

DIN EN 13148:2010-12 (E)

Copper and copper alloys - Hot-dip tinned strip

Contents		Page
Foreword		4
Introduction		5
1	Scope	5
2	Normative references	5
3	Terms and definitions	7
4	Designations	7
4.1	Material of the strip to be tinned	7
4.2	Material for the coating	7
4.3	Material condition of the hot-dip tinned strip	8
4.4	Product	8
5	Ordering information	10
6	Requirements	11
6.1	Composition	11
6.2	Mechanical properties and grain size of the base material	12
6.3	Dimensions and tolerances	12
6.4	Edgewise curvature c	12
6.5	Properties of the coating	13
7	Sampling	13
7.1	General	13
7.2	Analysis of the base material	13
7.3	Tensile, hardness, grain size and technological tests	14
8	Test methods	14
8.1	Analysis of the base material	14
8.2	Tensile test of the base material	14
8.3	Hardness test of the base material	14
8.4	Estimation of average grain size of the base material	14
8.5	Edgewise curvature c	14
8.6	Solderability	14
8.7	Adhesion	14
8.8	Measurement of coating thickness	15
8.9	Retests	15
8.10	Rounding of results	15
9	Declaration of conformity and inspection documentation	15
9.1	Declaration of conformity	15
9.2	Inspection documentation	15
10	Marking, packaging, labelling	15
Annex A (normative)	Testing of solderability of hot-dip tinned strip by means of vertical dipping test	38

Annex B (normative) Measuring of coating thickness with X-ray spectrometric method according to EN ISO 3497	41
Bibliography	43
Tables Table 1 -- Composition of copper	16
Table 2 -- Composition of copper alloys	17
Table 3 -- Composition of Sn and Sn60Pb	19
Table 4 -- Mechanical properties and grain size of strip before tinning or base material	20
Table 5 -- Preferred thickness (mean values) and thickness ranges of coatings	36
Table 6 -- Tolerance on thickness for strip before tinning	36
Table 7 -- Tolerances on width for hot-dip tinned strip	37
Table 8 -- Edgewise curvature c for hot-dip tinned strip	37
Figures Figure 1 -- Edgewise curvature c	12
Figure A.1 -- Acceptable	40
Figure A.2 -- Borderline sample, acceptable	40
Figure A.3 -- Borderline sample, unacceptable	40
Figure A.4 -- Unacceptable	40
Figure A.5 -- Unacceptable, no adequate coating	40