EN 12164, Copper and copper alloys — Rod for free machining purposes

Designations			Diameter			Width across - flats			Tensile Strength	0,2% proof strength		Elongation			Hardness	
Material		Material Condition	mm			mm			Rm (Mpa)	Rp 0,2 (Mpa)		A 100 (%)	A 11,3 (%)	A (%)	HBW	
Number	Symbol		from	over	up to and including	from	over	up to and including	min.	min.	max.	min.	min.	min.	min.	max.
CW603N	CuZn36Pb3	M	All			All			As manufactured							
		R340	10	-	80	10	-	60	340	-	280	-	-	20	-	-
		H070	10	-	80	10	-	60	-	-	-	-	-	-	70	120
		R400	2	-	25	2	-	20	400	200	-	4	8	12	-	-
		H100	2	-	25	2	-	20	-	-	-	-	-	-	100	140
		R480	2	-	14	2	-	10	480	350	-	3	5	8	-	-
		H125	2	-	14	2	-	10	-	-	-	-	-	-	125	-

EN 12166, Copper and copper alloys — Wire for general purposes

Designations			Diameter		Tensile Strength	0,2% proof strength		Elongation			Hardness	
Material		Material Condition	mm		Rm (Mpa)	Rp 0,2 (Mpa)		A 100 (%)	A 11,3 (%)	A (%)	HV	
Number	Symbol		from	up to and including	min.	min.	max.	min.	min.	min.	min.	max.
CW603N	CuZn36Pb3	M	All		As manufactured							
		R340	0,5	20	340	-	280	10	15	20	-	-
		H080	1,5	20	-	-	-	-	-	-	80	130
		R400	0,5	14	400	200	-	4	8	12	-	-
		H100	1,5	14	-	-	-	-	-	-	100	150
		R480	0,5	8	480	350	-	2	5	-	-	-
		H135	1,5	8	-	-	-	-	-	-	135	-

EN 12168, Copper and copper alloys — Hollow rod for free machining purposes

Designations			Nominal Wall Thickness		Hardness				Tensile Strength	0,2% proof strength	Elongation
Material		Material Condition	mm		HB		HV		Rm (Mpa)	Rp 0,2 (Mpa)	A (%)
Number	Symbol		up to and including	over	min.	max.	min.	max.	approx.	approx.	min.
CW603N	CuZn36Pb3	M	ALL		As manufactured						
		H110	10	-	110	160	120	170	(400)	(250)	(12)
		H090	-	10	90	140	100	150	(340)	(160)	(25)