

S1.1 Traducción de los términos técnicos para el anexo A

Gráficos, designación y especificación de material de tornillos SPAX

english	español
1 (Encabezado)	
Self-drilling screw with full and partial thread	Tornillo autotaladrante con rosca completa y parcial
Self-drilling screw with double thread	Tornillo autotaladrante con doble rosca
Self-drilling screw with full thread	Tornillo autotaladrante con rosca completa
Full- thread, self-drilling screw	Tornillo de rosca completa y autotaladrante
Washer for screws with countersunk and raised countersunk head	Arandela para tornillos con cabeza plana y cabeza gota de sebo
Threaded rod with full thread	Varilla roscada con rosca completa
Self-tapping screw with CUT-point	Tornillo autorroscante con punta CUT
Self-tapping cylindric head screw with fixing thread	Tornillo autorroscante, cabeza cilíndrica con rosca de fijación
Self-tapping flat countersunk head screw with CUT-point	Tornillo autorroscante, cabeza plana con punta CUT
Self-tapping flat countersunk head screw with fixing thread	Tornillo autorroscante, cabeza plana con rosca de fijación
Self-tapping raised countersunk head screw with fixing thread	Tornillo autorroscante, cabeza gota de sebo con rosca de fijación
Self-tapping cylindric head screw with fixing thread	Tornillo autorroscante, cabeza cilíndrica con rosca de fijación
Self-tapping raised countersunk head screw with CUT-point	Tornillo autorroscante, cabeza gota de sebo con punta CUT
Flat countersunk head	Cabeza plana
Washer head	Cabeza con arandela
Raised countersunk head	Cabeza gota de sebo
Pan head	Cabeza redonda
Countersunk head with cutting ribs	Cabeza plana con nervadura de corte
Countersunk with head hole	Avellanada con cabeza con agujero
Hex. head with/without flange	Cabeza hexagonal con/sin unión
Washer	Arandela
Material: cold rolled wire according to SPAX - Factory Standard	Material: alambre laminado en frío conforme a SPAX - Estándar de fábrica
Screws of high carbon steel	Tornillos con alto contenido de acero al carbono
Stainless steel screws	Tornillos de acero inoxidable
Material: machining steel Dimensions in mm	Material: acero para construcciones mecánicas Dimensiones en mm
Material: Steel or Stainless steel	Material: De acero o acero inoxidable
Stainless steel	Acero inoxidable
Steel	Acero

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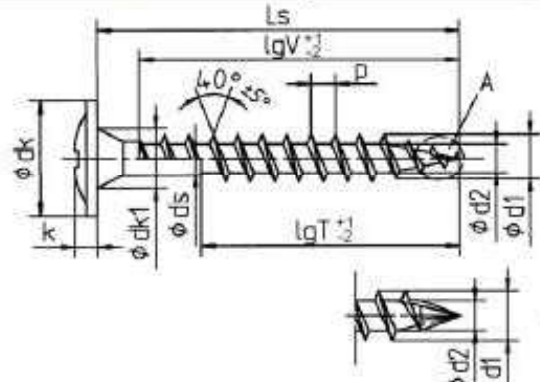
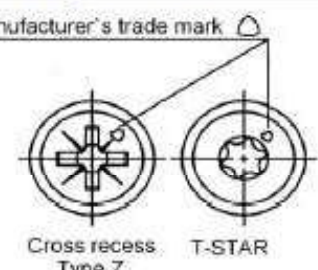
Gráficos, designación y especificación de material de tornillos SPAX


english	español
2 (Área de gráficos)	
Manufacturer's trade mark \triangle	Marca registrada del fabricante \triangle
Manufacturer's trade mark "SPAX"	Marca registrada del fabricante "SPAX"
Manufacturer's trade mark \triangle or "SPAX"	Marca registrada del fabricante \triangle o "SPAX"
Manufacturer's trade mark T-STAR plus T10	Marca registrada del fabricante T-STAR plus T10
Cross recess Type Z	Huella en cruz
Design with hexagon head	Diseño con cabeza hexagonal
Design without head	Diseño sin cabeza
Cross section A - B	Sección transversal A - B
4CUT-point: Square point in core	Punta 4CUT: Punta cuadrada en núcleo
Optional with and without ribs	Opcional con y sin nervaduras
Optional with or without ribs or Multihead	Opcional con o sin nervaduras o cabeza múltiple
Cutting ribs	Nervaduras de corte
Head-end thread corresponds of the point thread geometry	La rosca superior tiene la misma geometría que la rosca inferior
A: alternatively with CUT-point	A: alternativamente con punta CUT
C: alternatively with 4CUT-cutter*	C: alternativamente con cúter 4 CUT*
D: 4CUT-point	D: punta 4CUT
alternativ head geometry	geometría de cabeza alternativa
Screw adapter available as accessory	Adaptador de tornillo como accesorio
Screw with CUT-point	Tornillo con punta CUT
Square Point in core	Punta cuadrada en núcleo

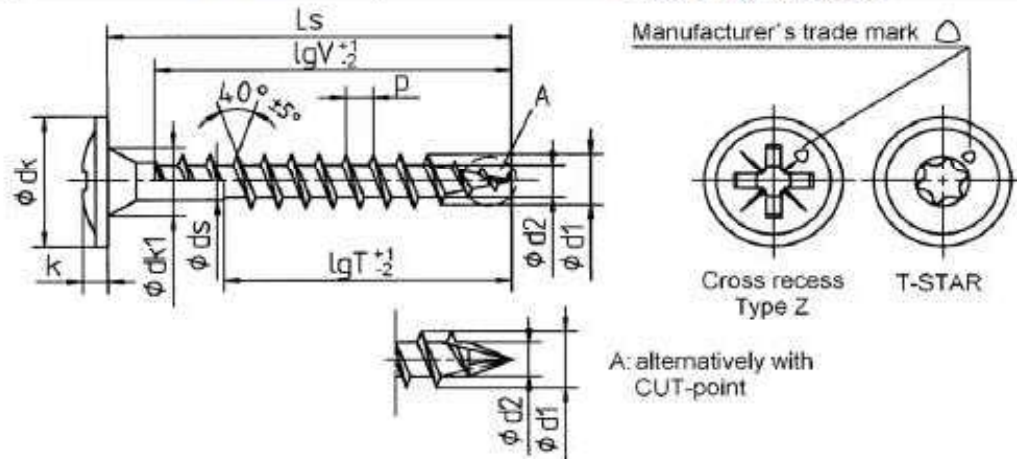
S1.1 Traducción de los términos técnicos para el anexo A

Gráficos, designación y especificación de material de tornillos SPAX

english	español
3 (Dimensiones)	
Nominal diameter	Diámetro nominal
Type of Head	Tipo de cabeza
d1 - thread size	d1 - tamaño de la rosca
permissible tolerance	tolerancia permisible
Tolerance	Tolerancia
SW - wrench size/width across flat	SW - tamaño/ancho de la llave de ajuste por el plano
Dc - flange diameter	Dc - diámetro del flanco
dk - head diameter	dk - diámetro de la cabeza
dk1 - countersink diameter	dk1 - diámetro de la cabeza avellanada
db - hole diameter	db - diámetro del agujero
d2 - core diameter	d2 - diámetro del núcleo
ds, ds1, ds2 - shank diameter	ds, ds1, ds2 - diámetro de la espiga
k - head height max.	k - altura máxima de la cabeza
p - thread pitch	p - paso de la rosca
4 (Dimensiones)	
Nom.dim.	Dim. Nom
Standard thread lengths (full thread = lgV / partial thread = lgT)	Longitudes de rosca estándares (rosca completa = lgV / rosca parcial = lgT)
Thread-free length X	Longitud sin rosca X
permissible tolerance of screw length	Tolerancia permisiva de la longitud del tornillo
to	hasta
5 (Pie de página)	
Screws of Ø 6,0 mm with partial thread additionally in length of 180 to 300 mm, in steps of 20 mm, LgT= 68,0 mm	Tornillos de Ø 6,0 mm con rosca parcial adicionalmente en longitudes de 180 a 300 mm, en niveles de 20 mm, LgT= 68,0 mm
Lengths over 200 mm to 400 mm in steps of 20 mm	Largos entre 200 mm y 400 mm en intervalos de 20 mm
Other thread lengths in the range $\geq 4 \times d1$ to max. standard length permitted.	Otras longitudes de rosca en el rango $>4 \times d1$ hasta la longitud estándar máxima permitida.
Intermediate lengths on Ls possible	Posibilidad de longitudes intermedias en Ls
Screw lengths Ls up to 600 mm (Lengths > 400 mm with cut point)	Longitud de los tornillos Ls hasta 600 mm (Longitudes > 400 mm con punta CUT)
Screw lengths Ls to 600 mm possible	Longitud de los tornillos Ls hasta 600 mm posibles
Screw lengths Ls up to 600 mm possible (at a nominal diameter of 8,0 mm lengths > 400 mm with CUT-point)	Longitudes de tornillo Ls hasta 600 mm posibles (a un diámetro nominal de 8,0 mm > longitudes de 400 mm con punta CUT)
* Design C with lgT= max. 65,0 mm	* Diseño C con lgT= máx. 65,0 mm
= Preferred size	= Tamaño preferido
Other lengths 100 - 3000 mm possible	Otras longitudes 100 - 3000 posibles
Other thread lengths (lgT) are acceptable if $lgT > 4 \times 3,5$	Otras longitudes de rosca (lgT) son aceptables si $lgT > 4 \times 3,5$
Length can be changed by cutting the threaded part	La longitud puede cambiar cortando la parte roscada
Annex A54	Anexo A54

 SPAX®-S Washer head		Self-tapping screw with full and partial thread												
		Material: cold rolled wire according to SPAX - Factory Standard Screws of high carbon steel												
		 <p>Cross recess Type Z T-STAR</p> <p>A: alternatively with CUT-point</p>												
Nominal diameter		3.0	3.5	4.0	4.5	5.0	6.0							
d1	thread size	3.0	3.5	4.0	4.5	5.0	6.0							
	permissible tolerance	±0.2												
dk	head diameter	7.9	8.6	9.6	10.6	11.6	13.6							
	permissible tolerance	-0.40	-0.50			-0.60								
dk1	contersink diameter	4.9	4.9	5.0	5.4	5.9	6.9							
	permissible tolerance	+0.20												
d2	core diameter	2.0	2.2	2.5	2.8	3.2	3.8							
	permissible tolerance	-0.30												
ds	shank diameter	2.15	2.45	2.85	3.20	3.55	4.30							
	permissible tolerance	±0.10												
k	head height max.	1.5	1.8	1.9	2.0	2.2	2.4							
p	thread pitch	1.5	1.8	2.0	2.2	2.5	3.0							
	permissible tolerance	±0.1 x p												
T - STAR size		T10		T15		T20		T25		T30				
Cross recess size Type Z		2												
Ls		Standard thread lengths (full thread = lgV / partial thread = lgT)												
Nom dim	min	max	lgV	lgT	lgV	lgT	lgV	lgT	lgV	lgT	lgV	lgT	lgV	lgT
15	14.0	15.5	13.0											
16	16.0	17.5	15.0	15.0										
20	18.5	20.5	18.0	12.5	18.0		18.0							
25	23.5	25.5	23.0	18.0	23.0	18.0	23.0	17.0	22.5		22.0			
30	28.5	30.5	28.0	18.0	27.0	18.0	27.5	18.0	27.5		27.0		27.0	
35	33.5	36.0	33.0	23.0	32.0	23.0	32.5	23.0	32.5	25.0	32.0	25.0	32.0	24.0
40	38.5	41.0	36.0	23.0	37.0	23.0	37.5	23.0	37.0	25.0	37.0	27.0	37.0	24.0
45	43.5	46.0		28.0	40.0	30.0	42.5	30.0	42.0	30.0	41.0	30.0	41.0	29.0
50	48.5	51.0		28.0		32.0	47.5	32.5	47.0	32.5	46.0	32.0	46.0	32.0
55	53.5	56.0		36.0		35.0	50.0	35.0	52.0	37.0	51.0	37.0	51.0	37.0
60	58.5	61.0				35.0	50.0	35.0	57.0	37.0	56.0	37.0	56.0	37.0
65	63.5	66.0				40.0		37.5	59.0	42.0	61.0	41.0	61.0	41.0
70	68.5	71.0						37.5	59.0	42.0	61.0	41.0	61.0	41.0
75	73.5	76.0						37.5		42.0	61.0	41.0	61.0	41.0
80	78.5	81.0						37.5		47.0	61.0	46.0	61.0	46.0
90	88.5	91.5							47.0		61.0		61.0	
100	98.5	101.5									61.0		61.0	
110	108.5	111.5									69.0		68.0	
120	118.5	121.5									69.0		68.0	
130	128.0	132.0											68.0	
140	138.0	142.0												68.0
150	148.0	152.0												68.0
160	158.0	162.0												68.0
Screws of Ø6.0 mm with partial thread additionally in length of 180 to 300 mm, in steps of 20 mm, LgT= 68,0 mm						Other thread lengths in the range ≥4xd1 to max. standard length permitted.								
Intermediate lengths on Ls possible														
Annex A3														

	SPAX®-S Washer head	Self-tapping screw with full and partial thread Material: cold rolled wire according to SPAX - Factory Standard Screws of high carbon steel
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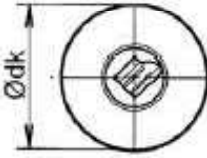

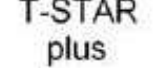
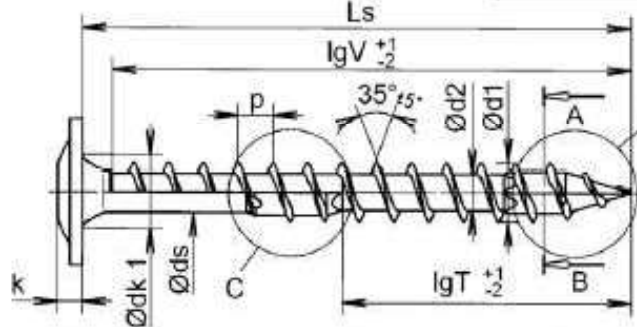



Norminal diameter	7,0								
d1	thread size	7,0							
	permissible tolerance	±0,20							
dk	head diameter	18,0							
	permissible tolerance	-0,60							
dk1	contersink diameter	7,8							
	permissible tolerance	-0,30							
d2	core diameter	4,5							
	permissible tolerance	-0,30							
ds	shank diameter	4,90							
	permissible tolerance	±0,1							
k	head height max.	3,7							
p	thread pitch	3,5							
	permissible tolerance	±0,1 x p							
T - STAR	size	T30							
Cross recess size	Type Z	3							

Ls			Standard thread lengths (full thread = lgV / partial thread = lgT)							
Nom dim	min	max	lgV	lgT						
50	48,5	51,0	46,0	33,0						
55	53,5	56,0	51,0	33,0						
60	58,5	61,0	56,0	38,0						
65	63,5	66,0	61,0	38,0						
70	68,5	71,0	61,0	43,0						
75	73,5	76,0	68,0	43,0						
80	78,5	81,0	68,0	48,0						
90	88,5	91,5	68,0	53,0						
100	98,5	101,5	68,0	58,0						
110	108,5	111,5		68,0						
120	118,5	121,5		68,0						
130	128,0	132,0		68,0						
140	138,0	142,0		68,0						
150	148,0	152,0		68,0						
160	158,0	162,0		68,0						
180	178,0	182,0		68,0						
200	198,0	202,0		68,0						
to										
400	397,0	402,0		68,0						

Lengths over 200 mm to 400 mm in steps of 20 mm
Intermediate lengths on Ls possible

Other thread lengths in the range $\geq 4 \times d1$ to max. standard length permitted.

	 Washer head	Self-tapping screw with full and partial thread Material: cold rolled wire according to SPAX - Factory standard Screws of high carbon steel							
	Cross section A - B 4CUT-point: Square point in core 		Manufacturer's trade mark " SPAX "  T-STAR plus 						
		C: alternatively with 4CUT-cutter D: 4CUT-point							
Nominal diameter		8.0		10.0					
d1	thread size	8.1		10.0					
	permissible tolerance	±0.40		±0.40					
dk	head diameter	18.0	20.0	22.0	24.0	23.0	25.0	27.0	
	permissible tolerance	±1.0		±1.0		±1.0		±1.0	
dk1	countersink diameter	9.00		12.00		12.00		12.00	
	permissible tolerance	+0.50		+0.5		+0.5		+0.5	
d2	core diameter	5.0		6.1		6.1		6.1	
	permissible tolerance	±0.20		±0.20		±0.20		±0.20	
ds	shank diameter	5.70		6.80		6.80		6.80	
	permissible tolerance	±0.25		±0.25		±0.25		±0.25	
k	head height max.	4.3		4.7		4.7		4.7	
p	thread pitch	4.8		6.0		6.0		6.0	
	permissible tolerance	±0.1 x p		±0.1 x p		±0.1 x p		±0.1 x p	
T-STAR plus size		T40		T50		T50		T50	
Ls		Standard thread lengths (full thread=lgV / partial thread = lgT)							
Nom. dim.	min	max	lgV	lgT	lgV	lgT	lgV	lgT	
40	38,5	41,5	37,0						
45	43,5	46,5	42,0						
50	48,5	51,5	46,0		32,0	40,0			
55	53,5	56,5	51,0		32,0	45,0			
60	58,5	61,5	56,0		37,0	50,0			
65	63,5	66,5	61,0		37,0	55,0			
70	68,5	71,5	61,0	42,0	60,0				
75	73,5	76,5	70,0	42,0	70,0				
80	78,5	81,5	70,0	47,0	80,0	50,0			
90	88,5	91,5	80,0	52,0	80,0	55,0			
100	98,5	101,5	80,0	57,0	80,0	60,0			
110	108,5	111,5	80,0	70,0	80,0	80,0			
120	118,5	121,5	80,0	70,0	80,0	80,0			
130	128,0	132,0	80,0	70,0	80,0	80,0			
140	138,0	142,0		80,0		80,0			
150	148,0	152,0		80,0		80,0			
160	158,0	162,0		80,0		80,0			
180	178,0	182,0		80,0		80,0			
200	198,0	202,0		80,0		80,0			
to									
600	597,0	602,0		80,0		80,0			
Intermediate lengths on Ls possible			Other thread lengths in the range ≥4xd1 to max. standard length permitted						
 = Preferred size									
Annex A33									