

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-10/0198**  
**of 29 June 2017**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Fastening Screws SFS SX, SLG, SL, TDA, TDB, TDC,  
SD, SXW, SW

Product family  
to which the construction product belongs

Fastening screws for metal members and sheeting

Manufacturer

SFS intec AG  
Rosenbergsaustraße 10  
9435 Heerbrugg  
SCHWEIZ

Manufacturing plant

Factory 1  
Factory 5  
Factory 7  
Factory 16  
Factory 18

This European Technical Assessment  
contains

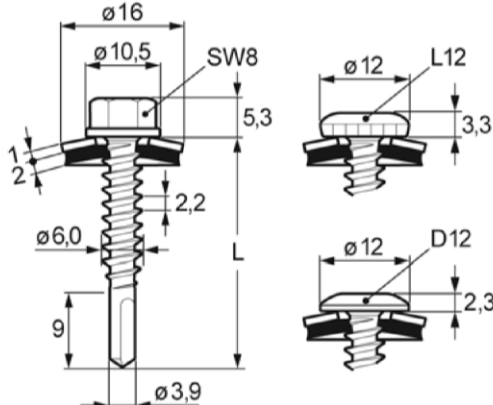
75 pages including 68 annexes which form an integral  
part of this assessment

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

European Assessment Document (EAD)  
330046-01-0602 "Fastening Screws for Metal Members  
and Sheetting", Version 1

This version replaces

ETA-10/0198 issued on 26 June 2013

|   |  |
|---|--|
|  | <p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S280GD to S450GD - EN 10346<br/>HX300LAD to HX460LAD - EN 10346</p> <p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 3.00 \text{ mm}</math></p> |
|---|--|

|                          |      | t <sub>II</sub> [mm] |      |                   |      |                   |      |                   |      |                   |    |                   |    |                   |    |
|--------------------------|------|----------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|----|-------------------|----|-------------------|----|
|                          |      | 0.63                 | 0.75 | 0.88              | 1.00 | 1.25              | 1.50 | 1.75              | 2.00 |                   |    |                   |    |                   |    |
| V <sub>R,k</sub> [kN]    | 0.50 | 0.98 <sup>a</sup>    | -    | 1.20 <sup>a</sup> | -    | 1.45 <sup>a</sup> | ac   | 1.61 <sup>a</sup> | ac   | 1.76 <sup>a</sup> | ac | 1.90 <sup>a</sup> | ac | 1.90 <sup>a</sup> | ac |
|                          | 0.55 | 1.03 <sup>a</sup>    | -    | 1.25 <sup>a</sup> | -    | 1.53 <sup>a</sup> | -    | 1.68 <sup>a</sup> | ac   | 1.91 <sup>a</sup> | ac | 2.13 <sup>a</sup> | ac | 2.13 <sup>a</sup> | a  |
|                          | 0.63 | 1.11 <sup>a</sup>    | -    | 1.34 <sup>a</sup> | -    | 1.66 <sup>a</sup> | -    | 1.79 <sup>a</sup> | ac   | 2.15 <sup>a</sup> | ac | 2.50 <sup>a</sup> | ac | 2.50 <sup>a</sup> | a  |
|                          | 0.75 | 1.11 <sup>a</sup>    | -    | 1.47 <sup>a</sup> | -    | 1.85 <sup>a</sup> | -    | 1.96 <sup>a</sup> | ac   | 2.51 <sup>a</sup> | ac | 3.06 <sup>a</sup> | ac | 3.06 <sup>a</sup> | a  |
|                          | 0.88 | 1.11 <sup>a</sup>    | -    | 1.47 <sup>a</sup> | -    | 1.85 <sup>a</sup> | -    | 2.05              | -    | 2.79              | -  | 3.53              | -  | 3.66              | -  |
|                          | 1.00 | 1.11 <sup>a</sup>    | -    | 1.47 <sup>a</sup> | -    | 1.85 <sup>a</sup> | -    | 2.14              | -    | 3.05              | -  | 3.96              | -  | 4.21              | -  |
|                          | 1.25 | 1.11 <sup>a</sup>    | -    | 1.47 <sup>a</sup> | -    | 1.85 <sup>a</sup> | -    | 2.32              | -    | 3.59              | -  | 4.86              | -  | 5.36              | -  |
|                          | 1.50 | 1.11 <sup>a</sup>    | -    | 1.47 <sup>a</sup> | -    | 1.85 <sup>a</sup> | -    | 2.32              | -    | 3.59              | -  | 4.86              | -  | -                 | -  |
| N <sub>R,k</sub> [kN]    | 0.50 | 0.89                 | -    | 1.14              | -    | 1.52 <sup>a</sup> | ac   | 1.52 <sup>a</sup> | ac   | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac |
|                          | 0.55 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | ac   | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | a  |
|                          | 0.63 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | ac   | 2.38              | ac | 2.70 <sup>a</sup> | ac | 2.70 <sup>a</sup> | a  |
|                          | 0.75 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | ac   | 2.38              | ac | 3.14              | ac | 3.50 <sup>a</sup> | a  |
|                          | 0.88 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | -    | 2.38              | -  | 3.14              | -  | 3.86              | -  |
|                          | 1.00 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | -    | 2.38              | -  | 3.14              | -  | 3.86              | -  |
|                          | 1.25 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | -    | 2.38              | -  | 3.14              | -  | 3.86              | -  |
|                          | 1.50 | 0.89                 | -    | 1.14              | -    | 1.66              | -    | 1.81              | -    | 2.38              | -  | 3.14              | -  | -                 | -  |
| N <sub>R,II,k</sub> [kN] |      | 0.89                 |      | 1.14              |      | 1.66              |      | 1.81              |      | 2.38              |    | 3.14              |    | 3.86              |    |

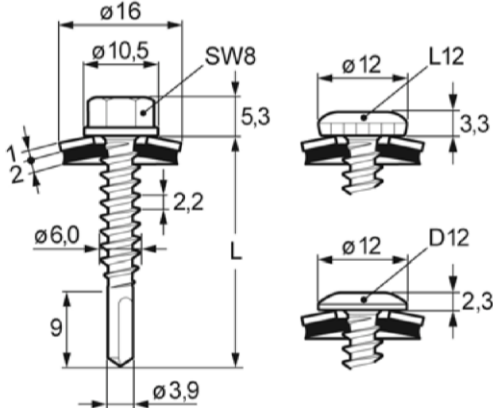
#### Additional definitions

Index <sup>a</sup>: For component I made of S320GD to S450GD the indicated values may be increased by 8.3%

**Self-drilling screw with sealing washer Ø 16 mm**

SX3-S16-6,0 x L, SX3-L12-S16-6,0 x L, SX3-D12-S16-6,0 x L

**Annex 10**



#### Materials

|               |  |
|---------------|--|
| Fastener:     | Stainless steel A2 or A4 - EN ISO 3506                         |
| Washer:       | Stainless steel A2 or A4 - EN ISO 3506<br>with EPDM-seal       |
| Component I:  | S280GD to S450GD - EN 10346                                    |
| Component II: | S280GD to S450GD - EN 10346<br>HX300LAD to HX460LAD - EN 10346 |

Drilling-capacity  $\Sigma(t_I + t_{II}) \leq 4.00 \text{ mm}$

|                          |                   | $t_{II} [\text{mm}]$ |                      |                      |                      |                      |                      |
|--------------------------|-------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                          |                   | 2 x 0.63             | 2 x 0.75             | 2 x 0.88             | 2 x 1.00             | 2 x 1.25             | 2 x 1.50             |
| $V_{R,k} [\text{kN}]$    | 0.50              | 0.88 <sup>a</sup> ac | 1.87 <sup>a</sup> ac | 1.89 <sup>a</sup> ac | 1.91 <sup>a</sup> ac | 1.91 <sup>a</sup> ac | 1.91 <sup>a</sup> ac |
|                          | 0.55              | 0.98 <sup>a</sup> ac | 2.01 <sup>a</sup> ac | 2.05 <sup>a</sup> ac | 2.08 <sup>a</sup> ac | 2.12 <sup>a</sup> ac | 2.12 <sup>a</sup> a  |
|                          | 0.63              | 1.15 <sup>a</sup> ac | 2.24 <sup>a</sup> ac | 2.30 <sup>a</sup> ac | 2.36 <sup>a</sup> ac | 2.45 <sup>a</sup> ac | 2.45 <sup>a</sup> a  |
|                          | 0.75              | 1.39 <sup>a</sup> ac | 2.58 <sup>a</sup> ac | 2.68 <sup>a</sup> ac | 2.77 <sup>a</sup> ac | 2.96 <sup>a</sup> ac | 2.96 <sup>a</sup> a  |
|                          | $t_I [\text{mm}]$ |                      |                      |                      |                      |                      |                      |
|                          | 0.88              | 1.66 -               | 2.67 -               | 3.30 -               | 3.36 ac              | 3.66 a               | 3.79 a               |
|                          | 1.00              | 1.90 -               | 2.75 -               | 3.36 -               | 4.01 ac              | 4.01 a               | 4.01 a               |
|                          | 1.25              | 2.41 -               | 2.92 -               | 3.47 -               | 4.01 -               | 5.05 a               | - -                  |
| $N_{R,k} [\text{kN}]$    | 1.50              | 2.41 -               | 2.92 -               | 3.47 -               | 4.01 -               | 5.05 a               | - -                  |
|                          | 0.50              | 1.40 ac              | 1.52 <sup>a</sup> ac | 1.52 <sup>a</sup> ac | 1.52 <sup>a</sup> ac | 1.52 <sup>a</sup> ac | 1.52 <sup>a</sup> ac |
|                          | 0.55              | 1.40 ac              | 1.91 ac              | 1.91 <sup>a</sup> ac | 1.91 <sup>a</sup> ac | 1.91 <sup>a</sup> ac | 1.91 <sup>a</sup> a  |
|                          | 0.63              | 1.40 ac              | 1.98 ac              | 2.61 ac              | 2.70 <sup>a</sup> ac | 2.70 <sup>a</sup> ac | 2.70 <sup>a</sup> a  |
|                          | 0.75              | 1.40 ac              | 1.98 ac              | 2.61 ac              | 3.19 ac              | 3.50 <sup>a</sup> ac | 3.50 <sup>a</sup> a  |
|                          | $t_I [\text{mm}]$ |                      |                      |                      |                      |                      |                      |
|                          | 0.88              | 1.40 -               | 1.98 -               | 2.61 -               | 3.19 ac              | 4.37 a               | 4.52 a               |
|                          | 1.00              | 1.40 -               | 1.98 -               | 2.61 -               | 3.19 ac              | 4.37 a               | 5.47 a               |
| $N_{R,II,k} [\text{kN}]$ | 1.25              | 1.40 -               | 1.98 -               | 2.61 -               | 3.19 -               | 4.37 a               | - -                  |
|                          | 1.50              | 1.40 -               | 1.98 -               | 2.61 -               | 3.19 -               | 4.37 a               | - -                  |
| $N_{R,II,k} [\text{kN}]$ |                   | 1.40                 | 1.98                 | 2.61                 | 3.19                 | 4.37                 | 5.82                 |

#### Additional definitions

Index <sup>a</sup>: For component I made of S320GD to S450GD the indicated values may be increased by 8.3%

Self-drilling screw with sealing washer Ø 16 mm

SX3-S16-6,0 x L, SX3-L12-S16-6,0 x L, SX3-D12-S16-6,0 x L

Annex 11

|  |  |
|--|--|
|  | <p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025<br/>S280GD to S450GD - EN 10346<br/>HX300LAD to HX460LAD - EN 10346</p> <p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 5.00 \text{ mm}</math></p> |
|--|--|

|                          |      | t <sub>II</sub> [mm] |    |                   |    |                   |    |                   |    |                   |    |                   |    |
|--------------------------|------|----------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------|----|
|                          |      | 1.50                 |    | 1.75              |    | 2.00              |    | 2.50              |    | 3.00              |    | 4.00              |    |
| V <sub>R,k</sub> [kN]    | 0.50 | 1.57 <sup>a</sup>    | ac | 1.67 <sup>a</sup> | ac | 1.76 <sup>a</sup> | ac | 1.76 <sup>a</sup> | ac | 1.76 <sup>a</sup> | ac | 1.76 <sup>a</sup> | ac |
|                          | 0.55 | 1.71 <sup>a</sup>    | ac | 1.79 <sup>a</sup> | ac | 1.86 <sup>a</sup> | ac | 1.86 <sup>a</sup> | ac | 1.86 <sup>a</sup> | ac | 1.86 <sup>a</sup> | a  |
|                          | 0.63 | 1.94 <sup>a</sup>    | ac | 1.99 <sup>a</sup> | ac | 2.03 <sup>a</sup> | ac | 2.03 <sup>a</sup> | ac | 2.03 <sup>a</sup> | ac | 2.03 <sup>a</sup> | a  |
|                          | 0.75 | 2.28 <sup>a</sup>    | ac | 2.28 <sup>a</sup> | ac | 2.28 <sup>a</sup> | ac | 2.28 <sup>a</sup> | ac | 2.28 <sup>a</sup> | ac | 2.28 <sup>a</sup> | a  |
|                          | 0.88 | 2.86 <sup>a</sup>    | ac | 2.86 <sup>a</sup> | ac | 2.86 <sup>a</sup> | ac | 3.04 <sup>a</sup> | ac | 3.27 <sup>a</sup> | ac | 3.27 <sup>a</sup> | a  |
|                          | 1.00 | 3.43                 | ac | 3.43              | ac | 3.43              | ac | 3.74              | ac | 4.18              | ac | 4.18              | a  |
|                          | 1.25 | 3.43                 | -  | 3.87              | -  | 4.31              | -  | 5.20              | -  | 6.08              | a  | -                 | -  |
|                          | 1.50 | 3.43                 | -  | 3.87              | -  | 4.31              | -  | 5.20              | -  | 6.08              | -  | -                 | -  |
| N <sub>R,k</sub> [kN]    | 0.50 | 1.52 <sup>a</sup>    | ac | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac | 1.52 <sup>a</sup> | ac |
|                          | 0.55 | 1.91 <sup>a</sup>    | ac | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | ac | 1.91 <sup>a</sup> | a  |
|                          | 0.63 | 2.09                 | ac | 2.69              | ac | 2.70 <sup>a</sup> | ac | 2.70 <sup>a</sup> | ac | 2.70 <sup>a</sup> | ac | 2.70 <sup>a</sup> | a  |
|                          | 0.75 | 2.09                 | ac | 2.69              | ac | 3.09              | ac | 3.50 <sup>a</sup> | ac | 3.50 <sup>a</sup> | ac | 3.50 <sup>a</sup> | a  |
|                          | 0.88 | 2.09                 | ac | 2.69              | ac | 3.28              | ac | 4.15              | ac | 4.52              | ac | 4.52              | a  |
|                          | 1.00 | 2.09                 | ac | 2.69              | ac | 3.28              | ac | 4.15              | ac | 5.02              | ac | 5.47              | a  |
|                          | 1.25 | 2.09                 | -  | 2.69              | -  | 3.28              | -  | 4.15              | -  | 5.02              | a  | -                 | -  |
|                          | 1.50 | 2.09                 | -  | 2.69              | -  | 3.28              | -  | 4.15              | -  | 5.02              | -  | -                 | -  |
| N <sub>R,II,k</sub> [kN] |      | 2.09                 |    | 2.69              |    | 3.28              |    | 4.15              |    | 5.02              |    | 8.32              |    |

#### Additional definitions

Index <sup>a</sup>: For component I made of S320GD to S450GD the indicated values may be increased by 8.3%

Self-drilling screw with sealing washer Ø 16 mm

SX5-S16-5,5 x L, SX5-L12-S16-5,5 x L, SX5-D12-S16-5,5 x L

Annex 16

|  |   |
|--|---|
|  | <p><b>Materials</b></p> <p>Fastener: Stainless steel A2 or A4 - EN ISO 3506</p> <p>Washer: Stainless steel A2 or A4 - EN ISO 3506 with EPDM-seal</p> <p>Component I: S280GD to S450GD - EN 10346</p> <p>Component II: S235 to S355 - EN 10025<br/>S280GD to S450GD - EN 10346<br/>HX300LAD to HX460LAD - EN 10346</p> <p><b>Drilling-capacity</b> <math>\Sigma(t_I + t_{II}) \leq 14.00 \text{ mm}</math></p> |
|--|---|

|                          |      | $t_{II} [\text{mm}]$ |    |       |    |       |    |       |    |       |    |       |    |
|--------------------------|------|----------------------|----|-------|----|-------|----|-------|----|-------|----|-------|----|
|                          |      | 4.00                 |    | 5.00  |    | 6.00  |    | 8.00  |    | 10.00 |    | 12.00 |    |
| $V_{R,k} [\text{kN}]$    | 0.50 | 2.20                 | ac | 2.20  | ac | 2.20  | ac | 2.20  | ac | 2.20  | ac | 2.20  | ac |
|                          | 0.55 | 2.50                 | ac | 2.50  | ac | 2.50  | ac | 2.50  | ac | 2.50  | ac | 2.50  | ac |
|                          | 0.63 | 2.80                 | ac | 2.80  | ac | 2.80  | ac | 2.80  | ac | 2.80  | ac | 2.80  | ac |
|                          | 0.75 | 3.40                 | ac | 3.40  | ac | 3.40  | ac | 3.40  | ac | 3.40  | ac | 3.40  | ac |
|                          | 0.88 | 4.00                 | ac | 4.00  | ac | 4.00  | ac | 4.00  | ac | 4.00  | ac | 4.00  | ac |
|                          | 1.00 | 4.50                 | ac | 4.50  | ac | 4.50  | ac | 4.50  | ac | 4.50  | ac | 4.50  | ac |
|                          | 1.25 | 5.60                 | ac | 5.60  | ac | 5.60  | ac | 5.60  | ac | 5.60  | ac | 5.60  | ac |
|                          | 1.50 | 6.40                 | ac | 6.40  | ac | 6.40  | ac | 6.40  | ac | 6.40  | ac | 6.40  | ac |
| $N_{R,k} [\text{kN}]$    | 0.50 | 1.80                 | ac | 1.80  | ac | 1.80  | ac | 1.80  | ac | 1.80  | ac | 1.80  | ac |
|                          | 0.55 | 2.10                 | ac | 2.10  | ac | 2.10  | ac | 2.10  | ac | 2.10  | ac | 2.10  | ac |
|                          | 0.63 | 2.40                 | ac | 2.40  | ac | 2.40  | ac | 2.40  | ac | 2.40  | ac | 2.40  | ac |
|                          | 0.75 | 3.00                 | ac | 3.00  | ac | 3.00  | ac | 3.00  | ac | 3.00  | ac | 3.00  | ac |
|                          | 0.88 | 3.60                 | ac | 3.60  | ac | 3.60  | ac | 3.60  | ac | 3.60  | ac | 3.60  | ac |
|                          | 1.00 | 4.20                 | ac | 4.20  | ac | 4.20  | ac | 4.20  | ac | 4.20  | ac | 4.20  | ac |
|                          | 1.25 | 6.60                 | ac | 6.60  | ac | 6.60  | ac | 6.60  | ac | 6.60  | ac | 6.60  | ac |
|                          | 1.50 | 7.10                 | ac | 10.90 | ac | 10.90 | ac | 10.90 | ac | 10.90 | ac | 10.90 | ac |
| $N_{R,II,k} [\text{kN}]$ |      | 7.10                 |    | 10.90 |    | 10.90 |    | 10.90 |    | 10.90 |    | 10.90 |    |

No additional definitions

Self-drilling screw with sealing washer  $\geq \varnothing 16 \text{ mm}$

SX14-S16-5,5 x L, SX14-L12-S16-5,5 x L

Annex 18