

DIN EN 12164:2024-12 (E)

Copper and copper alloys - Rod for free machining purposes

Contents		Page
European foreword		4
Introduction		6
1	Scope	7
2	Normative references	7
3	Terms and definitions	7
4	Designations	8
4.1	Material	8
4.1.1	General	8
4.1.2	Symbol	8
4.1.3	Number	8
4.2	Material condition	8
4.3	Product	8
5	Ordering information	10
6	Requirements	11
6.1	Composition	11
6.2	Mechanical properties	11
6.3	Resistance to dezincification	11
6.4	Residual stress level	12
6.5	Dimensions and tolerances	12
6.5.1	Diameter or width across-flats	12
6.5.2	Shape tolerances	12
6.5.3	Straightness	12
6.5.4	Length	13
6.5.5	Corner radii	13
6.5.6	Twist of polygonal rod	13
6.5.7	Shaped ends	14
6.6	Surface quality	15
6.7	Internal inclusion	16
7	Sampling	16
7.1	General	16
7.2	Analysis	16
7.3	Mechanical tests	16
7.4	Dezincification resistance and stress corrosion resistance tests	16
8	Test methods	17
8.1	Analysis	17
8.2	Tensile test	17
8.2.1	General	17
8.2.2	Location of test pieces	17
8.2.3	Shape and size of test pieces	17
8.2.4	Procedure for testing	17
8.2.5	Determination of results	17
8.3	Hardness test	18
8.4	Dezincification resistance test	18

8.5	Stress corrosion resistance test	18
8.6	Determination of the electrical conductivity	18
8.7	Retests	18
8.7.1	Analysis, tensile test, hardness test and dezincification resistance test, determination of the electrical conductivity	18
8.7.2	Stress corrosion resistance test	19
8.8	Rounding of results	19
9	Certificate of compliance and inspection documentation	19
9.1	Certificate of compliance	19
9.2	Inspection documentation	19
10	Marking, packaging, labelling	19
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/68/EU (Pressure equipment Directive) aimed to be covered		43
Bibliography		44