

**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.	
CW709R	CuZn32Pb2AsFeSi	M	All			All			As manufactured								
		R380	5	-	40	5	-	40	380	220	-	-	15	20	110	160	
		R430	5	-	40	5	-	40	430	280	-	-	12	15	120	170	

**EN 12165, Copper and copper alloys — Wrought and unwrought forging stock**

Designations		Diameter		Hardness		
Material		Material Condition	mm		HB	
Number	Symbol		from	up to and including	min.	max.
CW709R	CuZn32Pb2AsFeSi	M	All		As manufactured	
		H090	8	80	90	170