

SELF-DRILLING SCREW FIXINGS

Denomination: **SELF-DRILLING SCREW FIXINGS** Codes: ABE, ARE, ABR, ABRBLE, NBR, ABRC, ABRC A2, ABRA2, ABA, FS, ABP, NBP, ABPC, ABPCA2, TAEZ, TAEN, BCPZ, BZPZBL, BCPN, BCPB, BCPA2, BIE, AUTO, BAUTO, RS.

Reference: **FT BRO-es**

Date: **19/10/15**

Revision: 9

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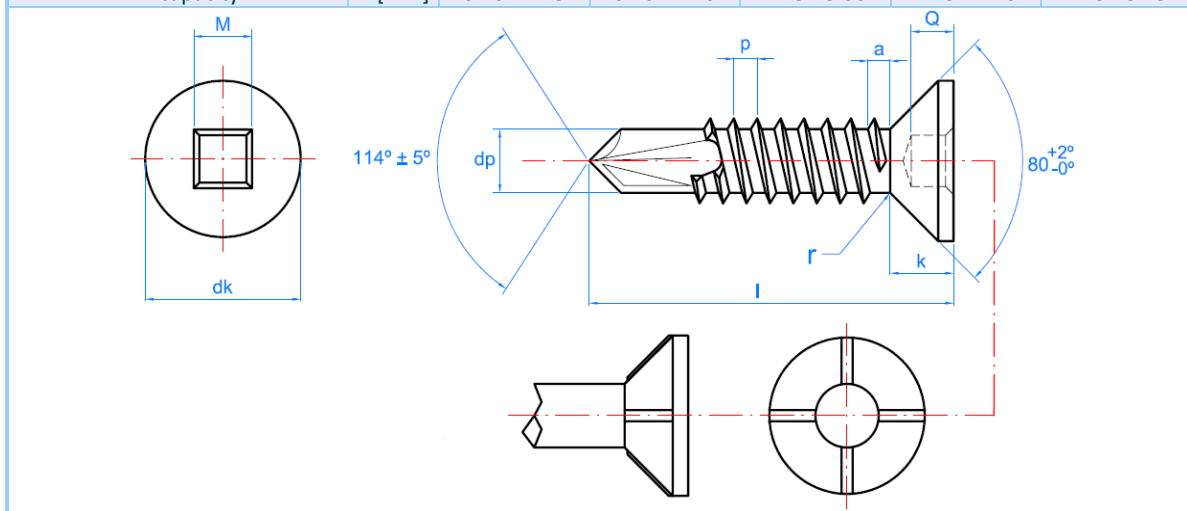
10. ABPC

Self-drilling screw – countersunk head – square socket

		Properties		
		<p>Steel</p>	<p>Zinc-plated coating</p>	<p>Available in stainless</p>
Base material		Properties		
<p>Plate assembly</p>	<p>Plate profile</p>	<p>Square socket</p>	<p>Countersunk head</p>	<p>Screw point</p>

9.1. Details

Code		ST 3.5	ST 3.9	ST 4.2	ST 4.8	ST 5.5
d_k : head diameter \leq	[mm]	6.8	7.5	8.1	9.5	10.8
k: head thickness	[mm]	2.1	2.3	2.5	3.0	3.4
Square bit		nº 1	nº 1	nº 2	nº 2	nº 3
Head countersink angle	º	80	80	80	80	80
D: exterior thread diameter	[mm]	3.53	3.91	4.22	4.80	5.46
d: interior thread diameter	[mm]	2.64	2.92	3.10	3.58	4.17
p: thread	[mm]	1.3	1.3	1.4	1.6	1.8
L: lengths	[mm]	13 - 25	19 - 38	16 - 38	13 - 50	19 - 50
Installation bit code (Square drill)		PUCUC01	PUCUC01	PUCUC02	PUCUC02	PUCUC03
		PUCUL01	PUCUL01	PUCUL02	PUCUL02	PUCUL03
Drill capacity	[mm]	0.70 - 2.25	0.70 - 2.40	1.75 - 3.00	1.75 - 4.40	1.75 - 5.25



- Zinc-plated finish (code ABPC) and A2 Stainless steel version (code ABPCA2) for use exclusively with aluminium (does not produce corrosion by galvanic coupling). Do not use screw in stainless steel to drill steel, as point will burn out due to lack of hardness.
- For metal-metal fixings where the screw is required to be level with the material to be fixed.
- Requires prior countersinking.
- With 4 grooves in the lower part of head which directly countersink wood, melamine and other materials, at the same time as guarding against rotation.

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MAXIMUM THICKNESS TO BE FIXED						
Length	ST 3,5	ST 3,9	ST 4,2	ST 4,8	ST 5,5	ST 6,3
9,5	2,85					
11	4,2					
13	6,2	5,8	4,3	3,7		
16	9,2	8,8	7,3	5,5		
19	12,1	11,7	10,3	8,7	8,7	7
22	15,1	14,7	13,3	11,7	11,7	10
25	18,1	17,7	16,3	14,7	14,7	13
32	25,1	24,5	23	21,5	21,5	20
38		30,5	29	27,5	27,5	26
45			36	34,5	34,5	33
50			41	39,5	39,5	38
60				49,5	49,5	48
63				52,5	52,5	51
73				62,5	62,5	61
75				64,5	64,5	63
80				69,5		68
90				79,5		78
100				89,5		88
110						98
120						108
130						118
140						128

SCREW RESISTANCE CHARACTERISTICS*

SIZE	TENSION [kN]	SHEAR [kN]
ST 2.9	2.62	1.31
ST 3.5	3.81	1.91
ST 3.9	4.64	2.32
ST 4.2	5.26	2.63
ST 4.8	7.11	3.56
ST 5.5	9.63	4.82
ST 6.3	13.36	6.68

1 kN ≈ 100 Kg

For tension loads, the inherent resistance of plates to be fixed must be taken into account, which is usually less than the resistance of the screw itself, as the screw will probably tear the plates.

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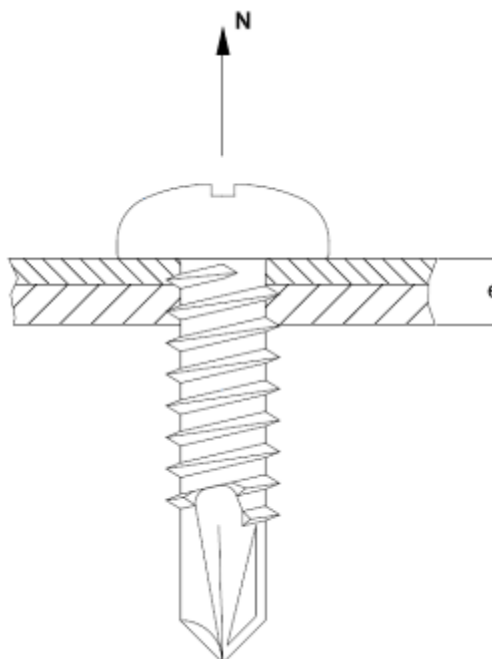
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RECOMMENDED TENSION LOAD IN STEEL PLATE

SIZE	RECOMMENDED LOAD					
	e[mm]	N[kN]	e[mm]	N[kN]	e[mm]	N[kN]
ST 3.5	0.8	0.55	1.5	0.89	2.0	1.13
ST 3.9	0.8	0.54	1.5	0.97	2.0	1.50
ST 4.2	2.0	1.63	2.5	1.51	3.0	2.62
ST 4.8	2.0	1.87	3.0	2.77	4.0	3.71
ST 5.5	2.0	1.77	3.5	2.86	5.0	3.43
ST 6.3	2.5	1.44	4.0	3.19	5.0	4.83

RECOMMENDED TENSION LOAD IN ALUMINIUM PLATE

SIZE	RECOMMENDED LOAD					
	e[mm]	N[kN]	e[mm]	N[kN]	e[mm]	N[kN]
ST 4.8	2.0	0.95	3.0	1.52	4.0	2.10



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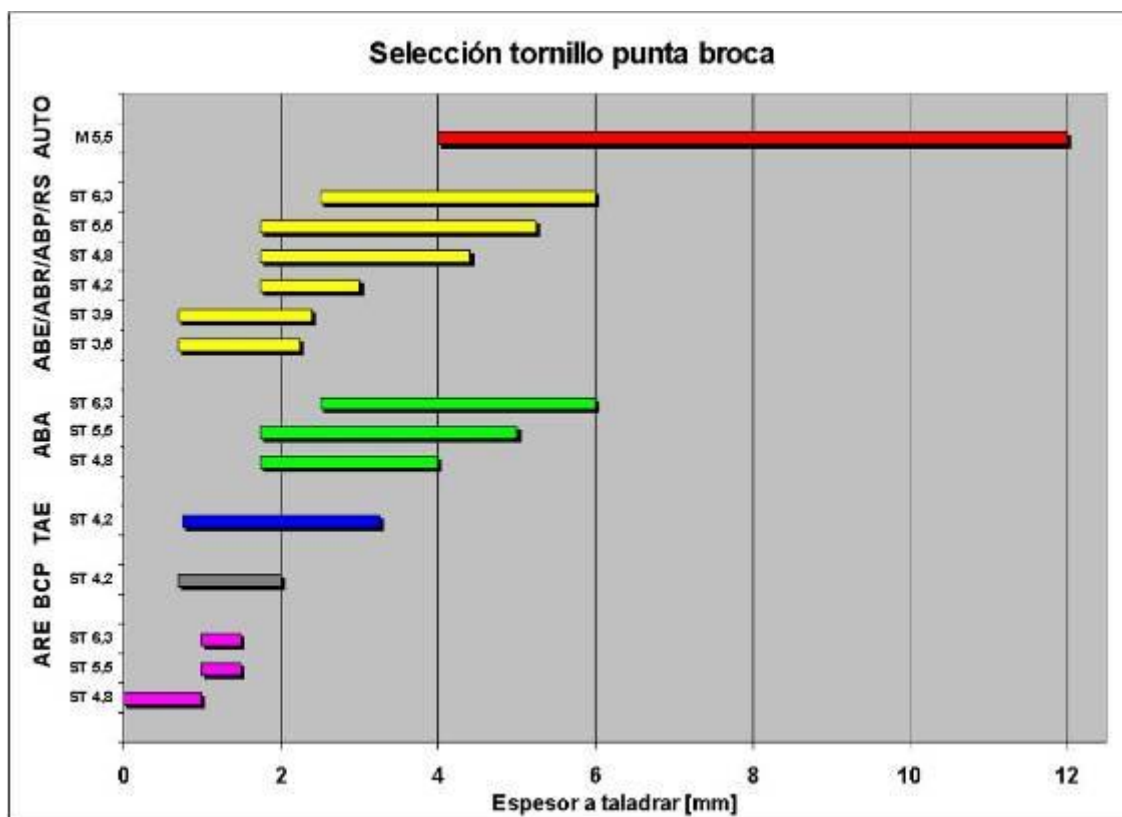
INSTALLATION PARAMETERS

Parameter			ST 3.5	ST 3.9	ST 4.2	ST 4.8	ST 5.5 M 5.5	ST 6.3
Maximum installation strength	[N]		150	200	250	250	350	350
Drill Speed	Steel	[rpm]	1800 - 2500				1000 - 1800	
	Stainless Steel	[rpm]	1000 - 1500				600 - 1000	
Maximum time	[sg]		4	4.5	5	7	11	13
Maximum torque	[Nm]		2.8	3.8	4.7	6.9	10.4	16.9

10 N ≈ 1 Kg

10 Nm ≈ 1Kg m

With high drilling times or excessive drilling speed there is a risk of burning the drill bit and therefore not drilling the material.



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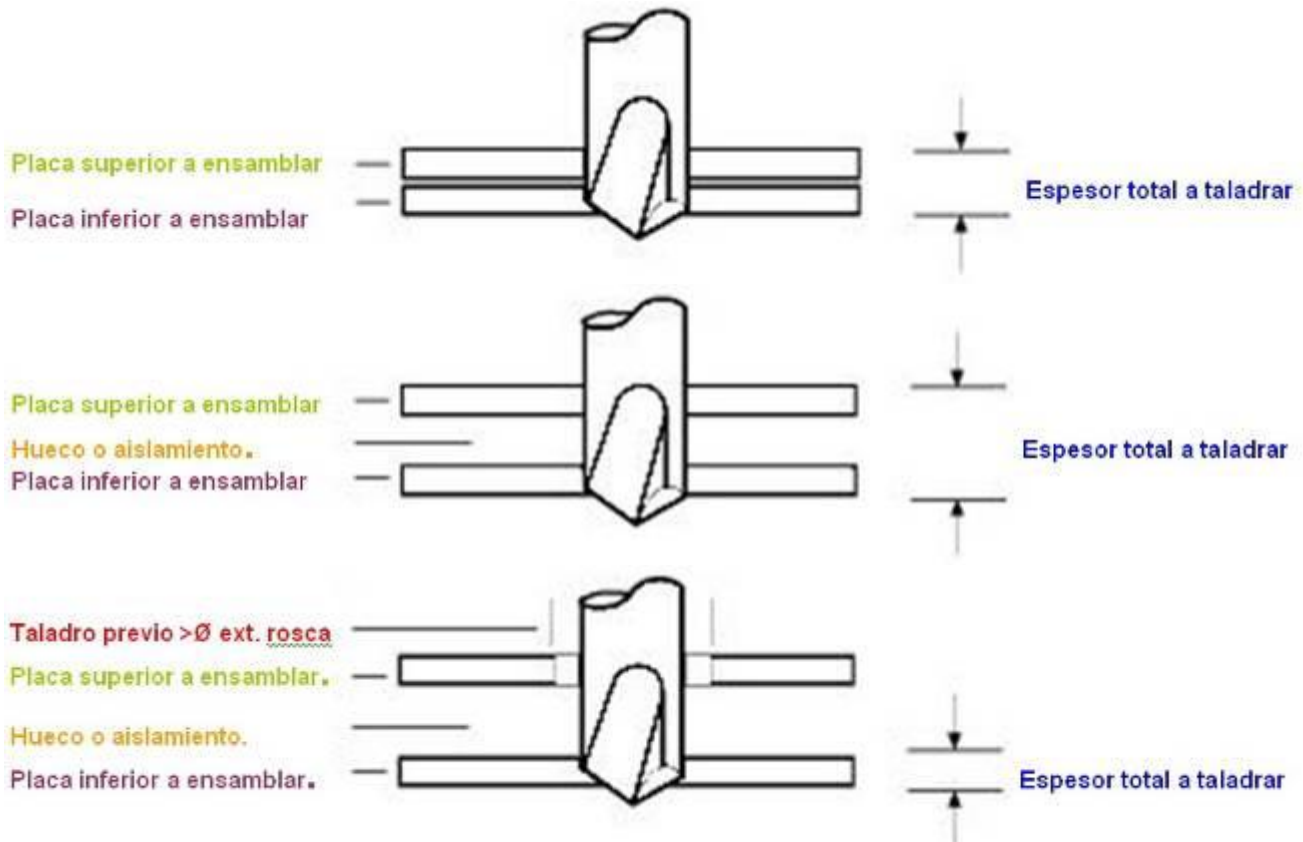
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MATERIALS

Characteristic	ABE, ARE, AUTO, ABR, ABRBL, NBR, ABRC, ABA, FS, ABP, NBP, ABPC, TAEZ, TAEN, BCPZ, BCPN, BCPB, RS	ABRA2, ABRC A2, ABPCA2, BCPA2	BIE, BAUTO (silver ruspert coating)
Material	Special steel for SAE J403 1022 thermal treatment	A2 Stainless Steel	A2 Stainless Steel head and shaft. Special steel point for SAE J403 1022 thermal treatment
Surface hardness	> 500 HV	---	Head and shaft --- Point > 500 HV
Core hardness	240 - 450 HV	---	Head and shaft --- Point 240 - 450 HV
Depth hardness	ST 2.5 – 3.5: 0.05 – 0.18 mm. ST 3.9 – 5.5: 0.10 – 0.23 mm. ST 6.3: 0.15 – 0.28 mm.	---	Head and shaft --- Point: ST 4.8 – 5.5: 0.10 – 0.23 mm. ST 6.3: 0.15 – 0.28 mm.

POINT SELECTION

The choice of screw point must be such that the total thickness of materials to be joined (including any intermediate spaces) is lower than the edge of the drill point; otherwise screw breakage may occur during installation.





Self-drilling screw with countersunk head, Ph recess



DIN-7504-P HC Z Zinc-plated. Square recess.

Material for use:

METAL





Metal sheet - heavy profiles

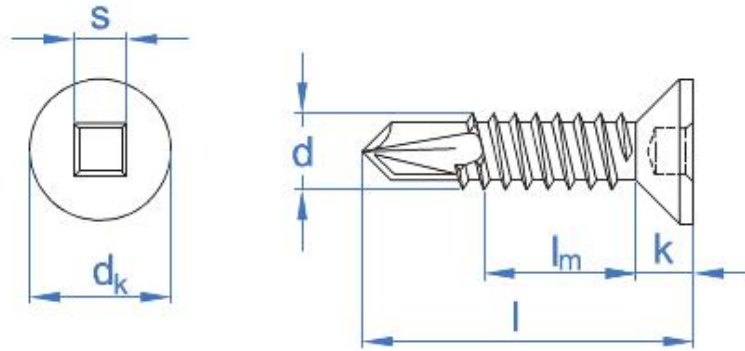
Product Material / Covering:

Zinc-plated

PROFESSIONAL BOX

CODE	DIMENSIONS	EAN		
ABPC3516	3,5 x 16	8423533560230	1000	24000
ABPC3919	3,9 x 19	8423533560292	1000	12000
ABPC3925	3,9 x 25	8423533560315	500	12000
ABPC3932	3,9 x 32	8423533560322	500	6000
ABPC3938	3,9 x 38	8423533560339	500	6000
ABPC4216	4,2 x 16	8423533560353	1000	12000
ABPC4219	4,2 x 19	8423533560360	1000	12000
ABPC4222	4,2 x 22	8423533560377	500	12000
ABPC4238	4,2 x 38	-	-	-
ABPC4813	4,8 x 13	8423533560414	1000	12000
ABPC4816	4,8 x 16	8423533560421	1000	12000
ABPC4825	4,8 x 25	8423533560445	500	6000
ABPC4850	4,8 x 50	8423533560476	500	3000
ABPC5525	5,5 x 25	8423533560490	500	6000
ABPC5532	5,5 x 32	8423533560506	500	3000

TECHNICAL INFORMATION



CODE	DIMENSIONS	tam_huella	Length	Head Ø	Head thickness	Drill capacity	Metric
ABPC3516	3,5 x 16	PC1	16	6,8	2,1	0,70-2,25	3,5
ABPC3919	3,9 x 19	PC1	19	7,5	2,3	0,70-2,40	3,9
ABPC3925	3,9 x 25	PC1	25	7,5	2,3	0,70-2,40	3,9
ABPC3932	3,9 x 32	PC1	32	7,5	2,3	0,70-2,40	3,9
ABPC3938	3,9 x 38	PC1	38	7,5	2,3	0,70-2,40	3,9
ABPC4216	4,2 x 16	PC2	16	8,1	2,5	1,75-3,00	4,2
ABPC4219	4,2 x 19	PC2	19	8,1	2,5	1,75-3,00	4,2
ABPC4222	4,2 x 22	PC2	22	8,1	2,5	1,75-3,00	4,2
ABPC4238	4,2 x 38	PC2	38	8,1	2,5	1,75-3,00	4,2
ABPC4813	4,8 x 13	PC2	13	9,5	3	1,75-4,40	4,8
ABPC4816	4,8 x 16	PC2	16	9,5	3	1,75-4,40	4,8
ABPC4825	4,8 x 25	PC2	25	9,5	3	1,75-4,40	4,8
ABPC4850	4,8 x 50	PC2	50	9,5	3	1,75-4,40	4,8
ABPC5525	5,5 x 25	PC3	25	10,8	3,4	1,75-5,25	5,5
ABPC5532	5,5 x 32	PC3	32	10,8	3,4	1,75-5,25	5,5

CARACTERÍSTICAS



Zinc-plated



Squared



Countersunk

RECOMMENDED FOR



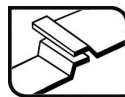
Shelving anchor



Fire extinguisher anchor



Shopping mall sign



Sheet profiles



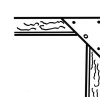
Sandwich plates with overhead



Signs



Iron roofing



Decking screws



DATA SHEET

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