



DECLARATION OF PERFORMANCE

No: DoP-170139 [EN]



Unique identification code of the product-type:

ESSVE ESSD (self-drilling) fastening screws
ESSVE ESST (self-tapping) fastening screws

Intended use:

The fastening screws are intended to be used for fastening steel sheeting to steel or timber supporting substructures. The sheeting can either be used as wall or roof cladding or as load bearing wall and roof element. The fastening screws can also be used for the fastening of any other thin gauge steel members.

The intended use comprises fastening screws and connections for indoor and outdoor applications. Fastening screws which are intended to be used in external environments with corrosion category class \geq C2 in accordance with EN ISO 12944-2 are made of stainless steel.

European Assessment Document:

EAD 330046-01-0602

European Technical Assessment:

ETA-17/0139 (2017-03-30)

System of AVCP:

2+

Manufacturer:

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Technical Assessment Body:

INSTYTUT TECHNIKI BUDOWLANEJ (ITB)

Notified Body:

1488



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Declared performance:

In the ETA the component to be fastened is component I and the supporting structure is component II. Component I is always a steel sheet (of varying thickness), component II has declared values for either steel or timber, as indicated by the Annex.

Fastener Diameter [mm]	Table number
3,5 & 4,2	Table 1
4,8	Table 2
5,5	Table 3
6,3	Table 4
6,5	Table 5

Table 1 – Declared performance of fastening screws with diameter 3,5 and 4,2 mm

ID code	Article Number	Diameter [mm]	Material/Coating	Max. drill capacity [mm]	Essential characteristics	Performance	Harmonised technical specification
ESSD (Pan head)	62300, 62301	3,5	EZP	2,0	$N_{R,k}$ $V_{R,k}$	Annex 1 (steel supporting structure)	ETA-17/0139
ESSD	62501, 62502	3,5	EZP	2,0	$N_{R,k}$ $V_{R,k}$	Annex 25 (steel supporting structure)	ETA-17/0139
ESSD (Pan head)	62304, 62305	4,2	EZP	2,0	$N_{R,k}$ $V_{R,k}$	Annex 2 (steel supporting structure)	ETA-17/0139
ESSD	62511, 62512, 62513, 62515, 513360	4,2	EZP	2,0	$N_{R,k}$ $V_{R,k}$	Annex 26 (steel supporting structure)	ETA-17/0139



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Table 2 – Declared performance of fastening screws with diameter 4,8 mm

ID code	Article Number	Diameter [mm]	Material/Coating	Max. drill capacity [mm]	Essential characteristics	Performance	Harmonised technical specification
ESSD	62522, 62523, 62525, 62526	4,8	EZP	4,0	N _{R,k} V _{R,k}	Annex 27 (steel supporting structure)	ETA-17/0139
ESSD-DECOR	63252, 63254, 63256, 63258, 63260, 63262, 63269, 63274, 63276, 63278, 63280, 63281, 63282, 63284	4,8	EZP	2,0	N _{R,k} V _{R,k}	Annex 10 (timber supporting structure)	ETA-17/0139
ESSD-EPDM	63201, 63205, 63206, 63207, 63208, 63210, 63212, 63224, 63225, 63226, 63227, 63228, 63230, 63232, 63241, 63245, 64901, 64903, 64905, 64907, 64909, 64911, 64913, 64915, 64917, 64921, 64923, 64925, 64926, 64929, 64933, 64935, 64950, 64951, 64953, 64955, 64958, 64959, 64962, 64969, 64973, 64977, 64983, 64985, 513294, 513295, 513296, 10563226, 10563228, 10563232	4,8	EZP	3,5	N _{R,k} V _{R,k}	Annex 5 (timber supporting structure) Annex 33 (steel supporting structure)	ETA-17/0139
ESSD-EPDM	63723, 63739	4,8	Stainless steel A2	1,5	N _{R,k} V _{R,k}	Annex 8 (timber supporting structure)	ETA-17/0139
ESSD-EPDM	63725	4,8	Stainless steel A2	2,0	N _{R,k} V _{R,k}	Annex 6 (timber supporting structure)	ETA-17/0139
ESSD-FH	63642	4,8	CorrSeal	5,0	N _{R,k} V _{R,k}	Annex 11 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63420	4,8	EZP	3,0	N _{R,k} V _{R,k}	Annex 18 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63920	4,8	CorrSeal	3,0	N _{R,k} V _{R,k}	Annex 14 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63520, 10563420, 10563520	4,8	EZP	3,5	N _{R,k} V _{R,k}	Annex 28 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63820	4,8	CorrSeal	3,5	N _{R,k} V _{R,k}	Annex 29 (steel supporting structure)	ETA-17/0139
ESSD-OL	63440, 63445	4,8	EZP	2,5	N _{R,k} V _{R,k}	Annex 22 (steel supporting structure)	ETA-17/0139
ESST-EPDM	64201, 64203, 64205, 64207, 64209, 64211, 64221, 64223, 64229, 64231, 64233, 64241, 64243, 64245, 64301, 64305, 64311, 64319, 64321, 64402, 64404, 64406, 64408, 64412, 64414, 64416, 64422, 64502, 64504, 64506, 64508, 64510, 64603, 64605, 513289, 513291, 513292, 513293, 513297, 513299	4,8	EZP	1,5	N _{R,k} V _{R,k}	Annex 7 (timber supporting structure)	ETA-17/0139



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Table 3 – Declared performance of fastening screws with diameter 5,5 mm

ID code	Article Number	Diameter [mm]	Material/Coating	Max. drill capacity [mm]	Essential characteristics	Performance	Harmonised technical specification
ESSD-FH	63644	5,5	CorrSeal	5,0	N _{R,k} V _{R,k}	Annex 15 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63425, 63432, 63627, 63630, 63631	5,5	EZP	5,0	N _{R,k} V _{R,k}	Annex 19 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63925, 63932, 63938, 63950	5,5	CorrSeal	5,0	N _{R,k} V _{R,k}	Annex 12 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63632	5,5	EZP	12,0	N _{R,k} V _{R,k}	Annex 21 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63640, 63646	5,5	CorrSeal	12,0	N _{R,k} V _{R,k}	Annex 17 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63525, 63527, 63530, 63531, 10563425, 10563525	5,5	EZP	6,0	N _{R,k} V _{R,k}	Annex 34 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63833	5,5	CorrSeal	6,0	N _{R,k} V _{R,k}	Annex 30 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63526	5,5	EZP	10,0	N _{R,k} V _{R,k}	Annex 36 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63524, 63532, 10563524	5,5	EZP	12,0	N _{R,k} V _{R,k}	Annex 35 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63835	5,5	CorrSeal	12,0	N _{R,k} V _{R,k}	Annex 32 (steel supporting structure)	ETA-17/0139
ESSD-OL	63451	5,5	EZP	2,5	N _{R,k} V _{R,k}	Annex 23 (steel supporting structure)	ETA-17/0139

Table 4 – Declared performance of fastening screws with diameter 6,3 mm

ID code	Article Number	Diameter [mm]	Material/Coating	Max. drill capacity [mm]	Essential characteristics	Performance	Harmonised technical specification
ESSD-FH	63648, 63650	6,3	CorrSeal	5,0	N _{R,k} V _{R,k}	Annex 16 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63628, 63629, 63633, 63636, 63637, 63639	6,3	EZP	5,0	N _{R,k} V _{R,k}	Annex 20 (steel supporting structure)	ETA-17/0139
ESSD-HQ	63928, 63939, 63951	6,3	CorrSeal	6,0	N _{R,k} V _{R,k}	Annex 13 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63528	6,3	EZP	6,0	N _{R,k} V _{R,k}	Annex 38 (steel supporting structure)	ETA-17/0139
ESSD-HQ-EPDM	63534, 63536, 63538, 63540	6,3	CorrSeal	16,0	N _{R,k} V _{R,k}	Annex 31 (steel supporting structure)	ETA-17/0139
ESSD-OL	63442	6,3	EZP	2,5	N _{R,k} V _{R,k}	Annex 24 (steel supporting structure)	ETA-17/0139



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Table 5 – Declared performance of fastening screws with diameter 6,5 mm

ID code	Article Number	Diameter [mm]	Material/Coating	Max. drill capacity [mm]	Essential characteristics	Performance	Harmonised technical specification
ESST-EPDM	63036, 63037, 63038, 63039	6,5	EZP	2,5	$N_{R,k}$ $V_{R,k}$	Annex 3 (timber supporting structure)	ETA-17/0139
ESST-FH	63336, 63337, 63338, 63339	6,5	EZP	2,5	$N_{R,k}$ $V_{R,k}$	Annex 4 (timber supporting structure)	ETA-17/0139

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer above.

Signed for and on behalf of the manufacturer by:

Viktor Bukowski
Product Developer/Technical expert – Fasteners

Kista 2021-01-13



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European Technical Assessment

**ETA-17/0139
of 30/03/2017**

General part

Technical Assessment Body issuing the European Technical Assessment

Instytut Techniki Budowlanej

Trade name of the construction product

ESSD and ESST

Product family to which the construction product belongs

Fastening screws for metal members and sheeting

Manufacturer

ESSVE PRODUKTER AB
Esbogatan 14
SE-16474 Kista
Sweden

Manufacturing plant

Manufacturing plant 406 and 528

This European Technical Assessment contains

45 pages including 40 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)
EAD 330046-01-0602 "Fastening screws for metal members and sheeting"

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Specific Part

1. Technical description of the product

The fastening screws ESSD, ESST are a self-drilling and self-taping screws listed in Table 1. The fastening screws are supplied with a steel washer and an EPDM sealing ring. For details see Annexes 1 to 39.

The fastening screws and the corresponding connections are subject to tension and shear forces.

Table 1

No.	Screw	Material	Annex
1	ESSD 3,5xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	1
2	ESSD 4,2xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	2
3	ESST-EPDM 6,5xL EZP	galvanized carbon steel with $\geq 12 \mu\text{m}$ of zinc	3
4	ESST-FH 6,5xL EZP	galvanized carbon steel with $\geq 12 \mu\text{m}$ of zinc	4
5	ESSD-EPDM 4,8xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	5
6	ESSD-EPDM 4,8xL A2	stainless steel - A2	6
7	ESST-EPDM 4,8xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	7
8	ESSD-EPDM 4,8xL A2	stainless steel - A2	8
9	ESST-EPDM 4,8xL A2	stainless steel - A2	9
10	ESSD-DECOR 4,8xL	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	10
11	ESSD-FH 4,8xL CorrSeal	galvanized carbon steel with ceramic coating	11
12	ESSD-HQ 5,5xL CorrSeal/5	galvanized carbon steel with ceramic coating	12
13	ESSD-HQ 6,3xL CorrSeal	galvanized carbon steel with ceramic coating	13
14	ESSD-HQ 4,8xL CorrSeal	galvanized carbon steel with ceramic coating	14
15	ESSD-FH 5,5xL CorrSeal	galvanized carbon steel with ceramic coating	15
16	ESSD-FH 6,3xL CorrSeal	galvanized carbon steel with ceramic coating	16
17	ESSD-HQ 5,5xL CorrSeal/12	galvanized carbon steel with ceramic coating	17
18	ESSD-HQ 4,8xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	18
19	ESSD-HQ 5,5xL EZP/5	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	19
20	ESSD-HQ 6,3xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	20
21	ESSD-HQ 5,5xL EZP/12	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	21
22	ESSD-OL 4,8xL EZP	galvanized carbon steel with $\geq 12 \mu\text{m}$ of zinc	22
23	ESSD-OL 5,5xL EZP	galvanized carbon steel with $\geq 12 \mu\text{m}$ of zinc	23
24	ESSD-OL 6,3xL EZP	galvanized carbon steel with $\geq 12 \mu\text{m}$ of zinc	24
25	ESSD 3,5xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	25
26	ESSD 4,2xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	26
27	ESSD 4,8xL EZP	galvanized carbon steel with $\geq 5 \mu\text{m}$ of zinc	27
28	ESSD-HQ-EPDM 4,8xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	28
29	ESSD-HQ-EPDM 4,8xL CorrSeal	galvanized carbon steel with ceramic coating	29
30	ESSD-HQ-EPDM 5,5xL CorrSeal/5	galvanized carbon steel with ceramic coating	30
31	ESSD-HQ-EPDM 6,3xL CorrSeal/16	galvanized carbon steel with ceramic coating	31
32	ESSD-HQ-EPDM 5,5xL CorrSeal/12	galvanized carbon steel with ceramic coating	32
33	ESSD-EPDM 4,8xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	33
34	ESSD-HQ-EPDM 5,5xL EZP/5	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	34
35	ESSD-HQ-EPDM 5,5xL EZP/12	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	35
36	ESSD-HQ-EPDM 5,5xL EZP/10	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	36
37	ESSD-HQ-EPDM 5,5xL CorrSeal/10	galvanized carbon steel with ceramic coating	37
38	ESSD-HQ-EPDM 6,3xL EZP	galvanized carbon steel with $\geq 10 \mu\text{m}$ of zinc	38
39	ESSD-HQ-EPDM 6,3xL CorrSeal/6	galvanized carbon steel with ceramic coating	39

2. Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

The fastening screws are intended to be used for fastening steel sheeting to steel or timber supporting substructures. For details see the Annexes 1 to 40. The component to be fastened is component I and the supporting structure is component II. The sheeting can either be used as wall or roof cladding or as load bearing wall and roof element. The fastening screws can also be used for the fastening of any other thin gauge steel members.

The intended use comprises fastening screws and connections for indoor and outdoor applications. Fastening screws made of galvanized carbon steel and galvanized carbon steel with ceramic coating are intended to be used in internal environments with corrosion category class C1 in accordance with EN ISO 12944-2. Fastening screws made of stainless steel are intended to be used in external environments with corrosion category class \geq C2 in accordance with EN ISO 12944-2.

Furthermore the intended use comprises connections with predominantly static loads (e.g. wind loads, dead loads).

The provisions made in this European Technical Assessment are based on an assumed working life of the fastening screws of 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer or Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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

3.1. Performance of the product

3.1.1 Mechanical resistance and stability (BWR 1)

The characteristic values of the shear resistance of connections and tension resistance of connections with the fastening screws are given in Annex 1 to 39. The values were determined by tests according to EAD 330046-01-0602.

The design values shall be determined according to Annex 40 and EAD 330046-01-0602.

For the corrosion protection the rules given in EN 1993-1-3 and EN 1993-1-4 shall be taken into account. Fastening screws made of galvanized carbon steel and galvanized carbon steel with ceramic coating are intended to be used in internal environments with corrosion category class C1 in accordance with EN ISO 12944-2. Fastening screws which are made of stainless steel are intended to be used in external environments with corrosion category class \geq C2 in accordance with EN ISO 12944-2.

3.1.2. Safety in case of fire (BWR 2)

The fastening screws are considered to satisfy the requirements of performance class A1 of reaction to fire, in accordance with the provisions of the EC Decision 96/603/EC (as amended) without the need for testing on the basis of its listing in that decision.

3.1.3. Hygiene, health and the environment (BWR 3)

Regarding dangerous substances there may be requirements (e.g. transposed European legislation and national laws, regulations and administrative provisions) applicable to the products falling within the scope of this European Technical Assessment. In order to meet the provisions of the Regulation (EU) No 305/2011, these requirements need also to be complied with, when and where they apply.

3.2. Methods used for the assessment

The assessment of fitness of the mechanical fasteners for the declared intended use has been made in accordance with the EAD 330046-01-0602.

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

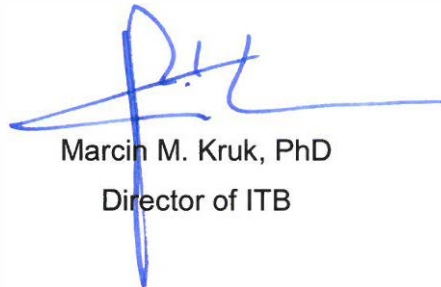
According to Decision 1998/214/EC, amended by 2001/596/EC, of the European Commission the system 2+ of assessment and verification of constancy of performance applies (see Annex V to Regulation (EU) No 305/2011).

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document (EAD)

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at the Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

Issued in Warsaw on 30/03/2017 by Instytut Techniki Budowlanej

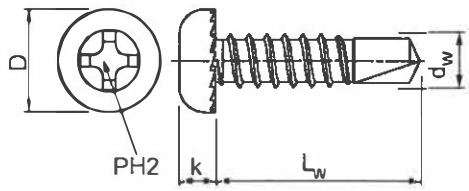


Marcin M. Kruk, PhD
Director of ITB

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,25$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 3,5$ mm $L_w = 9,5$ and 13 mm $k = 3,0$ mm $S = 6,3$ mm $D = 8,0$ mm</p>

$t_{N,11}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	2 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,11}$ [mm]	0,50	0,60	0,60	0,60	0,60	0,60	—	—	—	—	—
	0,55	0,60	0,60	0,60	0,60	0,60	—	—	—	—	—
	0,63	0,60	0,60	0,81	0,81	0,81	—	—	—	—	—
	0,75	0,60	0,60	0,81	1,13	1,13	—	—	—	—	—
	0,88	0,60	0,60	0,81	1,13	1,33	—	—	—	—	—
	1,00	0,60	0,60	0,81	1,13	1,33	1,48	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,11}$ [mm]	0,50	0,29	0,29	0,29	0,29	0,29	—	—	—	—	—
	0,55	0,29	0,29	0,29	0,29	0,29	—	—	—	—	—
	0,63	0,32	0,32	0,36	0,44	0,44	—	—	—	—	—
	0,75	0,32	0,32	0,36	0,45	0,45	—	—	—	—	—
	0,88	0,32	0,32	0,36	0,46	0,46	—	—	—	—	—
	1,00	0,32	0,32	0,36	0,54	0,54	—	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—

ESSD and ESST	Annex 1 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD 3,5xL EZP self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,75$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 4,2$ mm $L_w = 13 - 25$ mm $k = 3,5$ mm $S = 6,3$ mm $D = 8,0$ mm</p>

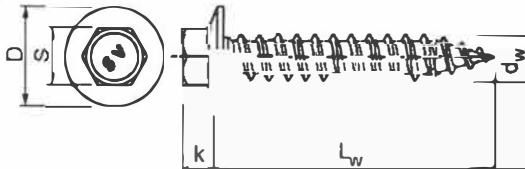
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	2 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	—	—	—
	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	—	—	—
	0,63	0,73	0,73	0,99	0,99	0,99	—	—	—	—	—
	0,75	0,73	0,73	0,99	1,37	1,37	—	—	—	—	—
	0,88	0,73	0,73	0,99	1,37	1,62	—	—	—	—	—
	1,00	0,73	0,73	0,99	1,37	1,62	—	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,32	0,32	0,36	0,36	0,36	—	—	—	—	—
	0,55	0,32	0,32	0,36	0,36	0,36	—	—	—	—	—
	0,63	0,32	0,32	0,51	0,54	0,54	—	—	—	—	—
	0,75	0,32	0,32	0,51	0,56	0,56	—	—	—	—	—
	0,88	0,32	0,32	0,51	0,57	0,57	—	—	—	—	—
	1,00	0,32	0,32	0,51	0,60	0,61	—	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 2 of European Technical Assessment ETA-17/0139</p>
<p>ESSD 4,2xL EZP self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE 1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\varnothing 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,5 \text{ mm}$</p>	
<p>Timber substructures</p> <p>For timber substructures performance assessed with $M_{y,Rk} = 9,66 \text{ Nm}$ $f_{ax,k} = 13,809 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 6,5 \text{ mm}$ $L_w = 38 - 75 \text{ mm}$ $k = 5,0 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 11,0 \text{ mm}$</p>

$t_{N,II} [\text{mm}]$	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class $\geq \text{C24}$		
$M_{t,nom}$	7 Nm								20 mm	30 mm	
$V_{Rk} [\text{kN}]$ for $t_{N,I} [\text{mm}]$	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	2,03*	2,03*	*bearing resistance of component I
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	2,03*	2,03*	
	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	
$N_{R,k} [\text{kN}]$ for $t_{N,I} [\text{mm}]$	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	2,13*	2,13*	*bearing resistance of component II
	—	—	—	—	—	—	—	—	2,13*	2,13*	
	—	—	—	—	—	—	—	—	3,03*	3,03*	
	—	—	—	—	—	—	—	—	3,32*	3,32*	
	—	—	—	—	—	—	—	—	3,56*	3,56*	
	—	—	—	—	—	—	—	—	4,00*	4,00*	
	—	—	—	—	—	—	—	—	4,00*	4,00*	
	—	—	—	—	—	—	—	—	4,00*	4,00*	
	—	—	—	—	—	—	—	—	—	—	
	—	—	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 3</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESST-EPDM 6,5xL EZP self-tapping screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t \leq 2,5 \text{ mm}$</p>	
<p>Timber substructures For timber substructures performance assessed with $M_{y,Rk} = 9,66 \text{ Nm}$ $f_{ax,k} = 13,809 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 6,5 \text{ mm}$ $L_w = 38 - 75 \text{ mm}$ $k = 6,0 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 14,0 \text{ mm}$</p>

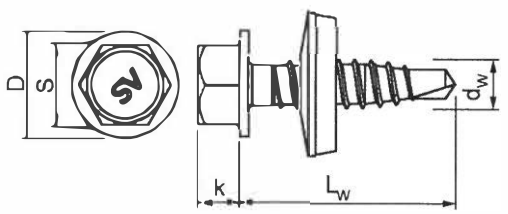
$t_{n,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24			
$M_{t,nom}$	7 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{n,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	2,03*	2,03*	*bearing resistance of component I	
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	2,03*	2,03*		
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,03*	2,03*		
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—		
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—		
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—		
	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—		
	1,25	1,50	1,75	2,00	—	—	—	—	—	—		
	1,50	1,75	2,00	—	—	—	—	—	—	—		
	1,75	2,00	—	—	—	—	—	—	—	—		
	2,00	—	—	—	—	—	—	—	—	—		
	2,00	—	—	—	—	—	—	—	—	—		
$N_{R,k}$ [kN] for $t_{n,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75		2,00
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00		
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—		
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—		
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—		
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—		
	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—		
	1,25	1,50	1,75	2,00	—	—	—	—	—	—		
	1,50	1,75	2,00	—	—	—	—	—	—	—		
	1,75	2,00	—	—	—	—	—	—	—	—		
	2,00	—	—	—	—	—	—	—	—	—		
	2,00	—	—	—	—	—	—	—	—	—		

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 4</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESST-FH 6,5xL EZZ self-tapping screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,0$ mm</p>	
<p>Timber substructures For timber substructures performance assessed with $M_{y,Rk} = 4,39$ Nm $f_{ax,k} = 11,553$ N/mm² for $l_{ef} \geq 20$ mm</p>	<p>$d_w = 4,8$ mm $L_w = 35 - 70$ mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,0$ mm</p>

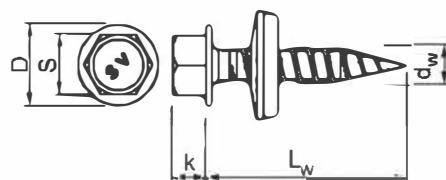
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	—	—	—	—	—	—	—	1,12*	1,12*	*bearing resistance of component I
	0,55	—	—	—	—	—	—	—	1,12*	1,12*	
	0,63	—	—	—	—	—	—	—	1,12*	1,12*	
	0,75	—	—	—	—	—	—	—	1,12*	1,12*	
	0,88	—	—	—	—	—	—	—	1,12*	1,12*	
	1,00	—	—	—	—	—	—	—	1,12*	1,12*	
	1,13	—	—	—	—	—	—	—	1,12*	1,12*	
	1,25	—	—	—	—	—	—	—	1,12*	1,12*	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
2,00	—	—	—	—	—	—	—	—	—		
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	—	—	—	—	—	—	—	2,13*	2,13*	*bearing resistance of component II
	0,55	—	—	—	—	—	—	—	2,13*	2,13*	
	0,63	—	—	—	—	—	—	—	3,03*	3,03*	
	0,75	—	—	—	—	—	—	—	3,32*	3,32*	
	0,88	—	—	—	—	—	—	—	3,56*	3,56*	
	1,00	—	—	—	—	—	—	—	4,00*	4,00*	
	1,13	—	—	—	—	—	—	—	4,00*	4,00*	
	1,25	—	—	—	—	—	—	—	4,00*	4,00*	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
2,00	—	—	—	—	—	—	—	—	—		

ESSD and ESST	Annex 5 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-EPDM 4,8xL EZP self-drilling screws	

<p>Materials</p> <p>Fastener: stainless steel - A2</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,0 \text{ mm}$</p>	
<p>Timber substructures</p> <p>For timber substructures performance assessed with $M_{y,Rk} = 3,37 \text{ Nm}$</p> <p>$f_{ax,k} = 11,710 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 4,8 \text{ mm}$</p> <p>$L_w = 20 \text{ mm}$</p> <p>$k = 4,5 \text{ mm}$</p> <p>$S = 8,0 \text{ mm}$</p> <p>$D = 10,0 \text{ mm}$</p>

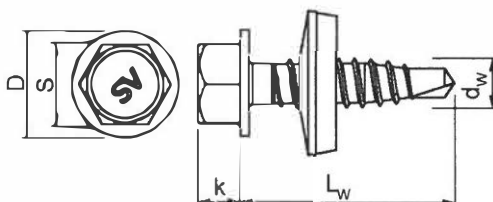
$t_{n,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{n,i}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	1,05*	1,05*	*bearing resistance of component I
	0,55	0,63	0,75	0,88	1,00	1,25	1,50	1,75	1,05*	1,05*	
	0,63	0,75	0,88	1,00	1,25	1,50	1,75	2,00	1,05*	1,05*	
	0,75	0,88	1,00	1,25	1,50	1,75	2,00	—	—	—	
	0,88	1,00	1,25	1,50	1,75	2,00	—	—	—	—	
	1,00	1,25	1,50	1,75	2,00	—	—	—	—	—	
	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—	
	1,25	1,50	1,75	2,00	—	—	—	—	—	—	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{n,i}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	2,13*	2,13*	*bearing resistance of component II
	0,55	0,63	0,75	0,88	1,00	1,25	1,50	1,75	2,13*	2,13*	
	0,63	0,75	0,88	1,00	1,25	1,50	1,75	2,00	3,03*	3,03*	
	0,75	0,88	1,00	1,25	1,50	1,75	2,00	—	3,32*	3,32*	
	0,88	1,00	1,25	1,50	1,75	2,00	—	—	3,56*	3,56*	
	1,00	1,25	1,50	1,75	2,00	—	—	—	4,00*	4,00*	
	1,13	1,25	1,50	1,75	2,00	—	—	—	4,00*	4,00*	
	1,25	1,50	1,75	2,00	—	—	—	—	4,00*	4,00*	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 6</p> <p>of European</p> <p>Technical Assessment</p> <p>ETA-17/0139</p>
<p>ESSD-EPDM 4,8xL A2</p> <p>self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 1,5 \text{ mm}$</p>	
<p>Timber substructures</p> <p>For timber substructures performance assessed with $M_{y,Rk} = 4,39 \text{ Nm}$ $f_{ax,k} = 11,553 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 25 - 75 \text{ mm}$ $k = 4,5 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 5,0 \text{ mm}$</p>

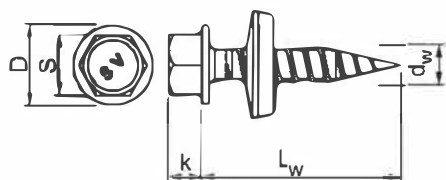
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24			
$M_{t,10cm}$	3 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	—	—	—	—	—	—	—	—	1,12*	1,12*	*bearing resistance of component I
	0,55	—	—	—	—	—	—	—	—	1,12*	1,12*	
	0,63	—	—	—	—	—	—	—	—	1,12*	1,12*	
	0,75	—	—	—	—	—	—	—	—	1,12*	1,12*	
	0,88	—	—	—	—	—	—	—	—	1,12*	1,12*	
	1,00	—	—	—	—	—	—	—	—	1,12*	1,12*	
	1,13	—	—	—	—	—	—	—	—	1,12*	1,12*	
	1,25	—	—	—	—	—	—	—	—	1,12*	1,12*	
	1,50	—	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	—	—	—	—	—	—	—	—	2,13*	2,13*	*bearing resistance of component II
	0,55	—	—	—	—	—	—	—	—	2,13*	2,13*	
	0,63	—	—	—	—	—	—	—	—	3,03*	3,03*	
	0,75	—	—	—	—	—	—	—	—	3,32*	3,32*	
	0,88	—	—	—	—	—	—	—	—	3,56*	3,56*	
	1,00	—	—	—	—	—	—	—	—	4,00*	4,00*	
	1,13	—	—	—	—	—	—	—	—	4,00*	4,00*	
	1,25	—	—	—	—	—	—	—	—	4,00*	4,00*	
	1,50	—	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 7</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESST-EPDM 4,8xL EZP self-drilling screws</p>	

<p>Materials Fastener: stainless steel - A2 Washer: EPDM sealing ring with metal top made of stainless steel $\phi 14$ Component I: S280GD, S320GD or S350GD – EN 10346 Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 1,5 \text{ mm}$</p>	
<p>Timber substructures For timber substructures performance assessed with $M_{y,Rk} = 3,37 \text{ Nm}$ $f_{ax,k} = 11,710 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 35 \text{ mm}$ $k = 4,5 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 10,0 \text{ mm}$</p>

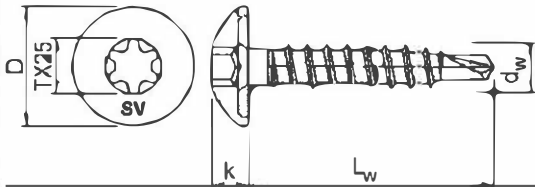
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,rom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	1,05*	1,05*	*bearing resistance of component I
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,05*	1,05*	
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	1,05*	1,05*	
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—	
	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—	
	1,25	1,50	1,75	2,00	—	—	—	—	—	—	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	2,13*	2,13*	*bearing resistance of component II
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	2,13*	2,13*	
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	3,03*	3,03*	
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	3,32*	3,32*	
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	3,56*	3,56*	
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	4,00*	4,00*	
	1,13	1,25	1,50	1,75	2,00	—	—	—	4,00*	4,00*	
	1,25	1,50	1,75	2,00	—	—	—	—	—	—	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 8</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-EPDM 4,8xL A2 self-drilling screws</p>	

<p>Materials Fastener: stainless steel - A2 Washer: EPDM sealing ring with metal top made of stainless steel $\varnothing 14$ Component I: S280GD, S320GD or S350GD – EN 10346 Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 1,5 \text{ mm}$</p>	
<p>Timber substructures For timber substructures performance assessed with $M_{y,Rk} = 3,37 \text{ Nm}$ $f_{ax,k} = 11,710 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 25 \text{ mm}$ $k = 4,5 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 10,0 \text{ mm}$</p>

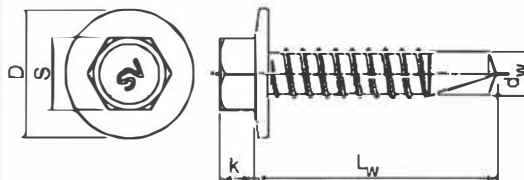
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	—	—	—	—	—	—	—	1,05*	1,05*	*bearing resistance of component I
	0,55	—	—	—	—	—	—	—	1,05*	1,05*	
	0,63	—	—	—	—	—	—	—	1,05*	1,05*	
	0,75	—	—	—	—	—	—	—	1,05*	1,05*	
	0,88	—	—	—	—	—	—	—	1,05*	1,05*	
	1,00	—	—	—	—	—	—	—	1,05*	1,05*	
	1,13	—	—	—	—	—	—	—	1,05*	1,05*	
	1,25	—	—	—	—	—	—	—	1,05*	1,05*	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
2,00	—	—	—	—	—	—	—	—	—		
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	—	—	—	—	—	—	—	2,13*	2,13*	*bearing resistance of component II
	0,55	—	—	—	—	—	—	—	2,13*	2,13*	
	0,63	—	—	—	—	—	—	—	3,03*	3,03*	
	0,75	—	—	—	—	—	—	—	3,32*	3,32*	
	0,88	—	—	—	—	—	—	—	3,56*	3,56*	
	1,00	—	—	—	—	—	—	—	4,00*	4,00*	
	1,13	—	—	—	—	—	—	—	4,00*	4,00*	
	1,25	—	—	—	—	—	—	—	4,00*	4,00*	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
2,00	—	—	—	—	—	—	—	—	—		

ESSD and ESST	Annex 9 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESST-EPDM 4,8xL A2 self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: structural timber – EN 14081</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,0 \text{ mm}$</p>	
<p>Timber substructures For timber substructures performance assessed with $M_{y,Rk} = 4,39 \text{ Nm}$ $f_{ax,k} = 11,553 \text{ N/mm}^2$ for $l_{ef} \geq 20 \text{ mm}$</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 35 \text{ mm}$ $k = 4,0 \text{ mm}$ $D = 14,0 \text{ mm}$</p>

$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	1,12*	1,12*	*bearing resistance of component I
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,12*	1,12*	
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	1,12*	1,12*	
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	1,12*	1,12*	
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—	
	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—	
	1,25	1,50	1,75	2,00	—	—	—	—	—	—	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	0,53*	0,53*	*bearing resistance of component II
	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	0,53*	0,53*	
	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	0,80*	0,80*	
	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	0,85*	0,85*	
	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	0,98*	0,98*	
	1,00	1,13	1,25	1,50	1,75	2,00	—	—	1,26*	1,26*	
	1,13	1,25	1,50	1,75	2,00	—	—	—	1,26*	1,26*	
	1,25	1,50	1,75	2,00	—	—	—	—	1,26*	1,26*	
	1,50	1,75	2,00	—	—	—	—	—	—	—	
	1,75	2,00	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 10 of European Technical Assessment ETA-17/0139</p>
<p>ESSD-DECOR 4,8xL self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 5,00 \text{ mm}$</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 19 \text{ mm}$ $k = 4,5 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 10,0 \text{ mm}$</p>

$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24			
$M_{t,100m}$	3 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,05	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	1,41	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	1,96	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	2,31	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	2,58	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	2,58	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	2,70	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	2,70	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	2,70	—	—	—	—	—	—
2,00	2,70	2,70	2,70	2,70	2,70	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	0,80	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	0,85	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	0,98	—	—	—	—	—	—
	1,00	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—
	1,13	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—
	1,25	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—
	1,50	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—
	1,75	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—
2,00	1,09	1,26	1,26	1,26	1,26	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 11</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-FH 4,8xL CorSeal self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corraseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t \leq 5,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

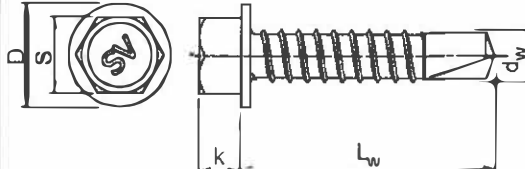
$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24		
$M_{t, nom}$	5 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	—	—	—	—	—	—	—
	0,55	1,28	1,28	1,28	—	—	—	—	—	—	—
	0,63	1,59	1,59	1,59	—	—	—	—	—	—	—
	0,75	2,01	2,01	2,01	—	—	—	—	—	—	—
	0,88	2,17	2,17	2,17	—	—	—	—	—	—	—
	1,00	2,37	2,37	2,37	—	—	—	—	—	—	—
	1,13	2,37	2,37	2,37	—	—	—	—	—	—	—
	1,25	3,63	3,63	3,63	—	—	—	—	—	—	—
	1,50	3,63	3,63	3,63	—	—	—	—	—	—	—
	1,75	3,63	3,63	3,63	—	—	—	—	—	—	—
	2,00	3,63	3,63	3,63	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	—	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	—	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	—	—	—	—	—	—	—
	1,00	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,13	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,25	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,50	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,75	1,26	1,26	1,26	—	—	—	—	—	—	—
	2,00	1,26	1,26	1,26	—	—	—	—	—	—	—

ESSD and ESST	Annex 12 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ 5,5xL CorrSeal/5 self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corraseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 6,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 6,3$ mm $L_w = 25 - 100$ mm $k = 6,0$ mm $S = 8,0$ mm $D = 13,0$ mm</p>

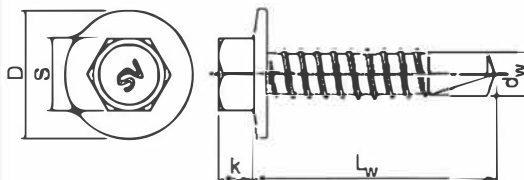
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24		
$M_{t,nom}$	7 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,41	1,41	—	—	—	—	—	—	—	—
	0,55	1,41	1,41	—	—	—	—	—	—	—	—
	0,63	2,14	2,14	—	—	—	—	—	—	—	—
	0,75	2,51	2,51	—	—	—	—	—	—	—	—
	0,88	2,71	2,71	—	—	—	—	—	—	—	—
	1,00	3,08	3,08	—	—	—	—	—	—	—	—
	1,13	3,08	3,08	—	—	—	—	—	—	—	—
	1,25	4,02	4,02	—	—	—	—	—	—	—	—
	1,50	4,02	4,02	—	—	—	—	—	—	—	—
	1,75	4,02	4,02	—	—	—	—	—	—	—	—
2,00	4,02	4,02	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	—	—	—	—	—	—	—	—
	0,55	0,53	0,53	—	—	—	—	—	—	—	—
	0,63	0,80	0,80	—	—	—	—	—	—	—	—
	0,75	0,85	0,85	—	—	—	—	—	—	—	—
	0,88	0,98	0,98	—	—	—	—	—	—	—	—
	1,00	1,26	1,26	—	—	—	—	—	—	—	—
	1,13	1,26	1,26	—	—	—	—	—	—	—	—
	1,25	1,26	1,26	—	—	—	—	—	—	—	—
	1,50	1,26	1,26	—	—	—	—	—	—	—	—
	1,75	1,26	1,26	—	—	—	—	—	—	—	—
2,00	1,26	1,26	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 13 of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ 6,3xL Corraseal self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corraseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 3,00$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 13$ and 19 mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,5$ mm</p>

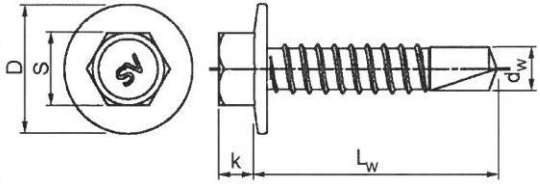
$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24												
$M_{t,nom}$	3 Nm								20 mm	30 mm											
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,13	1,25	1,50	1,75	2,00	—	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 14</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ 4,8xL Corraseal self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corraseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
Drilling capacity: $\Sigma t_i \leq 5,00$ mm	
Timber substructures no performance assessed	<p>$d_w = 5,5$ mm $L_w = 25 - 38$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 14,0$ mm</p>

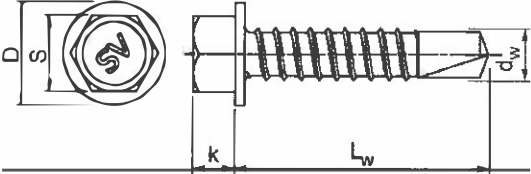
$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24		
$M_{t,nom}$	5 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,28	1,28	1,28	—	—	—	—	—	—	—
	0,55	1,28	1,28	1,28	—	—	—	—	—	—	—
	0,63	1,59	1,59	1,59	—	—	—	—	—	—	—
	0,75	2,01	2,01	2,01	—	—	—	—	—	—	—
	0,88	2,17	2,17	2,17	—	—	—	—	—	—	—
	1,00	2,37	2,37	2,37	—	—	—	—	—	—	—
	1,13	2,37	2,37	2,37	—	—	—	—	—	—	—
	1,25	3,63	3,63	3,63	—	—	—	—	—	—	—
	1,50	3,63	3,63	3,63	—	—	—	—	—	—	—
	1,75	3,63	3,63	3,63	—	—	—	—	—	—	—
	2,00	3,63	3,63	3,63	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	—	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	—	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	—	—	—	—	—	—	—
	1,00	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,13	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,25	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,50	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,75	1,26	1,26	1,26	—	—	—	—	—	—	—
	2,00	1,26	1,26	1,26	—	—	—	—	—	—	—

ESSD and ESST	Annex 15 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-FH 5,5xL Corraseal self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Cor Seal Washer: - Component I: S280GD, S320GD or S350GD – EN 10346 Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 5,00 \text{ mm}$</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 6,3 \text{ mm}$ $L_w = 25 \text{ and } 32 \text{ mm}$ $k = 6,5 \text{ mm}$ $S = 10,0 \text{ mm}$ $D = 14,0 \text{ mm}$</p>

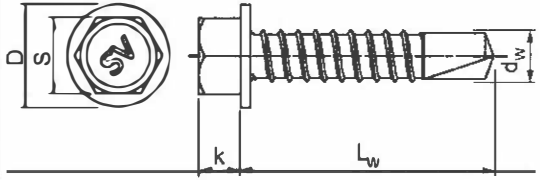
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24		
$M_{t, nom}$	7 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,41	1,41	—	—	—	—	—	—	—	—
	0,55	1,41	1,41	—	—	—	—	—	—	—	—
	0,63	2,14	2,14	—	—	—	—	—	—	—	—
	0,75	2,51	2,51	—	—	—	—	—	—	—	—
	0,88	2,71	2,71	—	—	—	—	—	—	—	—
	1,00	3,08	3,08	—	—	—	—	—	—	—	—
	1,13	3,08	—	—	—	—	—	—	—	—	—
	1,25	4,02	—	—	—	—	—	—	—	—	—
	1,50	4,02	—	—	—	—	—	—	—	—	—
	1,75	4,02	—	—	—	—	—	—	—	—	—
	2,00	4,02	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	—	—	—	—	—	—	—	—
	0,55	0,53	0,53	—	—	—	—	—	—	—	—
	0,63	0,80	0,80	—	—	—	—	—	—	—	—
	0,75	0,85	0,85	—	—	—	—	—	—	—	—
	0,88	0,98	0,98	—	—	—	—	—	—	—	—
	1,00	1,26	1,26	—	—	—	—	—	—	—	—
	1,13	1,26	—	—	—	—	—	—	—	—	—
	1,25	1,26	—	—	—	—	—	—	—	—	—
	1,50	1,26	—	—	—	—	—	—	—	—	—
	1,75	1,26	—	—	—	—	—	—	—	—	—
	2,00	1,26	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 16 of European Technical Assessment ETA-17/0139</p>
<p>ESSD-FH 6,3xL CorrSeal self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corraseal</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t \leq 12,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

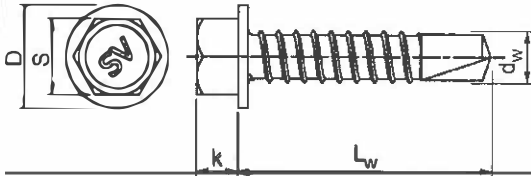
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	0,53	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	0,85	0,85	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	0,98	0,98	—	—	—	—	—
	1,00	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,13	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,25	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,50	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,75	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
2,00	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—	

ESSD and ESST	Annex 17 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ 5,5xL Corraseal/12 self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 3,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 23$ and 19 mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,5$ mm</p>

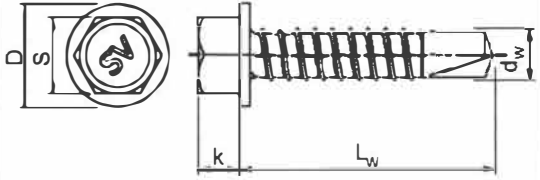
$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24			
$M_{t,nom}$	3 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	2,00	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	—	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	—	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	—	—	—	—	—	—	—
	1,00	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,13	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,25	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,50	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—
	1,75	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—
	2,00	1,09	1,26	1,26	1,26	—	—	—	—	—	—	—

ESSD and ESST	Annex 18 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ 4,8xL EZP self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 5,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24			
$M_{t, nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	—	—	—	—	—	—	—	—
	0,55	1,28	1,28	1,28	—	—	—	—	—	—	—	—
	0,63	1,59	1,59	1,59	—	—	—	—	—	—	—	—
	0,75	2,01	2,01	2,01	—	—	—	—	—	—	—	—
	0,88	2,17	2,17	2,17	—	—	—	—	—	—	—	—
	1,00	2,37	2,37	2,37	—	—	—	—	—	—	—	—
	1,13	2,37	2,37	2,37	—	—	—	—	—	—	—	—
	1,25	3,63	3,63	3,63	—	—	—	—	—	—	—	—
	1,50	3,63	3,63	3,63	—	—	—	—	—	—	—	—
	1,75	3,63	3,63	3,63	—	—	—	—	—	—	—	—
	2,00	3,63	3,63	3,63	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	0,53	—	—	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	—	—	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	—	—	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	—	—	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	—	—	—	—	—	—	—	—
	1,00	1,26	1,26	1,26	—	—	—	—	—	—	—	—
	1,13	1,26	1,26	1,26	—	—	—	—	—	—	—	—
	1,25	1,26	1,26	1,26	—	—	—	—	—	—	—	—
	1,50	1,26	1,26	1,26	—	—	—	—	—	—	—	—
	1,75	1,26	1,26	1,26	—	—	—	—	—	—	—	—
	2,00	1,26	1,26	1,26	—	—	—	—	—	—	—	—

ESSD and ESST	Annex 19 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ 5,5xL EZP/5 self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 5,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 6,3$ mm $L_w = 25 - 100$ mm $k = 6,0$ mm $S = 8,0$ mm $D = 13,0$ mm</p>

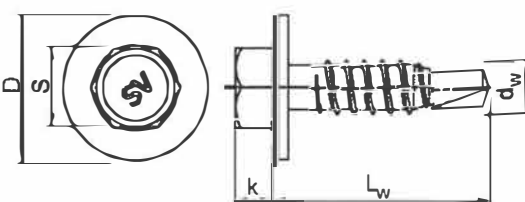
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24		
$M_{t,Norm}$	7 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,41	1,41	—	—	—	—	—	—	—	—
	0,55	1,41	1,41	—	—	—	—	—	—	—	—
	0,63	2,14	2,14	—	—	—	—	—	—	—	—
	0,75	2,51	2,51	—	—	—	—	—	—	—	—
	0,88	2,71	2,71	—	—	—	—	—	—	—	—
	1,00	3,08	3,08	—	—	—	—	—	—	—	—
	1,13	3,08	—	—	—	—	—	—	—	—	—
	1,25	4,02	—	—	—	—	—	—	—	—	—
	1,50	4,02	—	—	—	—	—	—	—	—	—
	1,75	4,02	—	—	—	—	—	—	—	—	—
	2,00	4,02	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	—	—	—	—	—	—	—	—
	0,55	0,53	0,53	—	—	—	—	—	—	—	—
	0,63	0,80	0,80	—	—	—	—	—	—	—	—
	0,75	0,85	0,85	—	—	—	—	—	—	—	—
	0,88	0,98	0,98	—	—	—	—	—	—	—	—
	1,00	1,26	1,26	—	—	—	—	—	—	—	—
	1,13	1,26	—	—	—	—	—	—	—	—	—
	1,25	1,26	—	—	—	—	—	—	—	—	—
	1,50	1,26	—	—	—	—	—	—	—	—	—
	1,75	1,26	—	—	—	—	—	—	—	—	—
	2,00	1,26	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 20 of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ 6,3xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 12,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

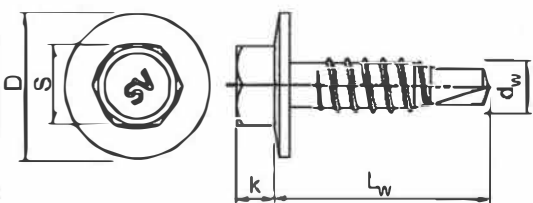
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,mem}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	0,53	0,53	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	0,80	0,80	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	0,85	0,85	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	0,98	0,98	—	—	—	—	—
	1,00	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,13	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,25	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,50	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	1,75	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—
	2,00	1,26	1,26	1,26	1,26	1,26	1,26	—	—	—	—	—

ESSD and ESST	Annex 21 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ 5,5xL EZP/12 self-drilling screws	

<p>Materials Fastener: carbon steel – SAE 1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,50$ mm</p>	
<p><u>Timber substructures</u> no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 16$ and 19 mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,5$ mm</p>

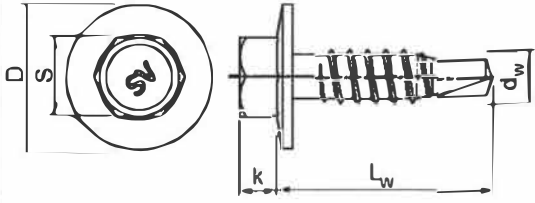
$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24		
$M_{t,100m}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—
	1,13	2,58	2,58	—	—	—	—	—	—	—	—
	1,25	2,70	2,70	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,53	0,53	0,53	0,53	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	—	—	—	—	—	—
	1,00	1,09	1,26	1,26	1,26	—	—	—	—	—	—
	1,13	1,09	1,26	—	—	—	—	—	—	—	—
	1,25	1,09	1,26	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—

ESSD and ESST	Annex 22 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-OL 4,8xL EZP self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanizød Washer: - Component I: S280GD, S320GD or S350GD – EN 10346 Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,50$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 20$ mm $k = 4,5$ mm $S = 8,0$ mm $D = 14$ mm</p>

$t_{N,ii}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,ii}$ [mm]	0,50	1,28	1,28	—	—	—	—	—	—	—	—	—
	0,55	1,28	—	—	—	—	—	—	—	—	—	—
	0,63	1,59	—	—	—	—	—	—	—	—	—	—
	0,75	2,01	—	—	—	—	—	—	—	—	—	—
	0,88	2,17	—	—	—	—	—	—	—	—	—	—
	1,00	2,37	—	—	—	—	—	—	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,ii}$ [mm]	0,50	0,53	0,53	—	—	—	—	—	—	—	—	—
	0,55	0,53	—	—	—	—	—	—	—	—	—	—
	0,63	0,80	—	—	—	—	—	—	—	—	—	—
	0,75	0,85	—	—	—	—	—	—	—	—	—	—
	0,88	0,98	—	—	—	—	—	—	—	—	—	—
	1,00	1,26	—	—	—	—	—	—	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 23</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-OL 5,5xL EZP self-drilling screws</p>	

<p>Materials Fas tener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	 <p>dw = 6,3 mm Lw = 22 mm k = 6,5 mm S = 8,0 mm D = 15,0 mm</p>
<p>Drilling capa city: $\Sigma t_i \leq 2,50$ mm</p>	
<p>Timber substructures no performance assessed</p>	

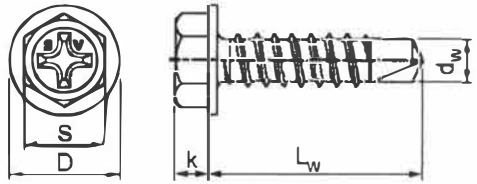
t _{N,II} [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class ≥ C24		
M _{t,nom}	7 Nm								20 mm	30 mm	
V _{R,k} [kN] for t _{N,I} [mm]	0,50 0,55 0,63 0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	1,41 1,41 2,14 2,51 2,71 3,08	1,41	—	—	—	—	—	—	—	—
N _{R,k} [kN] for t _{N,I} [mm]	0,50 0,55 0,63 0,75 0,88 1,00 1,13 1,25 1,50 1,75 2,00	0,53 0,53 0,80 0,85 0,98 1,26	0,53	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 24</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-OL 6,3xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,25 \text{ mm}$</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 3,5 \text{ mm}$ $L_w = 9,5 \text{ mm}$ $k = 2,5 \text{ mm}$ $D = 6,5 \text{ mm}$</p>

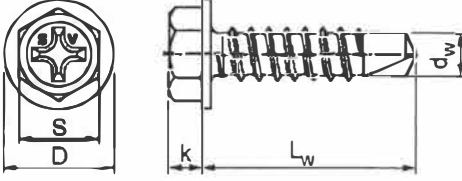
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	2 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,60	0,60	0,60	0,60	0,60	0,60	—	—	—	—
	0,55	0,60	0,60	0,60	0,60	0,60	0,60	—	—	—	—
	0,63	0,60	0,60	0,81	0,81	0,81	0,81	—	—	—	—
	0,75	0,60	0,60	0,81	1,13	1,13	1,13	—	—	—	—
	0,88	0,60	0,60	0,81	1,13	1,33	1,33	—	—	—	—
	1,00	0,60	0,60	0,81	1,13	1,33	1,48	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,29	0,29	0,29	0,29	0,29	0,29	—	—	—	—
	0,55	0,29	0,29	0,29	0,29	0,29	0,29	—	—	—	—
	0,63	0,32	0,32	0,36	0,44	0,44	0,44	—	—	—	—
	0,75	0,32	0,32	0,36	0,45	0,45	0,45	—	—	—	—
	0,88	0,32	0,32	0,36	0,46	0,46	0,46	—	—	—	—
	1,00	0,32	0,32	0,36	0,54	0,54	0,54	—	—	—	—
	1,13	—	—	—	—	—	—	—	—	—	—
	1,25	—	—	—	—	—	—	—	—	—	—
	1,50	—	—	—	—	—	—	—	—	—	—
	1,75	—	—	—	—	—	—	—	—	—	—
	2,00	—	—	—	—	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 25</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD 3,5xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 2,75 \text{ mm}$</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 4,2 \text{ mm}$ $L_w = 13 - 19 \text{ mm}$ $k = 3,0 \text{ mm}$ $D = 8,0 \text{ mm}$</p>

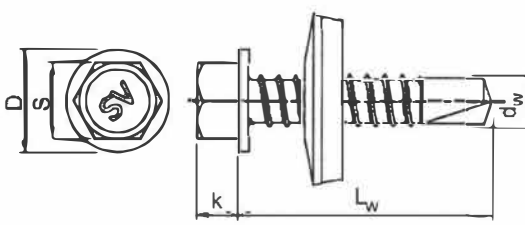
$t_{N,II}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	—	—	
	0,73	0,73	0,73	0,73	0,73	0,73	—	—	—	—	
	0,73	0,73	0,73	0,73	0,73	0,73	—	—	—	—	
	0,63	0,73	0,73	0,99	0,99	0,99	—	—	—	—	
	0,73	0,73	0,73	0,99	1,37	1,37	—	—	—	—	
	0,75	0,73	0,73	0,99	1,37	1,37	—	—	—	—	
	0,88	0,73	0,73	0,99	1,37	1,62	—	—	—	—	
	1,00	0,73	0,73	0,99	1,37	1,62	—	—	—	—	
	1,13	—	—	—	—	—	—	—	—	—	
	1,25	—	—	—	—	—	—	—	—	—	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	0,55	0,63	0,75	0,88	1,00	1,25	1,50	—	—	
	0,32	0,32	0,36	0,36	0,36	0,36	—	—	—	—	
	0,32	0,32	0,36	0,36	0,36	0,36	—	—	—	—	
	0,32	0,32	0,51	0,54	0,54	0,54	—	—	—	—	
	0,32	0,32	0,51	0,56	0,56	0,56	—	—	—	—	
	0,75	0,32	0,32	0,51	0,56	0,56	—	—	—	—	
	0,88	0,32	0,32	0,51	0,57	0,57	—	—	—	—	
	1,00	0,32	0,32	0,51	0,57	0,57	—	—	—	—	
	1,13	—	—	—	—	—	—	—	—	—	
	1,25	—	—	—	—	—	—	—	—	—	
	1,50	—	—	—	—	—	—	—	—	—	
	1,75	—	—	—	—	—	—	—	—	—	
	2,00	—	—	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 26 of European Technical Assessment ETA-17/0139</p>
<p>ESSD 4,2xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: -</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 4,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 16 - 32$ mm $k = 4,5$ mm $D = 10,0$ mm</p>

$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24			
$M_{t,nom}$	3 Nm								20 mm	30 mm		
V_{Rk} [kN] for $t_{N,II}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
2,00	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—	
N_{Rk} [kN] for $t_{N,II}$ [mm]	0,50	0,53	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,55	0,53	0,53	0,53	0,53	—	—	—	—	—	—	—
	0,63	0,80	0,80	0,80	0,80	—	—	—	—	—	—	—
	0,75	0,85	0,85	0,85	0,85	—	—	—	—	—	—	—
	0,88	0,98	0,98	0,98	0,98	—	—	—	—	—	—	—
	1,00	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—
	1,13	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—
	1,25	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—
	1,50	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—
	1,75	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—
2,00	1,09	1,09	1,09	1,09	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 27</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD 4,8xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\varnothing 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 3,50$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 13$ and 19 mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,5$ mm</p>

$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24		
$M_{t,nom}$	3 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	—	—	—	—	—	—
	2,00	2,70	2,70	2,70	2,70	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,09	1,51	1,57	2,13	—	—	—	—	—	—
	0,55	1,09	1,51	1,57	2,13	—	—	—	—	—	—
	0,63	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	0,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	0,88	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	1,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	1,13	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	1,25	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	1,50	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	1,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—
	2,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 28 of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ-EPDM 4,8xL EZP self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corroseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 3,50 \text{ mm}$</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 4,8 \text{ mm}$ $L_w = 13 \text{ and } 19 \text{ mm}$ $k = 4,5 \text{ mm}$ $S = 8,0 \text{ mm}$ $D = 10,5 \text{ mm}$</p>

$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24			
$M_{t,nom}$	3 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	2,00	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,09	1,51	1,57	2,13	—	—	—	—	—	—	—
	0,55	1,09	1,51	1,57	2,13	—	—	—	—	—	—	—
	0,63	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	0,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	0,88	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,13	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,25	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,50	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	2,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—

ESSD and ESST	<p>Annex 29 of European Technical Assessment ETA-17/0139</p>
Fastening screws for metal members and sheeting	
ESSD-HQ-EPDM 4,8xL Corroseal self-drilling screws	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corroseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\varnothing 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 6,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24		
$M_{t,nom}$	5 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	1,28	—	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	—	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	—	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	—	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	—	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	—	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	—	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,63	2,13	2,13	2,13	—	—	—	—	—	—
	0,55	1,63	2,13	2,13	2,13	—	—	—	—	—	—
	0,63	1,63	2,65	3,03	3,03	—	—	—	—	—	—
	0,75	1,63	2,65	3,32	3,32	—	—	—	—	—	—
	0,88	1,63	2,65	3,56	3,56	—	—	—	—	—	—
	1,00	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,13	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,25	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,50	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,75	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	2,00	1,63	2,65	4,00	4,00	—	—	—	—	—	—

ESSD and ESST	Annex 30 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ-EPDM 5,5xL Corr Seal/5 self-drilling screws	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel ø16</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 16,00$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 6,3$ mm $L_w = 25 - 100$ mm $k = 6,0$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

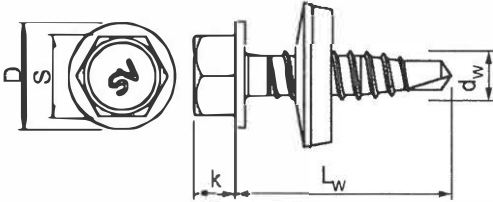
$t_{N,II}$ [mm]	6,00	8,00	10,00	11,00	12,00	14,00	16,00	18,00	Wood class \geq C24			
$M_{t,nom}$	7 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,41	1,41	1,41	1,41	1,41	1,41	—	—	—	—	—
	0,55	1,41	1,41	1,41	1,41	1,41	1,41	—	—	—	—	—
	0,63	2,14	2,14	2,14	2,14	2,14	2,14	—	—	—	—	—
	0,75	2,51	2,51	2,51	2,51	2,51	2,51	—	—	—	—	—
	0,88	2,71	2,71	2,71	2,71	2,71	2,71	—	—	—	—	—
	1,00	3,08	3,08	3,08	3,08	3,08	3,08	—	—	—	—	—
	1,13	3,08	3,08	3,08	3,08	3,08	3,08	—	—	—	—	—
	1,25	4,02	4,02	4,02	4,02	4,02	4,02	—	—	—	—	—
	1,50	4,02	4,02	4,02	4,02	4,02	4,02	—	—	—	—	—
	1,75	4,02	4,02	4,02	4,02	4,02	4,02	—	—	—	—	—
	2,00	4,02	4,02	4,02	4,02	4,02	4,02	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	3,32	3,32	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	3,56	3,56	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	2,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 31</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ-EPDM 6,3xL CorrSeal/16 self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corrseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 12,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

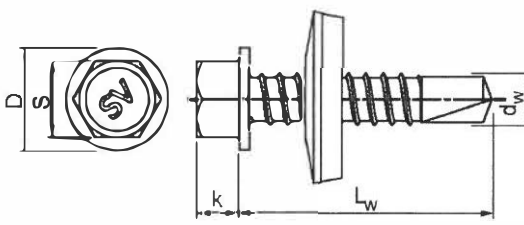
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{w,i}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{w,i}$ [mm]	0,50	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	3,32	3,32	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	3,56	3,56	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	2,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—

ESSD and ESST	Annex 32 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ-EPDM 5,5xL CorrSeal/12 self-drilling screws	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 3,50$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 4,8$ mm $L_w = 20$ mm $k = 4,5$ mm $S = 8,0$ mm $D = 10,5$ mm</p>

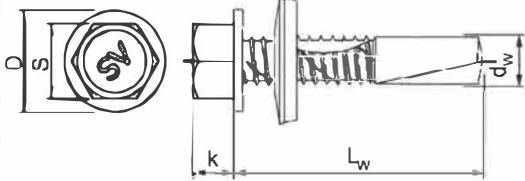
$t_{N,II}$ [mm]	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00	Wood class \geq C24			
$M_{t,nom}$	3 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,55	1,05	1,05	1,05	1,05	—	—	—	—	—	—	—
	0,63	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,75	1,96	1,96	1,96	1,96	—	—	—	—	—	—	—
	0,88	2,31	2,31	2,31	2,31	—	—	—	—	—	—	—
	1,00	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,13	2,58	2,58	2,58	2,58	—	—	—	—	—	—	—
	1,25	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,50	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
	1,75	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—
2,00	2,70	2,70	2,70	2,70	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,09	1,51	1,57	2,13	—	—	—	—	—	—	—
	0,55	1,09	1,51	1,57	2,13	—	—	—	—	—	—	—
	0,63	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	0,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	0,88	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,13	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,25	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,50	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
	1,75	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—
2,00	1,09	1,51	1,57	2,19	—	—	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 33</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-EPDM 4,8xL EZP self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 6,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

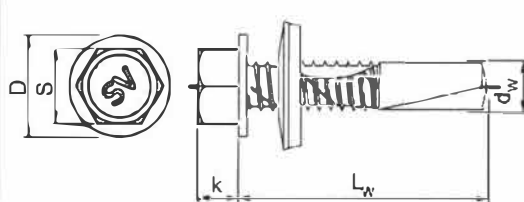
$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24		
$M_{t,10m}$	5 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	1,28	—	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	—	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	—	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	—	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	—	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	—	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	—	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	—	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,63	2,13	2,13	2,13	—	—	—	—	—	—
	0,55	1,63	2,13	2,13	2,13	—	—	—	—	—	—
	0,63	1,63	2,65	3,03	3,03	—	—	—	—	—	—
	0,75	1,63	2,65	3,32	3,32	—	—	—	—	—	—
	0,88	1,63	2,65	3,56	3,56	—	—	—	—	—	—
	1,00	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,13	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,25	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,50	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	1,75	1,63	2,65	4,00	4,00	—	—	—	—	—	—
	2,00	1,63	2,65	4,00	4,00	—	—	—	—	—	—

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 34</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ-EPDM 5,5xL EZP/5 self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel ø14</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 12,00$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,i}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,i}$ [mm]	0,50	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	3,32	3,32	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	3,56	3,56	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
2,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—	

<p>ESSD and ESST</p> <p>Fastening screws for metal members and sheeting</p>	<p>Annex 35</p> <p>of European Technical Assessment ETA-17/0139</p>
<p>ESSD-HQ-EPDM 5,5xL EZP/12 self-drilling screws</p>	

<p>Materials Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 10,00$ mm</p>	
<p>Timber substructures no performance assessed</p>	<p>$d_w = 5,5$ mm $L_w = 25 - 75$ mm $k = 5,5$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

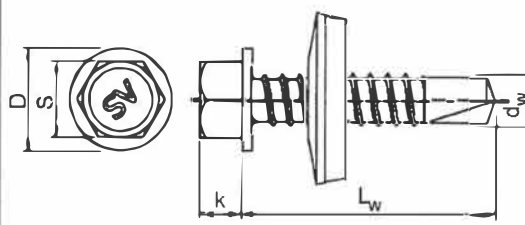
$t_{N,II}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	3,32	3,32	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	3,56	3,56	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	2,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—

ESSD and ESST	Annex 36 of European Technical Assessment ETA-17/0139
Fastening screws for metal members and sheeting	
ESSD-HQ-EPDM 5,5xL EZP/10 self-drilling screws	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corroseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\varnothing 14$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
Drilling capacity: $\Sigma t_i \leq 10,00$ mm	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 5,5$ mm</p> <p>$L_w = 25 - 75$ mm</p> <p>$k = 5,5$ mm</p> <p>$S = 8,0$ mm</p> <p>$D = 11,0$ mm</p>

$t_{N,B}$ [mm]	3,00	4,00	5,00	6,00	8,00	10,00	11,00	12,00	Wood class \geq C24			
$M_{t,nom}$	5 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,i}$ [mm]	0,50	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,55	1,28	1,28	1,28	1,28	1,28	1,28	—	—	—	—	—
	0,63	1,59	1,59	1,59	1,59	1,59	1,59	—	—	—	—	—
	0,75	2,01	2,01	2,01	2,01	2,01	2,01	—	—	—	—	—
	0,88	2,17	2,17	2,17	2,17	2,17	2,17	—	—	—	—	—
	1,00	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,13	2,37	2,37	2,37	2,37	2,37	2,37	—	—	—	—	—
	1,25	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,50	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	1,75	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
	2,00	3,63	3,63	3,63	3,63	3,63	3,63	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,i}$ [mm]	0,50	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	2,13	2,13	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	3,03	3,03	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	3,32	3,32	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	3,56	3,56	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—
	2,00	4,00	4,00	4,00	4,00	4,00	4,00	—	—	—	—	—

ESSD and ESST	<p>Annex 37</p> <p>of European Technical Assessment ETA-17/0139</p>
Fastening screws for metal members and sheeting	
<p>ESSD-HQ-EPDM 5,5xL CorrSeal/10 self-drilling screws</p>	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered and galvanized</p> <p>Washer: EPDM sealing ring with metal top made of carbon steel $\phi 16$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 6,00$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 6,3$ mm $L_w = 25 - 100$ mm $k = 6,0$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24		
$M_{t,70m}$	7 Nm								20 mm	30 mm	
$V_{R,k}$ [kN] for $t_{N,II}$ [mm]	0,50	1,41	1,41	1,41	1,41	—	—	—	—	—	—
	0,55	1,41	1,41	1,41	1,41	—	—	—	—	—	—
	0,63	2,14	2,14	2,14	2,14	—	—	—	—	—	—
	0,75	2,51	2,51	2,51	2,51	—	—	—	—	—	—
	0,88	2,71	2,71	2,71	2,71	—	—	—	—	—	—
	1,00	3,08	3,08	3,08	3,08	—	—	—	—	—	—
	1,13	3,08	3,08	3,08	3,08	—	—	—	—	—	—
	1,25	3,08	3,08	3,08	3,08	—	—	—	—	—	—
	1,50	3,08	3,08	3,08	3,08	—	—	—	—	—	—
	1,75	3,08	3,08	3,08	3,08	—	—	—	—	—	—
	2,00	3,08	3,08	3,08	3,08	—	—	—	—	—	—
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	2,13	2,13	2,13	2,13	—	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	—	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	—	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	—	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	—	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	—	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	—	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	—	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	—	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	—	—	—	—	—	—
	2,00	4,00	4,00	4,00	4,00	—	—	—	—	—	—

ESSD and ESST	<p>Annex 38</p> <p>of European Technical Assessment ETA-17/0139</p>
Fastening screws for metal members and sheeting	
ESSD-HQ-EPDM 6,3xL EZP self-drilling screws	

<p>Materials</p> <p>Fastener: carbon steel – SAE1022 quenched, tempered, galvanized and additionally protected by ceramic coating Corroseal</p> <p>Washer: EPDM sealing ring with metal top made of stainless steel $\phi 16$</p> <p>Component I: S280GD, S320GD or S350GD – EN 10346</p> <p>Component II: S280GD, S320GD or S350GD – EN 10346</p>	
<p>Drilling capacity: $\Sigma t_i \leq 6,00$ mm</p>	
<p>Timber substructures</p> <p>no performance assessed</p>	<p>$d_w = 6,3$ mm $L_w = 25 - 100$ mm $k = 6,0$ mm $S = 8,0$ mm $D = 11,0$ mm</p>

$t_{N,II}$ [mm]	1,50	2,00	3,00	4,00	5,00	6,00	8,00	10,00	Wood class \geq C24			
$M_{t,nom}$	7 Nm								20 mm	30 mm		
$V_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,55	1,41	1,41	1,41	1,41	—	—	—	—	—	—	—
	0,63	2,14	2,14	2,14	2,14	—	—	—	—	—	—	—
	0,75	2,51	2,51	2,51	2,51	—	—	—	—	—	—	—
	0,88	2,71	2,71	2,71	2,71	—	—	—	—	—	—	—
	1,00	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—
	1,13	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—
	1,25	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—
	1,50	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—
	1,75	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—
2,00	3,08	3,08	3,08	3,08	—	—	—	—	—	—	—	
$N_{R,k}$ [kN] for $t_{N,I}$ [mm]	0,50	2,13	2,13	2,13	2,13	—	—	—	—	—	—	—
	0,55	2,13	2,13	2,13	2,13	—	—	—	—	—	—	—
	0,63	3,03	3,03	3,03	3,03	—	—	—	—	—	—	—
	0,75	3,32	3,32	3,32	3,32	—	—	—	—	—	—	—
	0,88	3,56	3,56	3,56	3,56	—	—	—	—	—	—	—
	1,00	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—
	1,13	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—
	1,25	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—
	1,50	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—
	1,75	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—
2,00	4,00	4,00	4,00	4,00	—	—	—	—	—	—	—	

ESSD and ESST	<p>Annex 39</p> <p>of European Technical Assessment ETA-17/0139</p>
Fastening screws for metal members and sheeting	
<p>ESSD-HQ-EPDM 6,3xL CorrSeal/6 self-drilling screws</p>	

Determination of Design Values

1. Determination of Design Shear Resistance

The determination of the design values of the shear resistance depends on the type of supporting substructure.

For Metal Substructures the following applies:

The design values $V_{R,d}$ of the shear resistance are the characteristic values of the shear resistance divided by the recommended partial safety factor $\gamma_M = 1,33$. The recommended partial safety factor γ_M should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

For Timber Substructures the following applies:

The design values $V_{R,d}$ of the shear resistance are the characteristic values of the shear resistance multiplied by k_{mod} according to EN 1995-1-1, Table 3.1, and divided by the recommended partial safety factor $\gamma_M = 1,33$. If failure of the metal component with the thickness t_1 and not failure of the timber substructure is the relevant failure mode then $k_{mod} = 1,0$.

The recommended partial safety factor γ_M should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

2. Determination of Design Pull-through, Pull-out and Tension Resistance

The design values of the pull-through resistance are the characteristic values of the pull-through resistance divided by the recommended partial safety factor $\gamma_M = 1,33$. The recommended partial safety factor γ_M should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

The determination of the design values of the pull-out resistance depends on the type of substructure.

For Metal Substructures the following applies:

The design values of the pull-out resistance are the characteristic values of the pull-out resistance divided by the recommended partial safety factor $\gamma_M = 1,33$. The recommended partial safety factor γ_M should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

For Timber Substructures the following applies:

The design values of the pull-out resistance are the characteristic values of the pull-out resistance multiplied by k_{mod} according to EN 1995-1-1, Table 3.1, and divided by the recommended partial safety factor $\gamma_M = 1,33$. The recommended partial safety factor γ_M should be used in cases where no value is given in national regulations of the Member State where the fastening screws are used.

The design tension resistance $N_{R,d}$ is the minimum value of the design values of either pull-through resistance or relevant pull-out resistance for the corresponding connection.

3. Design Resistance in case of combined Tension and Shear Forces (interaction)

In case of combined tension and shear forces the linear interaction formula according to EN 1993-1-3, section 8.3 (8) should be taken into account.

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Fastening screws for metal members and sheeting	
Determination of Design Values	