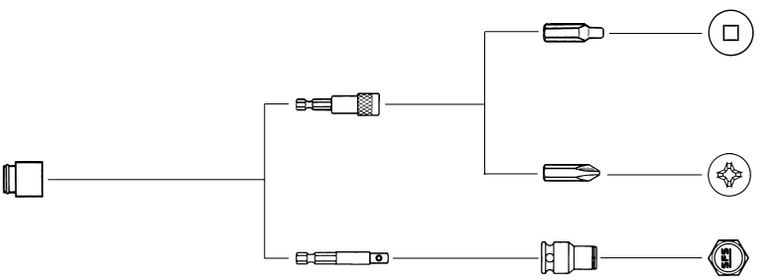
Installation tools



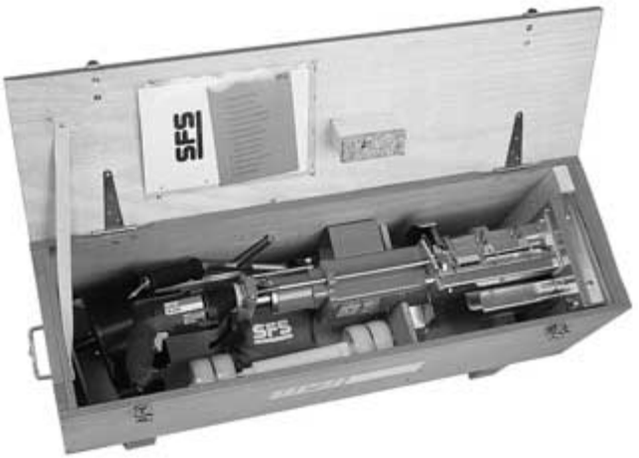
Installation tools for all applications

Product	Tool	
IF 240 Automatic tool for the installation of collated isofast screws (IR2, IR3, IG) including plates.		Page 10.4
IF 80 Tooling for the installation of the IF 80 system products (Assembled fasteners).	IF 80-S  IF 80-L 	Page 10.5
DI 600 Screwdriver for the hand installation of fasteners.		Page 10.6
CF 400 Automatic tool for installing magazinised fasteners.		Page 10.7
DI 412 Battery screwgun		Seite 10.8

Installation tools for all applications

Product	Tool	
CF 40-G Tool for the hand installation of isofast IGR and IGF fasteners into lightweight concrete.		Page 10.9
IF 160-G Automatic setting tool for the installation of isofast IGR fasteners and plates.		Page 10.10
DB 620 and accessories Electro-pneumatic hammer drill with SDS drive.	  Extension DF 21 for DB 620 hammer drill SDS driver DP 11 (for spike)  Hand driver ZD 15 (for spike) 	Page 10.11
TPR 50 Rivetting tools	 TPR 50	Page 10.12
Accessories, socket and bits for the DI 600		Page 10.13

IF 240



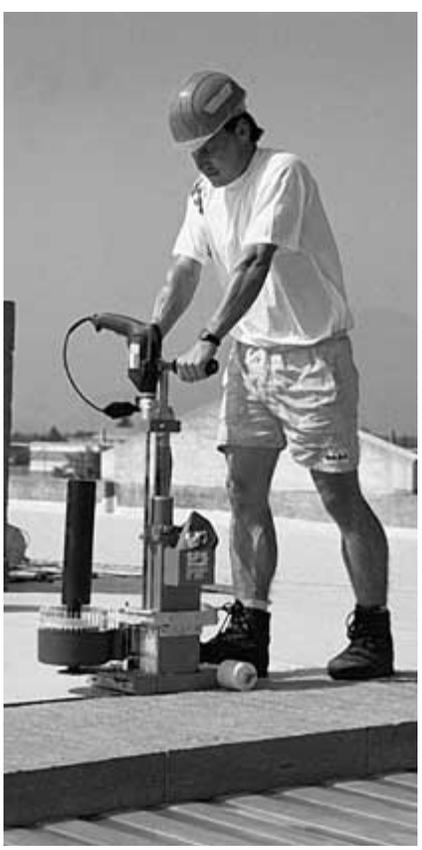
Technical data:

Screwdriver:	DI 600
Wattage:	600 W
R.P.M.:	2000
Voltage:	230 V or 110 V
Hight:	1100 mm (working height)
Width:	415 mm (across rollers)
Weight:	28 kg

Fasteners:

Diameter:	4,8 mm and 6,0 mm
Length:	50 mm to 240 mm
	from 50 mm – 160 mm, screws collated at 75 pcs. per strip
	from 180 mm – 240 mm, screws collated at 100 pcs. per strip

Application:
For the fast and economic installation, in an upright, ergonomic position, of collated fasteners (IR2, IR3, IG) and stress plates (IR 82×40, IRD 82×40, IF 70×70, ID 70×70).



Standard accessories:
Transport case
Waterproof cover
Tool bag
Socket E320 (8 mm hex)
Spray lubricant

Special accessories:
Adjusting device for guide pin
Alignment bar for fastener spacing

IF 80

Technical data:

Screwdriver:	DI 600
Wattage:	600 W
R.P.M.:	2000
Voltage:	230 V or 110 V
Depth locator:	adjustable
Total hight:	IF 80-S: 470 mm
	IF 80-L: 750 mm
Weight:	IF 80-S: 2 kg
	IF 80-L: 2,5 kg

Fasteners:

Diameter:	4,8 mm
Length:	50 mm à 300 mm

Application:
For small areas. Ready-to-use fasteners which are preassembled with plate if requested. The assembling may be done on the job site if necessary.

Accessoires:

Socket:	E 320 (8 mm hex)

IF-80-L

IF-80-S

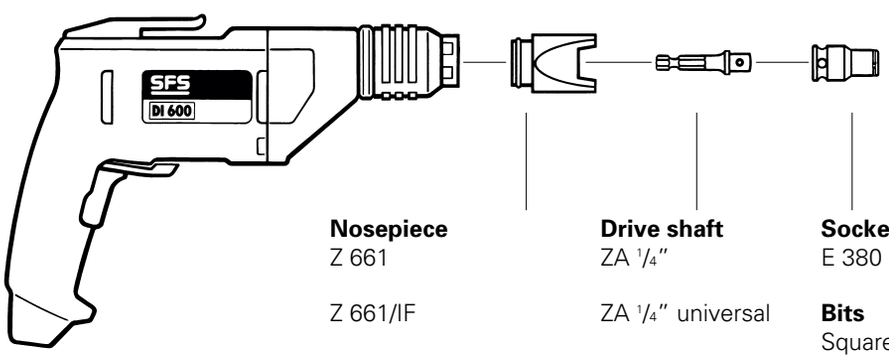
DI 600

Technical data:

Screwdriver:	DI 600
Wattage:	600 W
R.P.M.:	2000
Voltage:	230 V or 110 V
Length:	290 mm
Weight:	1,6 kg

Application:
For the simple installation of all screw fasteners.

Accessories:



Nosepiece
Z 661

Z 661/IF

Drive shaft
ZA ¼"

ZA ¼" universal

Socket
E 380 (for all fastener with 8 mm hex)

Bits
Square drive SQ 3 (for IR2-C fasteners)
PZ 2 (for IW fasteners)
PH2 (for IT2 fasteners)
PH3 (for IF2 fasteners)
Square drive SQ 10 (for IP fasteners)

See also Page 10.13

CF 400

Technical data:

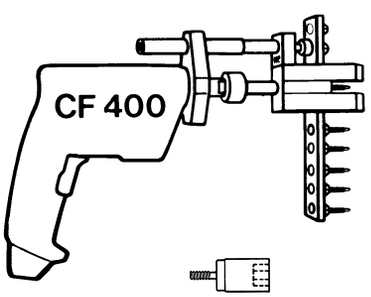
Wattage:	420 W
R.P.M:	1700
Voltage:	230 V or 110 V
Length:	370 mm
Weight:	2,17 kg

Application:
Fully automatic system which greatly increases installation speed, saving time and money, compared with the conventional manual method.
Suitable for installing hexagon head fasteners in steel up to 12 mm thick with a maximum washer diameter of 16 mm.

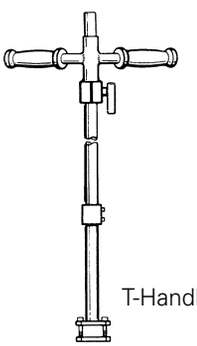
Height adjustable handle of the CF 400 improves the ergonomic working position on the roof.

Plastic strip magazine with 10 fasteners.

Accessories:



Socket
E 340 Hexagon head



T-Handle

Extra large pouch
for magazinised CF 400
fasteners

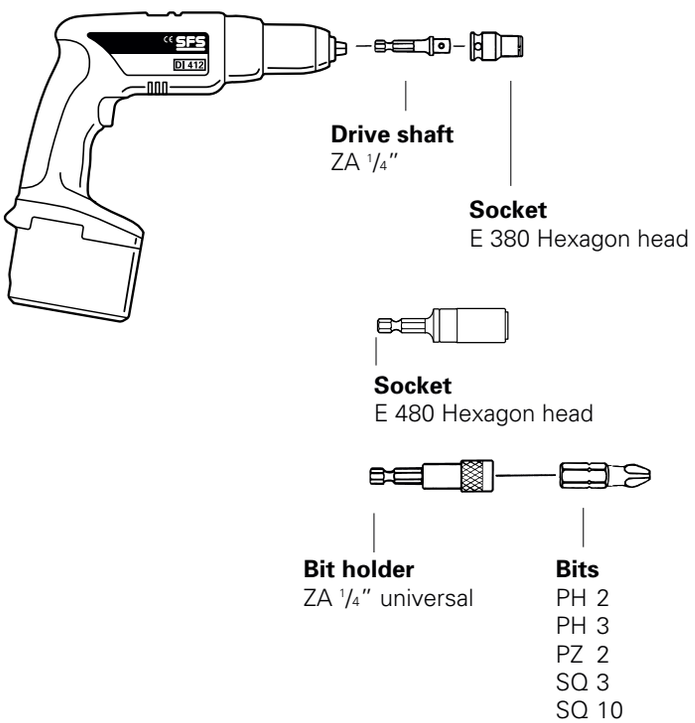
DI 412

Technical data:

Power tool:	DI 412
R.P.M.:	1400
Power supply:	12 V
Adjustable torque:	1–10 N/m
Weight:	2,0 kg
Charge time:	21 Min.
Charger voltage:	230 V or 110 V

Application:
Light weight battery screwgun for installing self drilling and self tapping fasteners.

DI 412 accessories:



Installation tool

CF 40-G

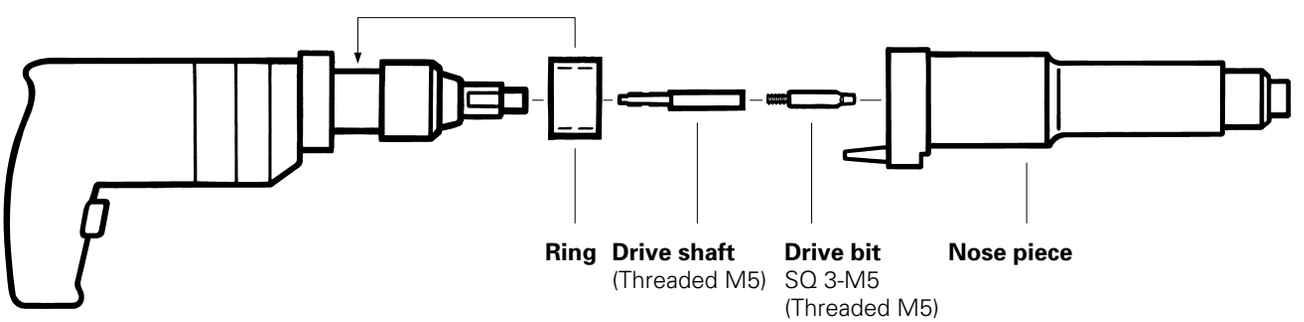
Technical data:

Screwdriver:	ASsd 637
Wattage:	300 W
R.P.M.:	530
Voltage:	230 V or 110 V
Length:	440 mm
Weight:	3,4 kg
Torque:	adjustable

Fasteners:
IGR and IGF, dia. 8 mm, with internal square drive SQ 3

Application:
For the torque controlled hand installation of isofast IGR and IGF screws into lightweight concrete.

Accessories:



IF 160-G

Technical data:

Screwdriver:	ASsd 637
Wattage:	300 W
R.P.M.:	530
Voltage:	230 V or 110 V
Hight:	1065–1145 mm
Weight:	30 kg
Torque:	adjustable

Fasteners:

Diameter:	8,0 mm
Lenght:	65 mm à 190 mm

Application:
For the easy installation of the IGR fasteners for lightweight concrete.
- Manual single fastener feeding
- Automated load distribution feeding (75 plates)

Accessoires:
1 Transport case
1 Waterproof cover
1 Tool bag
1 Square drive bit SQ 3
1 Lubricant

Installation tool

DB 620 (Electro-pneumatic hammer drill)

Technical data:

Wattage:	620 W
R.P.M.:	870
Voltage:	230 V or 110 V
Length:	360 mm
Weight:	2,4 kg

Application:
The hammer drill DB 620 is the ideal tool for drilling into concrete. With the special accessory DP 11 the DB 620 can also be used to install spike fasteners with little effort.

Hammer drill bits:
See Page 5.7

Accessories:

Extension DF 21
Allows the DB 620 to be used from a standing position, ensuring optimum performance from tool and operator.

SDS Driver DP 11
In combination with the hammer drill DB 620 the DP 11 is the optimum installation tool for spike fasteners.

Hand driver ZD 15
For the manual installation of spike fasteners.

TPR 50 electric rivetting tool

Technical data:

Wattage:	600 W
R.P.M.:	600
Voltage:	230 V or 110 V
Pulling stroke:	50 mm
Pulling speed:	0,7 s/stroke
Weight:	3 kg
Total length:	480 mm

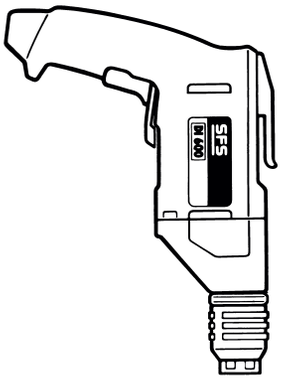
Spare parts:

Nose piece:	Art.-No. 896 857
Clamping brackets:	Art.-No. 896 854 (3 pcs.)

Lever tool HN2

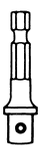
Application:
for low volume installation of Peel Rivets

Accessories for DI 600



DI 600

Z 661 (for SX, SD and SL fasteners)
Z 661/IF (for IR, IF, IT, IG, IW and TI fasteners



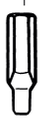
ZA ¼"

ZA ¼"
universal

E 380

PH 2
PH 3

PZ 2



SQ 3

SQ 10

8