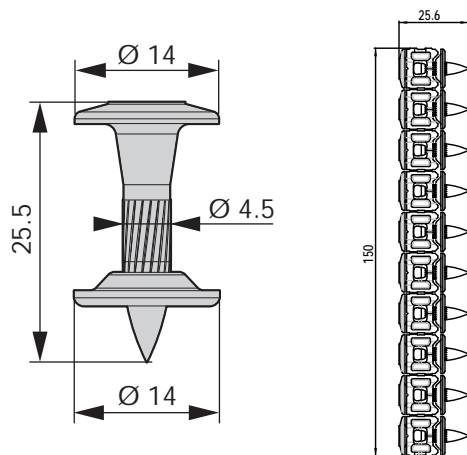
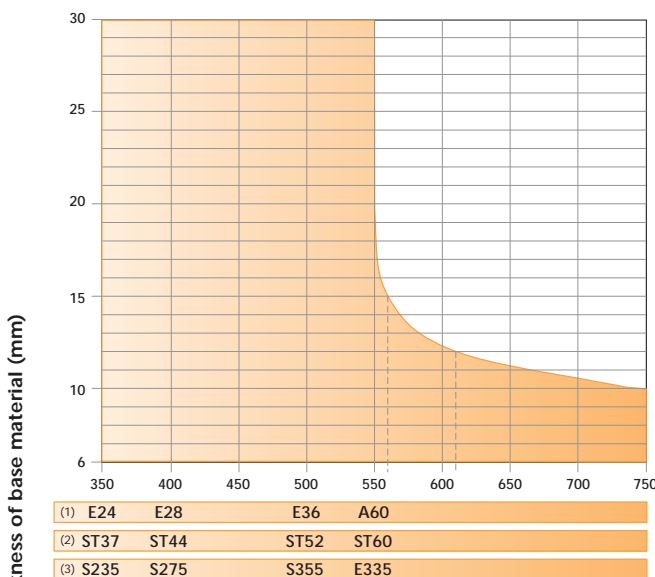


SPIT HSBR14



code 011391 (in tube) / code 011390 (in bulk) / code 053953 (in strip)

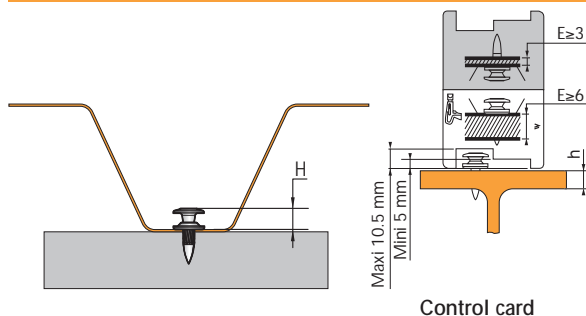
APPLICATION LIMIT



(1) French designation - (2) German designation
(3) Designation according to European standard NF EN 10027-1

Ultimate tensile strength of base material (N/mm²)

CONTROL FIXING



Thickness of base material	H _{min} ⁽¹⁾ (mm)	H _{max} ⁽¹⁾ (mm)
h ≥ 6 mm	5	10.5

(1) Values obtained with 0.75 mm steel sheet.

DESCRIPTION

→ Cladding panels, roofing

PROPERTIES MATERIAL

The HSBR14 nails is composed of :

→ Shank in carbon steel

- Ultimate tensile strength : 2300 N/mm²
- Yield strength : 1600 N/mm²
- Mechanical zinc plating, min zinc coating 10 µm
- Hardness > 57 HRc

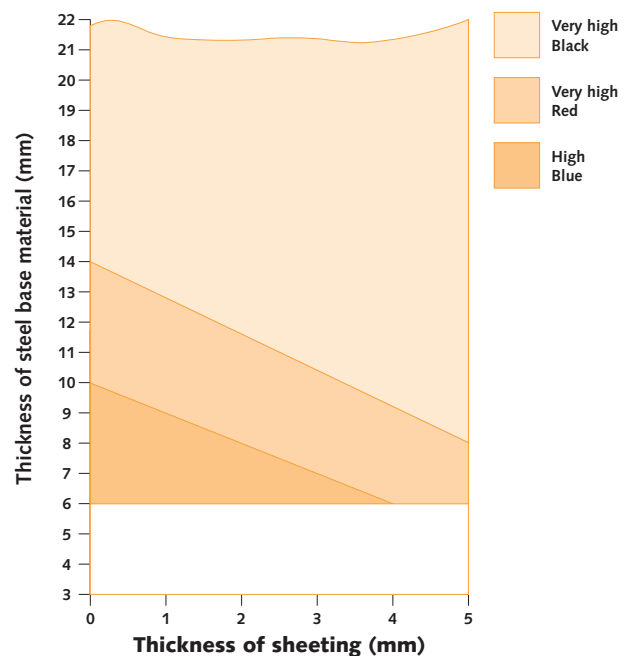
→ One steel washer

- Min zinc coating 8 µm
- Electrogalvanizing
- The plate washer developed for a good clamping of the plates to avoid damages when shooting.

TOOLS

P560 – P230 – P525L

POWER SETTING





→ Base material :

Resistance of base material S235 (E24) and with a thickness higher than 6mm according to the field of application given in the first page.

ACCORDING TO EUROPEAN TECHNICAL APPROVAL ETA N° 08/0040



→ Sheetings and type of connections :



1 sheeting



2 sheetings



2 Sheetings



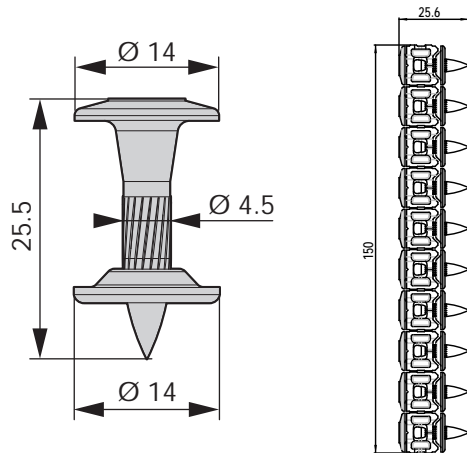
4 sheetings

Sheeting thickness (mm)	Characteristic loads [kN]		Design loads [kN]		Recommended loads [kN]		Connection type
	Shear	Tensile	Shear	Tensile	Shear	Tensile	
	V_{Rk}	N_{Rk}	V_{Rd}	N_{Rd}	V_{Rec}	N_{Rec}	
0.63	4,2	5,3	3,4	4,2	2,2	2,8	A B C D
0.75	5,8	6,6	4,6	5,3	3,1	3,5	A B C D
0.88	7,7	7,7	6,2	6,2	4,1	4,1	A B C D
1.00	8,6	8,2	6,9	6,6	4,6	4,4	A B C D
1.13	9,1	9,1	7,3	7,3	4,9	4,9	A
1.25	9,5	9,5	7,6	7,6	5,1	5,1	A
1.50	10,0	10,1	8,0	8,1	5,3	5,4	A
1.75	10,0	10,3	8,0	8,2	5,3	5,5	A
2.00	10,0	10,4	8,0	8,3	5,3	5,5	A
2.50	10,0	10,5	8,0	8,4	5,3	5,6	A

$V_{Rd} = V_{Rk} / \gamma_M$: the design load is calculated from the characteristic load and a partial safety factor $\gamma_M = 1.25$.

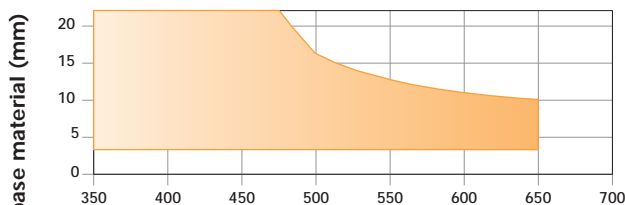
$N_{Rd} = \alpha_{cycl} \times N_{Rk} / \gamma_M$: the design load is calculated from the characteristic load and a partial safety factor $\gamma_M = 1.25$ and $\alpha_{cycl} = 1$.

For the calculation of the recommended load, we applied the partial safety factor $\gamma_F = 1.5$. The recommended loads N_{rec} and V_{rec} are appropriate for Eurocode 1 wind loading design with a partial safety factor $\gamma_F = 1.5$ for wind load and a partial resistance factor $\gamma_N = 1.25$ for fastening.



code 011391 (in tube) / code 011390 (in bulk) / code 053952 (in strip)

APPLICATION LIMIT

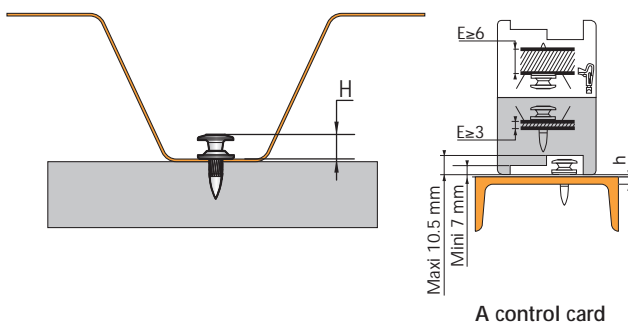


(1) E24	E28	E36	A60
(2) ST37	ST44	ST52	ST60
(3) S235	S275	S355	E335

(1) French designation - (2) German designation
(3) Designation according to European standard NF EN 10027-1

Ultimate tensile strength of base material (N/mm²)

CONTROL FIXING



A control card

Thickness of base material	H _{min} ⁽¹⁾ (mm)	H _{max} ⁽¹⁾ (mm)
3 ≤ h < 6 mm ⁽²⁾	7	10.5
h ≥ 6 mm	5	10.5

(1) Values obtained with 0.75 mm steel sheet.

(2) French rules AT CSTB.

DESCRIPTION

Cladding panels / roofing

PROPERTIES MATERIAL

The SBR14 nails is composed of :

Shank in carbon steel

- Ultimate tensile strength : 2300 N/mm²
- Yield strength : 1600 N/mm²
- Electrogalvanizing, min zinc coating 7 µm
- Hardness : 54 to 58 HRC

One steel washer

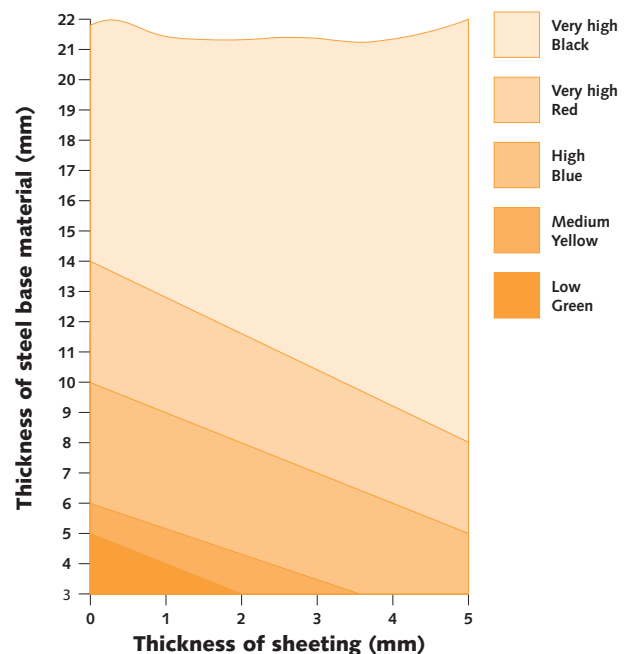
- Min zinc coating 8 µm
- Electrogalvanizing
- The plate washer developed for a good clamping of the plates to avoid damages when shooting.

Kesternitch test, 2 cycles exposure

TOOLS

P560 - P230 - P525L

POWER SETTING





ACCORDING FRENCH RULES (TECHNICAL APPROVAL ISSUE FROM CSTB, N° 5/07-1973) :

Thickness of base material S235 (E24) quality	Characteristic load ⁽¹⁾ (kN), for connection of one sheet with thickness 0,75 mm $f_{uk} > 400 \text{ N/mm}^2$ (S280GD) N_{Rk}
$3 \leq h < 6 \text{ mm}$	4,0
$h \geq 6 \text{ mm}$	6,0

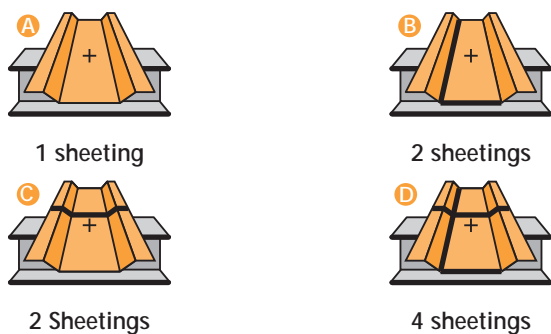
⁽¹⁾ according to the standard NF P 84-206, ref. DTU 43.3

ACCORDING DIBT GERMAN APPROVAL N° Z-14.1-4 :

→ Base material :

Resistance of base material S235 (E24) and with a thickness higher than 6mm according to the field of application given in the first page.

→ Sheetings and type of connections :



Sheeting thickness (mm)	Characteristic loads [kN]		Design loads [kN]		Recommended loads [kN]		Connection type
	Shear	Tensile	Shear	Tensile	Shear	Tensile	
	V_{Rk}	N_{Rk}	V_{Rd}	N_{Rd}	V_{Rec}	N_{Rec}	
0.63	3.4	2.4	2.5	1.8	1.7	1.2	A B C D
0.75	4.4	4.0	3.3	3.0	2.2	2.0	A B C D
0.88	5.6	5.2	4.2	3.9	2.8	2.6	A B C D
1.00	6.8	6.4	5.1	4.8	3.4	3.2	A B C D
1.13	8.2	7.8	6.1	5.9	4.1	3.9	A
1.25	9.4	9.4	7.1	7.1	4.7	4.7	A
1.50	9.4	9.4	7.1	7.1	4.7	4.7	A
1.75	9.4	9.4	7.1	7.1	4.7	4.7	A
2.00	9.4	9.4	7.1	7.1	4.7	4.7	A
2.50	9.4	9.4	7.1	7.1	4.7	4.7	A

$V_{Rd} = V_{Rk} / \gamma_M$: the design load is calculated from the characteristic load and a partial safety factor $\gamma_M = 1.33$.

$N_{Rd} = \alpha_{cycl} \times N_{Rk} / \gamma_M$: the design load is calculated from the characteristic load and a partial safety factor $\gamma_M = 1.33$ and $\alpha_{cycl} = 1$.

For the calculation of the recommended load, we applied the partial safety factor $\gamma_F = 1.5$.