

# Hilti 7591 Self-drilling Screw

## Submission Folder

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### **Customer Hotline**

Hong Kong 8228 8118

Macau (Toll free) 00800- 8228 8118

### **Website**

[www.hilti.com.hk](http://www.hilti.com.hk)

**SAMPLE SUBMISSION AND APPROVAL FORM**

Contract Title: _____	Ref. No.: _____
	Date: _____
	Ref. No. of Previous Submission: _____
Contract No: _____	(1) _____
File Reference: _____	(2) _____

**DETAILS OF SUBMISSION**

To: Contract Manager's Representative Attention: \_\_\_\_\_

From: \_\_\_\_\_

The enclosed sample and catalogue\* I certificate of origin\* I technical data\* I test report\* 1 job reference\* as described below have been checked for compliance with the Specifications and Drawings, and are submitted for approval.

**1. General Information**

- a. Material Description 7591 self-drilling screws
  
- b. Location: \_\_\_\_\_
  
- c. Specification Ref. Page: \_\_\_\_\_ Item: \_\_\_\_\_
  
- d. Drawing Ref. No. \_\_\_\_\_
  
- e. B.Q. Ref.No.: \_\_\_\_\_
  
- f. Anticipated date of approval: \_\_\_\_\_

**2. Technical Information**

The submitted sample has been checked against the specification and drawings as listed below:-

Specification Requirements	Submitted Sample (State details against each item)
a. <b>Brand</b> Not specified	Hilti
b. <b>Country of Origin</b> Not specified	Japan
c. <b>Manufacturer's Name &amp; Address</b> Not specified	Hilti Corporation , FL-9494, Principality of Liechtenstein
d. <b>Factory's Name &amp; Address(es)</b> Not specified	Shinkitajima, Suminoe-ku, Osaka 559 - 0024, Japan
e. <b>Supplier (with Applicator, if any)</b> Not specified	Hilti (Hong Kong) Ltd

f.	<b>Appearance</b> Not specified	According to the sample submitted
g.	<b>Color +</b> Not specified	NIL
h.	<b>Specification</b> Not specified	Attached
i.	<b>Manufacturer's Catalogue</b> Not specified	Attached
j.	<b>Test Report (Original/Certificated True Copy)</b> Not specified	Attached
k.	<b>Previous Job Reference</b> Not specified	Attached
l.	<b>Supplementary Information</b> Not specified	NIL

For and on behalf of the Contractor

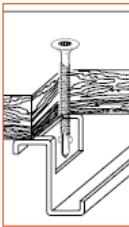
\_\_\_\_\_  
(Quality Control Manager)

<b>CONTRACT MANAGER'S COMMENTS</b>	
To:	
From:	Contract Manager's Representative: _____
On the basis of the sample and information given, the above sample submitted is:	
(1) *	<b>Approved.</b>
(2) *	<b>Not approved</b> because _____
_____	
_____	
Remarks:	_____
_____	
_____	
Approval does not alter the requirements of the Contract	
Contract Manager's Representative: _____	
_____	
Date:	_____

CC. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(\* Delete if appropriate)  
(+ For glass or vitreous mosaic tiles, the contractor is required to confirm the colour range(s) of the submitted sample, i.e. a) light and or medium; or b) dark)

**Application examples**

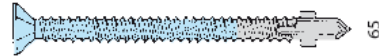


**7591**

Topex-piasta bimetal stainless-steel, drill-screws (A2) ribbed countersunk head with wings and DS-drive, for fastening timber to steel sub-structure.



DS 25



65



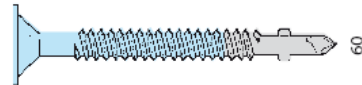
45

**7592**

Topex-piasta bimetal stainless-steel, drill-screws (A2) ribbed countersunk head with wings and DS-drive, for fastening timber to steel sub-structure.



DS 25

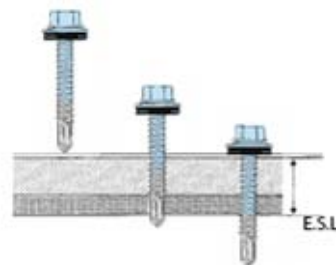


60

**Technical details for art. No. 7591/7592**

Size mm	Drive recess	Drill capacity max. mm	E.S.L. mm
4,8 x 45	DS 25	4,5	28
5,5 x 65	DS 25	5,0	45
5,5 x 60	DS 25	2,0	39

Bimetal austenitic stainless steel grade 304 (A2) self-drilling-screws with a hardened drill-point. The most reliable solution for external applications.



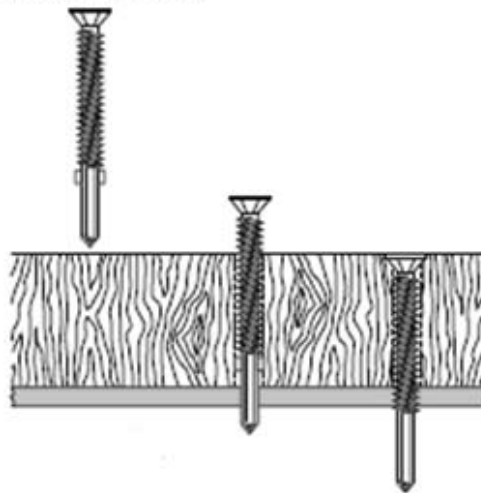
**Application:**

Effective stainless length (E.S.L.)

The stainless part of the topex-piasta® bimetal drill-screw must always penetrate through the steel structure it is being fastened to, thereby ensuring that the stainless steel portion of the screw (E.S.L.) is fully engaged in the steel structure.

**Product application**

The wing-tipped-screw reams a hole through the timber. Upon penetration into the steel the wings break away.



<b>Recommended Drill Speed</b>		
Recommended Drill Speed for screw guns under axial load		
screw diameter	minimum	maximum
up to Ø 4,8	1800	2200
up to Ø 5,5	1000	1600
up to Ø 6,3	1000	1600

## ST 1800 power screwdriver for metal construction

### Applications

- Siding and roofing applications
- Liner tray fastening
- Overlap screw fastenings
- Self-drilling screws with sealing washer for roofing fastenings exposed to weather
- Screw fastening of sandwich panels for siding and roofing
- Self-tapping screws with sealing washer for siding and roofing exposed to weather

### Technical data

Voltage:	230 V / 110 V
Nominal power:	600 W
Nominal current:	2.8 A on 230 V
No-load speed:	Infinite from 0 - 1900 r.p.m.
Torque range:	2 to 22 Nm, adjustable to 18 settings
Weight:	1.8 kg
Chuck type:	1/4" hexagon socket with ball-notch retention
Reversing switch	
Lockbutton for sustained operation	



### Benefits

- Regulation to torque settings suitable for various types of screws and applications; no snapped or overtightened screws
- Depth gauge for controlled pressure on sealing washer for optimal sealing of fastening exposed to the weather
- Strong 600W motor permits fast working with great comfort
- Vibration-damped grip allows comfortable operation
- Excellent balance of tool in terms of short design and low weight

### Ordering designation

Hilti ST 1800 in plastic toolbox, 230V

Hilti ST 1800 in plastic toolbox, 110V

Complete with depth gauge, 4m supply cord, operating instructions and safety precautions

### Item no.

286048

378554



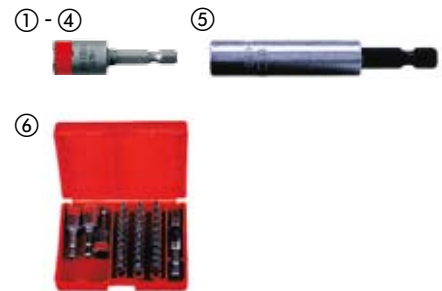
### Accessories

Description	Packaging (pcs)	Ordering designation	Item no.
Scaffold hook	1	S-SH/ST1800	① 378884 ★
Belt hook	1	Hook	② 240719 ★
Depth gauge set	1	S-TA SET	③ 0304611 ★



### Screwdriver bits

Description	Packaging (pcs)	Ordering designation	Item no.
Hexagon head screws 7 mm	1	S-NSD 7	① 308900
Hexagon head screws 8 mm	1	S-NSD 8	② 308901
Hexagon head screws 10 mm	1	S-NSD10	③ 308902 ★
Hexagon head screws 3/8"	1	S-NSD 3/8"	④ 308905
Magnetic bit holder 75 mm long	1	S-BH75M	⑤ 257258 ★
Bit dispenser	1	Bit Safe Heavy	⑥ 334032



Contents: Bit holder, hexagon bit 8 mm, 10mm, 3/8"

Bit: PH1 3x, PH2 5x, PH3 2x, PZ1 3x, PZ2 5x, PZ3 2x, PZ4 1x, TX10 1x, TX15 1x, TX20 1x, TX25 1x, TX30 2x, TX40 4x

### SDT 25 Screw Magazine

Description	Item no.
SDT 25 stand-up tool	① 304457 ★

Stand-up tool, screw magazine with 2 strips of 25 self-drilling screws, bit holder, hex, insert, supply cord strain relief hook, operating instructions.

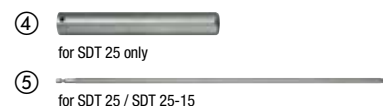
### Accessories

Description	Packaging (pcs)	Ordering designation	Item no.
Magazine guide	1	Magazine	② 305725 ★
Supply cord strain relief hook	1	Strain relief hook	③ 305726 ★



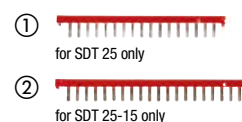
### Bit holders

Description	Packaging (pcs)	Ordering designation	Item no.
Stand-up tool insert	3	S-NSD8DT	④ 304413 ★
Stand-up tool bit holder	1	S-BH435DT	⑤ 304415 ★



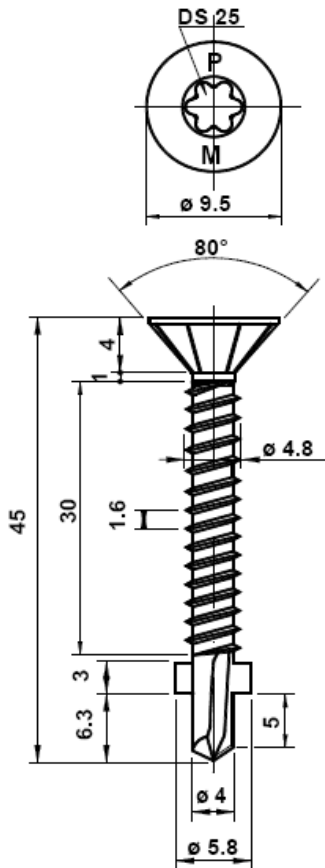
### Screw program for SDT 25 / SDT 25-15

Max. thickness drilled, DC (mm)	Thickness fastened t (min.-max.: mm)	Dimensions d x l (mm)	AF	Packaging (pcs)	Ordering designation	Item no.
5.5	2.6 up to 5.5	5.5x25	8	2500	S-MD 03 Z 5.5x25M	① 378979 ★
6	8	6.3x22	10	2000	S-MD 23 10 Y 6.3x22M	② 284487 ★



★ Special Request

# Technical performance data sheet: 7591



**MAGE TOPEX PIASTA 7591 Ø 4.8 mm.**

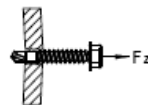
**Fastener Material :** Bi-Metal Austenitic Stainless Steel A2 ( 304 grade )

**Drill Point :** Hardened carbon steel. no.3 point ( drilling capacity 1,5 – 4,5 mm. )

**Diameter :** Ø 4,8 mm.

**REMARKS:**

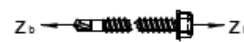
Steel thickness ≤ 3 mm. S 280 GD ( Dx51D ) 270 – 500 N / mm<sup>2</sup>  
 Steel thickness ≥ 3 mm. S 235 ( Ac 37-2 ) 340 – 470 N / mm<sup>2</sup>

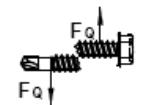


**Pull-out load  $F_z$  in N**

Steel thickness in mm.	1.50	2.0	2.5	3.0	4.0
Steel S 280 GD ( 395 N/mm <sup>2</sup> )	2'402	4'039	5'656		
Steel S 235 ( Ac 37 – 2 )				6'334	8'783

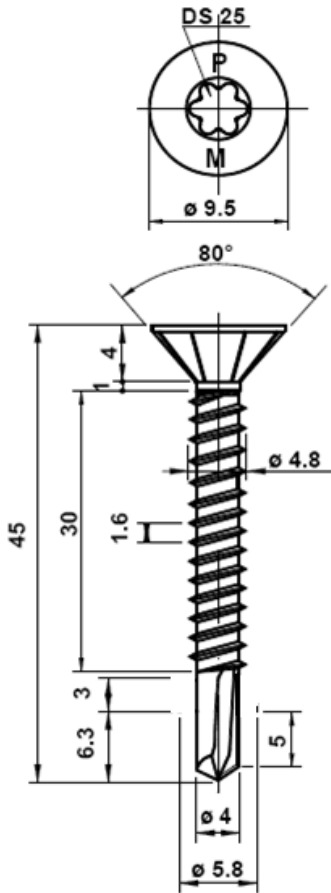
**Torsional strength in Nm** 5,5 Nm

**Tensile breaking load  $Z_B$  in Kn**  8,68 Kn

**Sheer breaking load  $F_Q$  in Kn**  6,04 Kn

All values mentioned below are ultimate failure loads and do not contain any safety factors

# Technical performance data sheet: 7591



**MAGE TOPEX PIASTA 7591 Ø 4.8 mm.**  
(without wings)

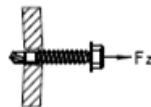
**Fastener Material :** Bi-Metal Austenitic Stainless Steel A2  
( 304 grade )

**Drill Point :** Hardened carbon steel. no.3 point ( drilling capacity 1,5 – 4,5 mm. )

**Diameter :** Ø 4,8 mm.

**REMARKS:**

Steel thickness ≤ 3 mm. S 280 GD ( Dx51D ) 270 – 500 N / mm<sup>2</sup>  
Steel thickness ≥ 3 mm. S 235 ( Ac 37-2 ) 340 – 470 N / mm<sup>2</sup>



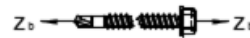
**Pull-out load  $F_z$  in N**

Steel thickness in mm.	1.50	2.0	2.5	3.0	4.0
Steel S 280 GD ( 395 N/mm <sup>2</sup> )	2'402	4'039	5'656		
Steel S 235 ( Ac 37 – 2 )				6'334	8'783

**Torsional strength in Nm**

5,5 Nm

**Tensile breaking load  $Z_B$  in Kn**



8,68 Kn

**Shear breaking load  $F_Q$  in Kn**

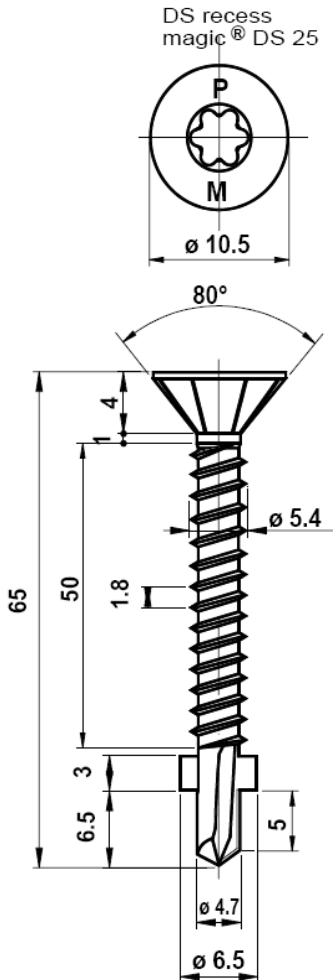


6,04 Kn

All values mentioned below are ultimate failure loads and do not contain any safety factors



# Technical performance data sheet: 7591



**MAGE TOPEX PIASTA 7591 Ø 5.5 mm.**

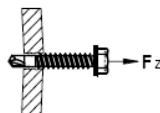
Fastener Material : Bi-Metal Austenitic Stainless Steel A2 ( 304 grade )

Drill Point : Hardened carbon steel. no.3 point ( drilling capacity 1,5 – 5,0 mm. )

Diameter : Ø 5,5 mm.

**REMARKS:**

Steel thickness ≤ 3 mm. S 280 GD ( Dx51D ) 270 – 500 N / mm<sup>2</sup>  
 Steel thickness ≥ 3 mm. S 235 ( Ac 37-2 ) 340 – 470 N / mm<sup>2</sup>



Pull-out load  $F_z$  in N

Steel thickness in mm.	1,5	2,0	2,5	3,3	4,0	5,0
Steel S 280 GD ( 385 N/mm <sup>2</sup> )	2'456	3'565	4'585			
Steel S 235 ( Ac 37 – 2 )				7'584	9'924	Tensile value

Torsional strength in Nm

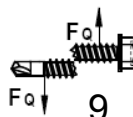
10,5 Nm

Tensile breaking load  $Z_B$  in Kn



11,4 Kn

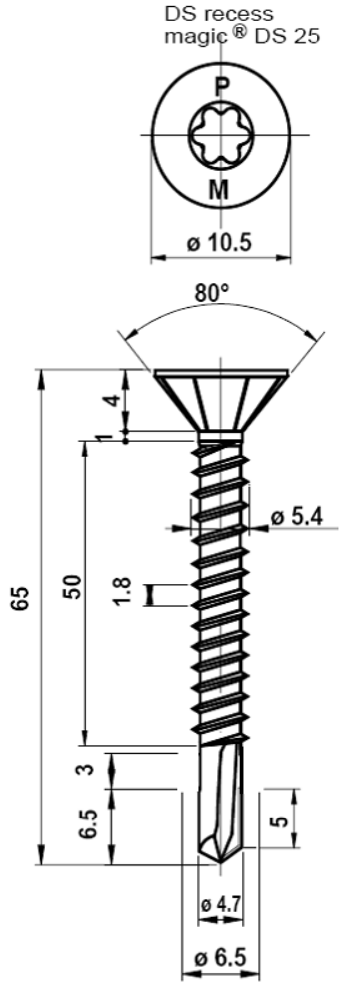
Shear breaking load  $F_Q$  in Kn



8,3 Kn

**All values mentioned below are ultimate failure loads and do not contain any safety factors**

# Technical performance data sheet: 7591



**MAGE TOPEX PIASTA 7591 Ø 5.5 mm.**  
(without wings)

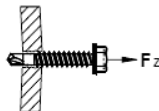
**Fastener Material:** Bi-Metal Austenitic Stainless Steel A2 (304 grade)

**Drill Point:** Hardened carbon steel, no.3 point (drilling capacity 1,5 – 5,0 mm.)

**Diameter:** Ø 5,5 mm.

**REMARKS:**

Steel thickness ≤ 3 mm. S 280 GD ( Dx51D ) 270 – 500 N / mm<sup>2</sup>  
Steel thickness ≥ 3 mm. S 235 ( Ac 37-2 ) 340 – 470 N / mm<sup>2</sup>



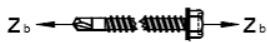
**Pull-out load  $F_z$  in N**

Steel thickness in mm.	1,5	2,0	2,5	3,3	4,0	5,0
Steel S 280 GD ( 385 N/mm <sup>2</sup> )	2'456	3'565	4'585			
Steel S 235 ( Ac 37 – 2 )				7'584	9'924	Tensile value

**Torsional strength in Nm**

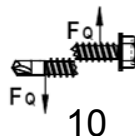
10,5 Nm

**Tensile breaking load  $Z_B$  in Kn**



11,4 Kn

**Shear breaking load  $F_Q$  in Kn**



8,3 Kn

All values mentioned below are ultimate failure loads and do not contain any safety factors



Attention: To whom it may concern

Date: 11 January 2011

Ref: 001/SF/AL/11

Subject: Hilti 7591 stainless steel self-drilling screws

Dear Sir / Madam,

Enclosed please find the information of Hilti 7591 stainless steel self-drilling screws.

Brand:	Hilti
Model:	7591 stainless steel self-drilling screws
Manufacturer:	Shinjo MFG.CO.LTD
Address of Manufacturer:	Shinkitajima, Suminoe-ku, Osaka 559-0024, Japan
Supplier:	Hilti (Hong Kong) Ltd.
Address of Supplier:	701-704, 7/F, Tower A, Manulife Financial Center, 223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
<u>Product</u> 7591 stainless steel self-drilling screws	<u>Country of Origin</u> Japan

Should you have further questions, please do not hesitate to contact our Technical Representatives or Customer Service Hotline at 8228-8118.

Yours sincerely,

Alan Lee  
Product Manager

# Job/Application Reference

14-Feb-11



<u>Ref No</u>	<u>Date</u>	<u>Project</u>	<u>Contractor</u>	<u>Consulting Engineer</u>	<u>Product</u>	<u>Application</u>	<u>Photo Ref</u>
4043	03-05	Hong Kong Disneyland: Disneyland Hotel	Shimuzi China State JV	Ove Arup & Partner	S-MD 01Z 4.8x19 S-MD 03Z 5.5x25	Sheet metal decking fixing	N/A
4282	03-05	Tsuen Wan Police Headquarter	Hip Hing Const Co Ltd	Architectural Services Department	S-MD53Z 4.8X32	Sheet metal decking fixing	N/A
4032	02-05	Hong Kong Disneyland: Main Street USA	Taisei Hip Hing JV / Gradation Design & Eng Co	Meinhardt HK Ltd	S-MP53S 6.5X75	Advertising sign & lighting	N/A
4281	02-05	Pedestrian Flyover at Gloucester Rd Causeway Bay	Kier / Headwin Engrg Ltd		S-MD 51S 4.8 / S-MD 53S 6.3 S-MD 53S 5.5	Sheet metal decking fixing	N/A
4034	02-05	Hong Kong Disneyland: Tomorrowland & Fantasy Land	Shimuzi China State JV / Chan Ying Metal Works	Meinhardt HK Ltd	S-MP52Z 6.3X25	Sheet metal decking fixing for kiosk	N/A
4024	01-05	Hong Kong Disneyland: Main Street USA	Taisei Hip Hing J.V.	Meinhardt HK Ltd	S-MD55Z 5.5X38 / X50 / X63	General fixing to steel structure	N/A
2713	02-04	Disneyland Project - Main Street	Taisei-Hip Hing JV / Everbest Bldg. Products Ltd	Meinhardt (HK) Ltd	Self-drilling screws 5.5x65mm (7591)	Fixing the Promina Board to angle channel	N/A
2727	02-04	Fixing the cladding in bridge works	Top Express Eng Ltd		Self-drilling screws 6.3x25 (7325) / 6.3x45 (7325)	Fixing the steel cladding	N/A
2763	01-04	Ho Tung Lau Advanced Works	Leighton / New Art (HK) Ltd	Ove Arup & Partners	Self-drilling screws S-MD 03Z 5.5x32	Fixing a shield to cover the E & M servicing	N/A
2611	01-04	Commercial Development at 12 Kai Shun Road Kowloon Bay (Metro Centre II)	China State / Winfield Bldg Mat'l & Eng Ltd	Wong & Cheng Consulting Engineer	Self-drilling screws S-MD 03Z 5.5x25 / 03Z 5.5x32	Fixing the acoustic panel works	N/A
3039	11-03	Improvement Works at Lo Wu Station	Kier-Leader JV / Southwell Construction Co Ltd	Kowloon Canton Railway Corporation	Self-drilling screws 5.5x38mm (7330) / 6.3x32 (7325)	Fixing the roofing of the cover walkway	N/A
2728	11-03	Fixing the roofing of the park (General)	Jets Technics Co		Self-drilling screws 5.5x26 (7520) / 5.5x50 (7530) / 5.5x80 (7575)	Fixing the decking works in parks	N/A

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