SBD

SELF-DRILLING DOWEL

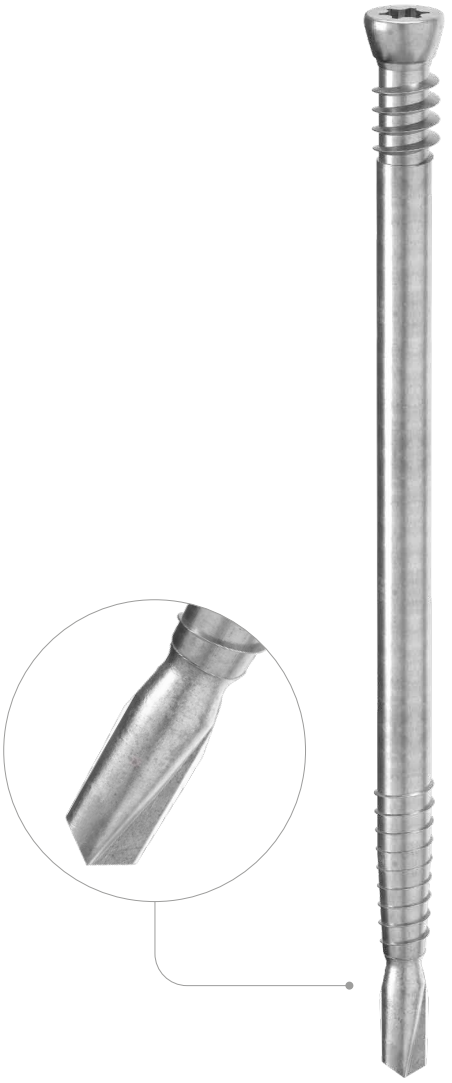
CE
EN 14592

TAPERED TIP
The new tapered self-perforating tip minimises insertion times in timber-to-metal connection systems and guarantees applications in hard-to-reach positions (reduced application force).

GREATER STRENGTH
Higher shear strengths than the previous version.
The 0.30 inch (7,5 mm) diameter ensures higher shear strengths than other solutions on the market and enables optimisation of the number of fasteners.

DOUBLE THREAD
The thread close to the tip (b_1) facilitates screwing. The longer under-head thread (b_2) allows quick and precise closing of the joint.

CYLINDRICAL HEAD
It allows the dowel to penetrate beyond the surface of the timber sub-strate. It ensures an optimal appearance and meets fire-strength requisites.



MY PROJECT SOFTWARE | VIDEO

BIT INCLUDED

DIAMETER [in]	0.14 — **0.30** — 0.32
LENGTH [in]	1 — **2 3/16** — **9 1/4** — 9 1/2
EXPOSURE CONDITION	EC1 DRY
ATMOSPHERIC CORROSIVITY	C1 C2
WOOD CORROSIVITY	T1 T2
MATERIAL	Zn ELECTRO PLATED electrogalvanized carbon steel

VIDEO
Scan the QR Code and watch the video on our YouTube channel

FIELDS OF USE

Self-drilling system for concealed timber-to. steel joints.

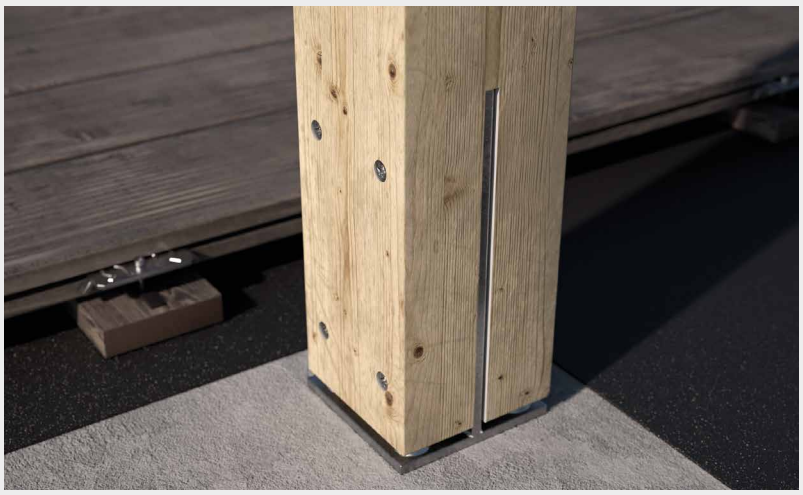
- steel S235 (equivalent to ASTM A36) ≤ 3/8"
- steel S275 (equivalent to ASTM A572 Grade 42) ≤ 3/8"
- steel S355 (equivalent to ASTM A572 Grade 50) ≤ 3/8"
- ALUMINI, ALUMIDI and ALUMAXI brackets

MOMENT RESTORING

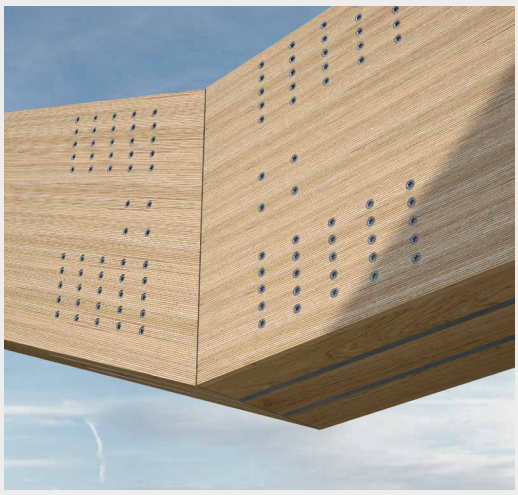
It restores shear and moment forces in concealed centreline joints of large beams.

EXCEPTIONAL SPEED

The only dowel that drills a 3/16" thick S355 plate in 20 seconds (horizontal application with an applied force of 55 lbs | 25 kg).
No self-drilling pin exceeds the application speed of the SBD with its new tip.



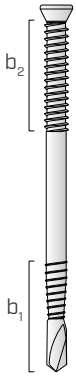
Fastening of Rothoblaas pillar-holder with internal knife plate F70.



Rigid "knee" joint with double internal plate (LVL).

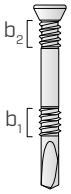
CODES AND DIMENSIONS

SBD L ≥ 3 3/4"



d_1 [mm] [in]	CODE	L [mm]	L [in]	b_1 [mm]	b_1 [in]	b_2 [mm]	b_2 [in]	pcs
7,5 **0.30** TX 40	**SBD7595**	95	3 3/4	40	1 9/16	10	3/8	50
	SBD75115	115	4 1/2	40	1 9/16	10	3/8	50
	SBD75135	135	5 5/16	40	1 9/16	10	3/8	50
	SBD75155	155	6 1/8	40	1 9/16	20	13/16	50
	SBD75175	175	6 7/8	40	1 9/16	40	1 9/16	50
	SBD75195	195	7 11/16	40	1 9/16	40	1 9/16	50
	SBD75215	215	8 7/16	40	1 9/16	40	1 9/16	50
	SBD75235	235	9 1/4	40	1 9/16	40	1 9/16	50

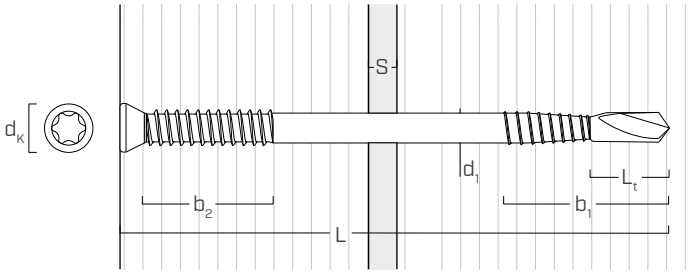
SBD L ≤ 2 15/16"



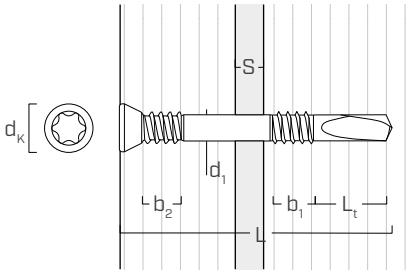
d_1 [mm] [in]	CODE	L [mm]	L [in]	b_1 [mm]	b_1 [in]	b_2 [mm]	b_2 [in]	pcs
7,5 **0.30** TX 40	**SBD7555**	55	2 3/16	-	-	10	3/8	50
	SBD7575	75	2 15/16	30	1 3/16	10	3/8	50

GEOMETRY AND MECHANICAL CHARACTERISTICS

SBD L ≥ 3 3/4"



SBD L ≤ 2 15/16"



			SBD L ≥ 3 3/4"	SBD L ≤ 2 15/16"
Nominal diameter	d_1	**[in]**(1)	**0.30**	**0.30**
Outer thread diameter	d_1	[mm]	7,5	7,5
		[in]	**0.295**	**0.295**
Head diameter	d_K	[in]	0.433	0.433
Effective Length	L_{eff}	[in]	L - 0.6	L - 0.3
Tip Length	L_t	[in]	0.787	0.945
Bending yield strength	$f_{y,b}$	[psi]	150000	150000

INSTALLATION | PLATE

plate	single plate	
	[mm]	[in]
ALUMINI	6	1/4
ALUMIDI	6	1/4
ALUMAXI	10	3/8

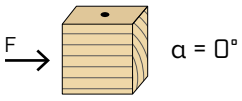
It is suggested to have a milling in the wood equal to the thickness of the plate increased by at least 1/8".

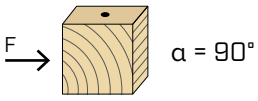
INSTALLATION | STEEL PLATE

plate	single plate	double plate
	[in]	[in]
ASTM A36	3/8	5/16
ASTM A572 Grade 42	3/8	1/4
ASTM A572 Grade 50	3/8	3/16

It is suggested to have a milling in the wood equal to the thickness of the plate increased by at least 1/8".

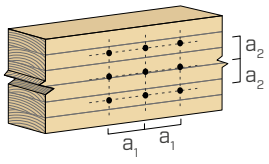
MINIMUM DISTANCES FOR DOWELS SUBJECT TO SHEAR



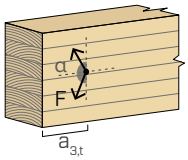


d_1	[in]		0.30		0.30
	[mm]		7,5		7,5
a_1	[in]	**4·d**	1 3/16	**4·d**	1 3/16
a_2	[in]	**5·d**	1 1/2	**5·d**	1 1/2
$a_{3,t}$	[in]	**7·d**	2 1/16	**4·d**	1 3/16
$a_{3,c}$	[in]	**4·d**	1 3/16	**4·d**	1 3/16
$a_{4,t}$	[in]	**4·d**	1 3/16	**4·d**	1 3/16
$a_{4,c}$	[in]	**4·d**	1 3/16	**4·d**	1 3/16

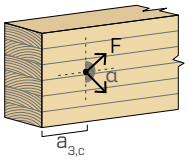
α = load-to-grain angle
d = d_1 = nominal dowel diamter



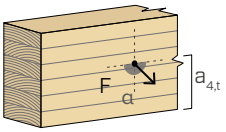
stressed end
-90° < α < 90°



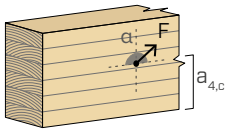
unloaded end
90° < α < 270°



stressed edge
0° < α < 180°



unload edge
180° < α < 360°



NOTES

- The minimum spacing and distances comply with 2024 NDS, where d refers to the nominal diameter of the dowel.
- Wood member stresses must be checked in accordance with Section 11.1.2 and Appendix E of the NDS, and end distances, edge distances and fastener spacing may need to be increased accordingly.

PLATE HARDNESS

The steel plate hardness can greatly vary the pull-through times of the dowels.
Hardness is in fact defined as the material's strength to drilling or shear.
In general, the harder the plate, the longer the drilling time.
The hardness of the plate does not always depend on the strength of the steel, it can vary from point to point and is strongly influenced by heat treatments: standardised plates have a medium to low hardness, while the hardening process gives the steel high hardnesses.