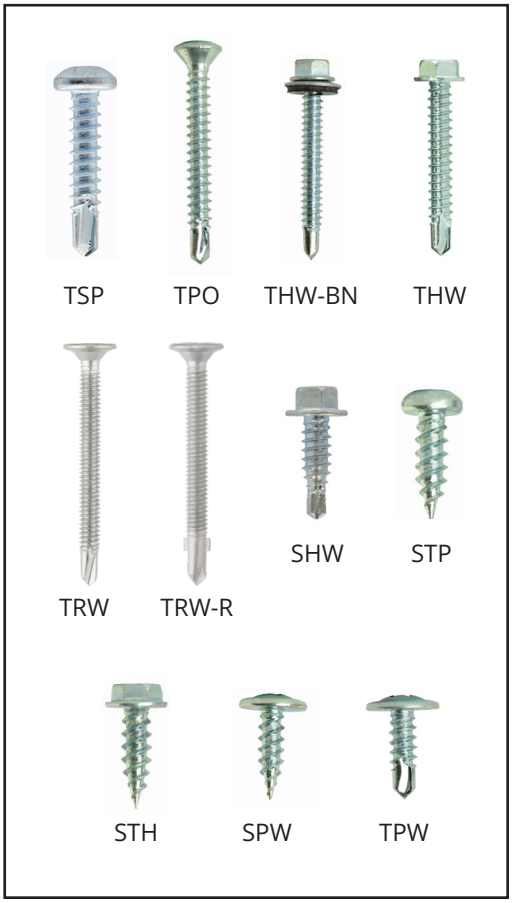
► DESCRIPTION

UCAN U-DRILLS self drilling screws are engineered for speed, consistency and strength. They are cold formed with rolled thread for superior point strength and fast drilling performance in steel base materials up to 0.50 inch thick. The screws are available in a variety of head styles, thread lengths and drill points from #6 to 1/4" size. The U-DRILLS screws meet SAE J78-1998 standard requirements.



► MATERIAL SPECIFICATION

Material
- Cold heading quality wire
- carbon steel: AISI C1022

Heat treatment
- Tempered and case hardened
- Case depth: Size #6 - 0.002" -0.007"
  Size#8-12 - 0.004"- 0.009"
  Size 1/4" - 0.005" -0.011"

Surface Hardness
- 50-56 HRC equivalent

Core Hardness
- 32-40 HRC equivalent

Corrosion protection
- Zinc plating - 0.0002" as per ASTM F 1941-00
- Ruspro I coating - 1000 hrs salt spray resistance
- All TRW (Ruspro Coated TSW/TSW-R) screws are ACQ

► TECHNICAL DATA

Table 1 - Screw Strength Data

Size	Average Tensile Capacity (lbf)	Average Shear Capacity (lbf)	Min. Torsional Strength* (lb-in)	Recommended Drill Speed (rmp)
6-20	1102	652	30	1800-2500
8-18	2236	1301	42	
10-16	3162	1846	61	
10-24	3162	1718	65	
12-14	4094	2323	92	1000-1800
12-24	4491	2494	100	
1/4-14	5761	2957	150	
1/4-20	4957	2957	168	
1/4-28	6491	3758	210	

Note: * Minimum Torsional Strength is as per SAE J78-98

► INSTALLATION

U-Drills self drilling screws are installed into the base material (steel/aluminum) without pre-drilling. The length of the forged drill point determines the thickness of material to be drilled. For effective drilling use an 1800 – 2500 RPM electric screw gun.

Screw size	Drill Speed (RPM)
#6 #8 #10	2500
#12 1/4	1800

- Always drive self-drilling screws perpendicular to the work surface
- Use torque control when fastening into thin sheet metal

For complete line of U-Drills screws please see the current UCAN contractors Price List.

Table 2 - Ultimate Pullout Data[1,2,3,4]

Screw size	Point	Material thickness in gauge/inch not in contact with screw head										
		26	24	22	20	18	16	14	12	1/8	3/16	1/4
8-18	T/2	119	119	265	298	491	703	959	1558			
	T/3	120	120	239	285	470	663	910	1424	2287		
10-16	T/2				268	547	784	1033	1653			
	T/3	124	208	266	299	499	708	967	1474	2077		
10-24	T/3	121	200	251	333	495	701	900	1375	2070	2612	
12-14	T/2	156	243	283	375	605	848	1181	1856	2568	3520	
	T/3	142	211	289	341	551	575	1063	1288	1653	2873	4094
12-24	T/4					495	697	986	1532	2441	3485	3844
	T/5					487	699	913	1128	1475	2598	3722
1/4-14	T/3	141	231	293	224	613	505	1145	1131	1515	2927	4319
1/4-20	T/5				206		509		1215	1517		4385
1/4-28	T/5							1145	1374	1673	3872	6071

[1]Published strengths are based on in-house and independent laboratory testing and for information only.
[2]For connection design, published pull-out values shall be compared to pull-over and screw strength, and the lowest must be used. Pull-over resistance load can be calculated as per CSA S136 standard.
[3]Values are based on steel members with the minimum strength of Fu 45 ksi.
[4]The application-specific safety factor should apply for allowable (un-factored working) loads.

Table 3 - Ultimate Shear Data[1,2,3,4]

Screw	Point	Material thickness in gauge/inch is in contact with screw head										
		26	24	22	20	18	16	14	12	1/8	3/16	1/4
1/4-14	T/1	511	849	885	1244	1764						
8-18	T/2	294	496	560	740	1060	1078					
10-16	T/2	312	478	589	830	1206	1268					
8-18	T/3				730	1090	1210	1214				
10-16	T/3				728	1266	1540	1552				
12-14	T/3				769	1358	1620	1970	1986			
1/4-14	T/3				930	1442	2100	2584	2650	2820		
12-24	T/4								2048	2030		
12-24	T/5								2700	2720	2762	
1/4-28	T/5								2820	3050	3310	

[1]Published strength data are based on in-house testing and for information only.
[2]For connection design, published shear strength values shall be compared to fastener strength in Table 1, and the lowest must be used.
[3]The application-specific safety factor should apply for allowable (un-factored working) loads.
[4]Values are based on steel members with the minimum strength of Fu 45 ksi.