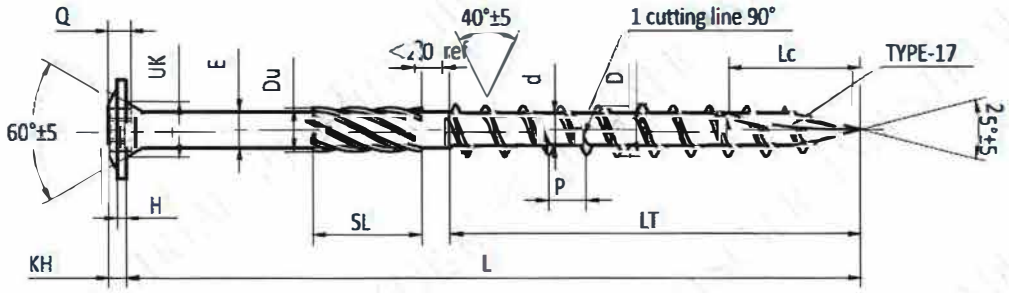
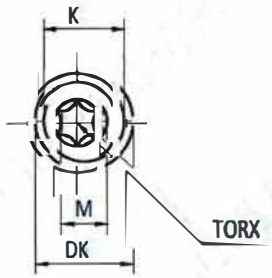
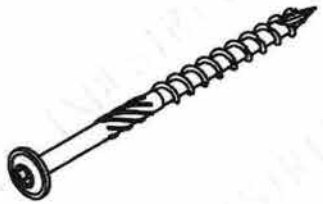
Description	Torx Drive Wafer Head Timber Screw, with U-Thread+1 Slot Thread, Type #17 Cutting Point	Drawing#	002
产品名称	梅花槽威华头草绳螺丝，杆部草绳纹，螺纹带1条拉线纹，尾部Type #17 割尾	图纸编号	002





5.0	L	40**	45	50	60	70	80
	LT±2	25	25	25	35	40	50
6.0	L	50**	60	70	80-100	120-300	
	LT±2	30	35	40	50	80	
8.0	L	80**	100	120-360			
	LT±2	50	50	80			
10.0	L	80**	100	120-360			
	LT±2	50	50	80			

L	Tolerance
L≤50	-1.25
50<L≤80	-1.5
80<L≤120	-1.75
L>120	-2



**Shorter length available without SL(Full thread)

规格 ITEM	头部直径 DK	圆帽直径 K	华司厚度 H	头部高度 KH	槽深 Q	底锥直径 UK	槽型 TORX	槽宽 M(ref)	牙外径 D	牙底径 d	牙距 P±10%	滚花外径 Du	光杆径 E(±0.1)	滚花长度 SL	割尾长度 Lc	破坏扭矩 Torque(N.m)
5.0	11.50-13.20	6.50-8.50	1.05-1.35	2.50-3.30	2.10-2.55	5.00-6.00	T25	4.50	4.75-5.15	3.10-3.40	3.20	4.0-4.3	3.60	8-11	10.00-12.00	7
6.0	14.50-16.10	10.00-12.00	1.35-1.65	2.70-3.50	2.40-2.85	7.30-8.50	T30	5.60	5.80-6.20	3.60-4.00	4.50	4.7-5.1	4.30	11-13	12.00-14.00	11
8.0	20.50-22.50	15.00-17.00	1.65-2.15	3.35-3.75	3.00-3.45	9.00-10.00	T40	6.75	7.80-8.20	5.15-5.50	5.50	6.7-7.1	5.80	11-13	14.00-16.00	28
10.0	23.50-26.50	19.00-21.00	1.95-2.35	3.80-4.20	3.40-3.85	11.30-12.50	T40	6.75	9.60-10.25	6.00-6.50	6.60	7.7-8.1	6.95	11-13	16.00-18.00	44

MACHANICAL 机械性能

1, Material(材质): SAE C 10B21 STEEL;
2, Surface Hardness (表面硬度):560-700 HV0.3;
3, Core Hardness(芯部硬度):300-450 HV0.3;
4, Benging angle(弯曲度)

UNIT	单 位	mm
DATE	日 期	
DESIGN		
DWG		
CHECK BY	制 图	

Revision 修改:

Table 10 Wood construction screw, diameter 5.0, wafer head, torx recess, partial thread, carbon steel 10B21, zinc plated

3.1.1	Average value of geometry		
	d [mm]	Partial thread	
d (mm)	5.0	5.08	
d_1 (mm)		3.22	
d_h (mm)		12.03	
d_s(mm)		3.51	
p pitch thread (mm)		3.10	
l_g (mm)		53.08	
l (mm)		88.62	
3.1.2	Characteristic yield moment at 14°		
$M_{y,k}$ (Nmm)	d [mm]	Thread section	
	5.0	6932	
3.1.3	Characteristic withdrawal parameter		
	d [mm]		
$f_{ax,90,k}$ (N/mm²)	5.0	15.64*	
3.1.4	Characteristic head pull-through parameter		
$f_{head,k}$ (N/mm²)	d [mm]		
	5.0	25.92*	
3.1.5	Characteristic tensile capacity		
$f_{tens,k}$ (kN)	d [mm]		
	5.0	8.66	
3.1.6	Characteristic yield strength		
	d [mm]		
R_m (MPa)	5.0	1184	
$R_{p0.2}$ (MPa)		1152	
3.1.7 3.1.8	Characteristic torsional ratio (Characteristic torsional strength/Characteristic torsional resistance into timber)		
$f_{tor,k}$ / $R_{tor,mean}$ (Nm) / (Nm)	d [mm]		
	5.0	7.2/3.5 = 2.1**	
3.1.9	Bending angle		
Bending angle (°)	d [mm]		
	5.0	> $(45/d^{0.7} + 20)$	
3.1.10	Average value of durability against corrosion (protective layer thickness)		
Protective layer thickness (µm)	d [mm]		
	5.0	7.88	

* density of timber 350 kg/m³
** density of timber 480 kg/m³

Table 11 Wood construction screw, diameter 6.0, wafer head, torx recess, partial thread, carbon steel 10B21

3.1.1	Average value of geometry			
	d [mm]	Partial thread		
d (mm)	6.0	5.91		
d_1 (mm)		3.80		
d_h (mm)		14.98		
d_s(mm)		4.26		
p pitch thread (mm)		3.93		
l_g (mm)		30.61 (78.35)		
l (mm)		49.35 (279.63)		
3.1.2	Characteristic yield moment at 12°			
$M_{y,k}$ (Nmm)		d [mm]	Thread section	Smooth section
		6.0	11241	16567
3.1.3	Characteristic withdrawal parameter			
		d [mm]		
$f_{ax,90,k}$ (N/mm²)		6.0	15.36*	
3.1.4	Characteristic head pull-through parameter			
$f_{head,k}$ (N/mm²)		d [mm]		
		6.0	24.10*	
3.1.5	Characteristic tensile capacity			
$f_{tens,k}$ (kN)		d [mm]		
		6.0	11.84	
3.1.6	Characteristic yield strength			
		d [mm]		
R_m (MPa)		6.0	1169	
$R_{p0.2}$ (MPa)			1079	
3.1.7 3.1.8	Characteristic torsional ratio (Characteristic torsional strength/Characteristic torsional resistance into timber)			
$f_{tor,k}$ / $R_{tor,mean}$ (Nm) / (Nm)		d [mm]		
		6.0	10.6/6.8 = 1.6**	
3.1.9	Bending angle			
Bending angle (°)		d [mm]		
		6.0	> $(45/d^{0.7} + 20)$	
3.1.10	Average value of durability against corrosion (protective layer thickness)			
Protective layer thickness (µm)		d [mm]		
		6.0	8.31	

* density of timber 350 kg/m³
** density of timber 480 kg/m³

Table 12 Wood construction screw, diameter 8.0, wafer head, torx recess, partial thread, carbon steel 10B21

3.1.1	Average value of geometry		
	d [mm]	Partial thread	
d (mm)	8.0	8.04	
d_1 (mm)		5.38	
d_h (mm)		21.41	
d_s(mm)		5.72	
p pitch thread (mm)		5.51	
l_g (mm)		79.29 (79.82)	
l (mm)		199.32 (318.31)	
3.1.2	Characteristic yield moment at 10°		
$M_{y,k}$ (Nmm)		d [mm]	Thread section
		8.0	21549
3.1.3	Characteristic withdrawal parameter		
		d [mm]	
$f_{ax,90,k}$ (N/mm²)		8.0	13.59*
3.1.4	Characteristic head pull-through parameter		
$f_{head,k}$ (N/mm²)		d [mm]	
		8.0	23.96*
3.1.5	Characteristic tensile capacity		
$f_{tens,k}$ (kN)		d [mm]	
		8.0	24.57
3.1.6	Characteristic yield strength		
		d [mm]	
R_m (MPa)		8.0	1198
$R_{p0.2}$ (MPa)			1096
3.1.7 3.1.8	Characteristic torsional ratio (Characteristic torsional strength/Characteristic torsional resistance into timber)		
$f_{tor,k}$ / $R_{tor,mean}$ (Nm) / (Nm)		d [mm]	
		8.0	29.5/12.7 = 2.3**
3.1.9	Bending angle		
Bending angle (°)		d [mm]	
		8.0	> $(45/d^{0.7} + 20)$
3.1.10	Average value of durability against corrosion (protective layer thickness)		
Protective layer thickness (µm)		d [mm]	
		8.0	14.89

* density of timber 350 kg/m³
** density of timber 480 kg/m³

Table 13 Wood construction screw, diameter 10.0, wafer head, torx recess, partial thread, carbon steel 10B21

3.1.1	Average value of geometry		
	d [mm]	Partial thread	
d (mm)	10.0	10.02	
d_1 (mm)		6.44	
d_h (mm)		24.17	
d_s(mm)		7.00	
p pitch thread (mm)		6.61	
l_g (mm)		79.27 (79.88)	
l (mm)		157.987 (399.16)	
3.1.2	Characteristic yield moment at 9°		
$M_{y,k}$ (Nmm)		d [mm]	Thread section
		10.0	33059
3.1.3	Characteristic withdrawal parameter		
		d [mm]	
$f_{ax,90,k}$ (N/mm²)		10.0	13.07*
3.1.4	Characteristic head pull-through parameter		
$f_{head,k}$ (N/mm²)		d [mm]	
		10.0	22.01*
3.1.5	Characteristic tensile capacity		
$f_{tens,k}$ (kN)		d [mm]	
		10.0	36.37
3.1.6	Characteristic yield strength		
		d [mm]	
R_m (MPa)		10.0	1238
$R_{p0.2}$ (MPa)			1208
3.1.7 3.1.8	Characteristic torsional ratio (Characteristic torsional strength/Characteristic torsional resistance into timber)		
$f_{tor,k}$ / $R_{tor,mean}$ (Nm) / (Nm)		d [mm]	
		10.0	58.0/19.4 = 3.0**
3.1.9	Bending angle		
Bending angle (°)		d [mm]	
		10.0	> (45/$d^{0.7}$ + 20)
3.1.10	Average value of durability against corrosion (protective layer thickness)		
Protective layer thickness (µm)		d [mm]	
		10.0	15.41

* density of timber 350 kg/m³
** density of timber 480 kg/m³