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To whom it may concern

Load value confirmation for 20mm embedment of drywall screws

Dear Sir,

We confirm under our sole responsibility that the following screws will fulfill the EN 14506 pull-out load requirement of ≥ 450 N even with an embedment depth of ≥ 20 mm in wood base material:

- S-DS03 4.0 x L
- S-DS03 4.3 x L
- S-DS10 3.9 x L
- S-DS20 3.0 x L

Yours sincerely,

Pierre Hohmeier
Quality Manager – BU SF
Hilti Aktiengesellschaft

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Head of Quality - BU DF
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Attachment

Technical Data Sheet for Drywall screws

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Rechtsform: Aktiengesellschaft | Sitz: 9494 Schaan
OR-Nr.: FL-1.011.557-01 MWST-Nr.: 50 555

Screw Fastening						
Technical data sheet for drywall screws - January 2016						
Page 1						
Screw type	S-DS01 3.5	S-DS01 4.2	S-DS01 4.8	S-DD01 3.5	S-DS03 4.0	S-DS03 4.3
Picture						
Application(s)	For drywall board(s) to metal profile			For drywall board(s) to metal profile	For drywall board(s) to wood frame	
Corrosion protection	B, Y, Z			B, Y, Z	B, Z	
Declaration of performance	SF-DoP-012			SF-DoP-011	SF-DoP-013	
Standard	according to EN 14566:2009-10					
Material / Corrosion protection / Corrosion resistance	<p>Carbon steel case hardened B ... black / grey phosphated ≥ 24 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Z ... $\geq 5 \mu\text{m}$ zinc plated as per DIN / ISO 4042 A ... E ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Y ... $\geq 5 \mu\text{m}$ yellow chromated as per DIN / ISO 4042 A ... G ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Stainless steel (1.4567) as per EN 10088 S ... Material X3CrNiCu18-9-4 (Grade A2), non coated ≥ 1000 hours salt spray test (as per EN / ISO 9227) and 20 cycles Kesternich test (as per DIN 50018)</p>					
Fire behaviour	Class A1, no contribution to fire					
Drive recess	Cross recess, Phillips No. 2, Form H, as per ISO 4757 / DIN 7982					
Screw head shape	Bugle head					
Screw lengths	25 ... 55 mm	70 mm	60 ... 140 mm	25 ... 50 mm	25 ... 55 mm	70 ... 90 mm
Nominal screw diameter	3.5 mm	4.2 mm	4.8 mm	3.5 mm	4.0 mm	4.3 mm
Type of thread	Fine double thread	Fine double thread	Fine double thread	Fine single thread	Coarse single thread	Coarse single thread
Surface hardness ≥ 55 HRC acc. EN 14566	55 ... 60 HRC					
Min. failure (breakage) torque (similar to DIN 16182)	≥ 2.8 Nm	≥ 3.4 Nm	≥ 6.0 Nm	≥ 2.8 Nm	≥ 3.4 Nm	≥ 3.6 Nm
Pull-out load requirement acc. EN 14566 in sheet steel and wood	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N
Application range (steel grade S235) / min. required embedment depth (wood)	≤ 0.88 mm in metal	≤ 0.88 mm in metal	≤ 0.88 mm in metal	0.88 ... 2.25 mm in metal	≥ 20 mm in wood	≥ 20 mm in wood
Characteristic tensile resistance [kN]	3.8	7.1	8.6	3.8	4.7	6.6
Characteristic shear resistance [kN]	2.3	4.2	5.1	2.3	2.8	4.0
Optimum screwdriver	SD 5000-A22 / SD 6000 / SD 5000 / SD 2500					

HILTI		Screw Fastening				
Technical data sheet for drywall screws - January 2016						
Page 2						
Screw type	S-DS05 3.9	S-DS06 4.2	S-DD02 3.9	S-DD03 4.2	S-DD08 3.5	S-MD03PZ 4.8
Picture						
Application(s)	For metal sheet connection	For wire lath to metal, metal sheet connections	For metal track/stud connection	For wire lath to metal, metal track/stud connection	For metal track/stud connection	For metal to metal connection for door frame
Corrosion protection	B	Z	Z	Z	Z	Z
	SF-DoP-018	SF-DoP-019	SF-DoP-020	SF-DoP-021	SF-DoP-022	SF-DoP-017
Standard	according to EN 14566:2009-10					
Material / Corrosion protection / Corrosion resistance	<p>Carbon steel case hardened B ... black / grey phosphated ≥ 24 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Z ... $\geq 5 \mu\text{m}$ zinc plated as per DIN / ISO 4042 A ... E ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Y ... $\geq 5 \mu\text{m}$ yellow chromated as per DIN / ISO 4042 A ... G ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Stainless steel (1.4567) as per EN 10088 S ... Material X3CrNiCu19-9-4 (Grade A2), non coated ≥ 1000 hours salt spray test (as per EN / ISO 9227) and 20 cycles Kesternich test (as per DIN 50018)</p>					
Fire behaviour	Class A1, no contribution to fire					
Drive recess	Cross recess, Philips No. 2, Form H, as per ISO 4757 / DIN 7982					
Screw head shape	Pan head	Wafer head	Pan head	Wafer head	Oval head	Oval head
Screw lengths	11 mm / 7/16"	13 ... 32 mm	11 mm	13 ... 32 mm	9.5 mm	16 mm
Nominal screw diameter	3.9 mm	4.2 mm	3.9 mm	4.2 mm	3.5 mm	4.8 mm
Type of thread	Fine single thread	Fine single thread	Fine single thread	Fine single thread	Fine single thread	Fine single thread
Surface hardness ≥ 55 HRC acc. EN 14566	55 ... 60 HRC					
Min. failure (breakage) torque (similar to DIN 18152)	≥ 3.4 Nm	≥ 4.8 Nm	≥ 3.4 Nm	≥ 5.4 Nm	≥ 2.8 Nm	≥ 6.9 Nm
Pull-out load requirement acc. EN 14566 in sheet steel and wood	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N	≥ 450 N
Application range (steel grade S235) / min. required embedment depth (wood)	2 x 0.5 mm in metal	2 x 0.5 mm in metal	0.75 ... 2.7 mm in metal	0.84 ... 2.84 mm in metal	0.75 ... 2.75 mm in metal	2.8 ... 4.5 mm in metal
Characteristic tensile resistance [kN]	5.3	7.1	6.4	7.1	3.8	9.1
Characteristic shear resistance [kN]	3.2	4.2	3.8	4.2	2.3	5.4
Optimum screwdriver	SD 5000-A22 / SD 6000 / SD 6000 / SD 2500					

HILTI		Screw Fastening			
Technical data sheet for drywall screws - January 2016					
Page 3					
Screw type	S-DS03 5.0	S-DS04 5.5	S-DS10 3.9	S-DS14 4.0	S-DS20 3.9
Picture					
Application(s)	For fire protection board fastening for permanent formwork	For temporary fastening of drywall to drywall	For fibre-reinforced drywall board(s) to metal or wood	For gypsum-fibre board(s) to metal profile	For hard boards to metal or wood
Corrosion protection	S	B	Z	B, Z	B
	N/A	SF-DeP-014	SF-DeP-015	SF-DeP-018	SF-DeP-023
Standard	according to EN 14566:2009-10				
Material / Corrosion protection / Corrosion resistance	<p>Carbon steel case hardened B ... black / grey phosphated ≥ 24 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Z ... $\geq 5 \mu\text{m}$ zinc plated as per DIN / ISO 4042 A ... E ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Carbon steel case hardened Y ... $\geq 5 \mu\text{m}$ yellow chromated as per DIN / ISO 4042 A ... G ≥ 48 hours salt spray test (as per EN / ISO 9227) without red rust on head</p> <p>Stainless steel (1.4567) as per EN 10088 S ... Material X3CrNiCu18-9-4 (Grade A2), non coated ≥ 1000 hours salt spray test (as per EN / ISO 9227) and 20 cycles Kesternich test (as per DIN 50018)</p>				
Fire behaviour	Class A1, no contribution to fire				
Drive recess	Cross recess, Phillips No. 2, Form H, as per ISO 4757 / DIN 7902				
Screw head shape	Bugle head		Small bugle head	Ribbed countersunk	Small bugle head
Screw lengths	50 mm	38 mm	32 ... 41 mm	25 ... 45 mm	25 ... 45 mm
Nominal screw diameter	5.0 mm	5.5 mm	3.9 mm	4.0 mm	3.8 mm
Type of thread	Coarse single thread	Coarse single thread	Hi - Lo thread	Fine double thread	Fine single thread with counter thread
Surface hardness ≥ 55 HRC acc. EN 14566	not hardened	55 ... 80 HRC			
Min. failure (breakage) torque (similar to DIN 19182)	n.a.	n.a.	≥ 4.5 Nm	≥ 3.4 Nm	≥ 3.4 Nm
Pull-out load requirement acc. EN 14566 in sheet steel and wood	≥ 450 N	n.a.	≥ 450 N	≥ 450 N	≥ 450 N
Application range (steel grade S235) / min. required embedment depth (wood)	n.a.	n.a.	≤ 0.88 mm in metal ≥ 20 mm in wood	≤ 0.88 mm in metal	≤ 0.88 mm in metal ≥ 20 mm in wood
Characteristic tensile resistance [kN]	6.6	8.2	6.4	4.7	6.4
Characteristic shear resistance [kN]	4.1	5.0	3.8	2.8	3.8
Optimum screwdriver	SD 5000-A22 / SD 6000 / SD 5000 / SD 2500				