

GENERAL INFORMATION - PLASTIC FASTENERS

Plastic fasteners are made of a thermo formed polyamide (thermoplastic) commonly referred to as Nylon. The most common grade is Nylon 6 (PA 6-6) which offers a wide variety of advantages where low strength and low temperature are permitted. Plastic allows thermal and electrical insulation, is rust proof under normal atmospheric conditions, resistant to common solvents, is lighter than aluminum, will not seize or gall even though it is self locking, will not become magnetized and can normally be dyed to match surroundings.

Designation and Composition

Grade:	Nylon 6 (PA 6-6)	Shore Hardness:	7.5 N/mm ²	Shear Strength:	54 N/mm ²
Tensile Strength:	53 N/mm ²	Density:	1.14 g/cm ³	Fusion Point:	255° C
Normal Temp:	-20° -100° C	Peak Temp:	150° C	Moisture Absorption:	1.3 - 1.95%
Electrical Resistance:	300 V				

Tightening Torque

NOMINAL THREAD	M3	M4	M5	M6	M8	M10
TIGHTENING TORQUE N/m	0.13	0.35	0.6	1.27	3.91	6.8

Breaking Loads

NOMINAL THREAD	M3	M4	M5	M6	M8	M10	M12
BREAKING LOADS N	200	400	700	1000	2000	2500	4000

GENERAL INFORMATION - BRASS FASTENERS

Brass is copper based alloy mixture that offers high electrical conductivity without becoming magnetized. It's reasonable corrosion resistance and acceptance of decorative and/or protective coatings makes it a popular choice in marine, optical, electro mechanical and plumbing industries. Grades CU2 and CU3 are not heat treated and have limited strength capabilities. When subject to tensile loads, stress corrosion resulting in cracks can occur. Mechanical properties of fasteners are similar to steel grade 4.6, however, impact strength and elongation are lower on grade CU2 due to cold working. When corrosion resistance and increased strength is the main objective stainless steel may be a better alternative. Grade markings are not required for grades CU2 and CU3 unless mutually agreed.

Designation and Composition

Grade:	CU2	CU3
Former #:	Ms 63	Ms 58
DIN #/ISO #:	17600/426	17600/426
USA unified #:	C24700	C38500
Chem % Copper:	62 - 64 Cu	57.2 - 59 Cu
Chem % Zinc:	36 - 38 Zn	41 - 42.8 Zn

Note: Excellent cold heading and forming - Good turning and machining - Difficult to hot form or machine - Can be hot formed - Difficult to cold form

Property Class - Tensile Strength

GRADE	NOMINAL THREAD		TENSILE STRENGTH	YIELD LIMIT
	above	up to and including	N/mm ² min.	N/mm ²
CU2	-	M6	440	340
	M6	M39	370	250
CU3	-	M6	440	340
	M6	M39	370	250

Tightening Torque

NOMINAL THREAD	M2	M2.5	M3	M3.5	M4	M5	M6	M8	M10
TIGHTENING TORQUE N/m	0.14	0.29	0.5	0.79	1.2	2.2	3.9	9.0	17.0

Rupture Torque - Minimum

GRADE CU2/GRADE CU3	M1.6	M2	M2.5	M3	M3.5	M4	M5
MINIMUM RUPTURE TORQUE Nm	0.10	0.21	0.45	0.8	1.3	1.9	3.8