

# MARYLAND METRICS

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## TECHNICAL INFORMATION and DATA

### Brass, Aluminium, Kuprodur (copper)

#### Mechanical properties according DIN / ISO 8839

Material		Nominal thread diameter		Tensile strength	Stress at permanent set limit	Percentage elongation after fracture
Symbol	Designation	mm		$R_m$ N/mm <sup>2</sup>	$R_{p0,2}$ N/mm <sup>2</sup>	$A_5$ %
		over	to	min.	min.	min.
CU1	E-Cu57/Cu-ETP	-	39	240	160	14
CU2	CUZn37	-	6	440	340	11
		6	39	370	250	19
CU3	CuZn39Pb3	-	6	440	340	11
		6	39	370	250	19
CU4	CuSn6	-	12	470	340	22
		12	39	400	200	33
CU5	CuNi1,5 Si	-	39	590	540	12
CU6	CuZn40MnPb	6	39	440	180	18
CU7	CuAl10Ni5Fe4	12	39	640	270	15
AL1	AlMg3	-	10	270	230	3
		10	20	250	180	4
AL2	AlMg5	-	14	310	205	6
		14	36	280	200	6
AL3	AlSi1MgMn	-	6	320	250	7
		6	39	310	260	10
AL4	AlCuMgSi	-	10	420	290	6
		10	39	380	260	10
AL5	AlZnMgCu0,5	-	39	460	380	7
AL6	AlZn5,5MgCu	-	39	510	440	7
TI1	TI 99,8	-	20	290	180	30
TI2	TiAl6V4	-	39	890	820	10

#### Cold formed bolts and nuts are primarily made of following materials:

- Brass = Ms 63 = Cu Zn 37
- Aluminium = Al Mg 3
- Kuprodur = Cu Ni 1,5 Si

#### Machined bolts and nuts are made of following materials:

- Brass = Ms 58 = Cu Zn 39 Pb3
- Aluminium = Al Mg Si 1

#### Tightening torques Ma in (Nm) for screws made of:

Ø	M2	M2,5	M3	M3,5	M4	M5	M6	M8	M10
<b>Brass</b> Ms 63 Ms 63	0,14	0,29	0,50	0,79	1,2	2,2	3,9	9	17
<b>Aluminium</b> Al Mg 3	0,10	0,20	0,36	0,57	0,85	1,6	2,8	7	13
<b>Kuprodur</b> Cu Ni 1,5 Si					2,3	4,7	8	19,5	38