Enamelled Copper Wire

Applications

Suitable for automated soldering equipment used for production/manufacturing of small motors, transformers, relays and magnet coils.

Standard

IEC 60317-0-1:2014
IEC 60317-51
NEMA MW 82-C

Insulation Coatings	: Polyurethane 180
Dimensions	: 0.07mm to 1.6mm Gr 2 (2L)

Mechanical Properties (For 0.3mm)

Elongation	: >30%
Springiness	: <50
Adherence – Flexibility	: Excellent
Resistance to Abrasion	: >67.75N

Electrical Properties

Breakdown Voltage	: 7kV

Thermal Properties

Temperature Index	: Or >180°C
Cut through	: Or > 230°C
Heat Shock	: Or > 200°C

Chemical Properties

Solvent Test	: 4H
Solderability	: 390° 1 to 2 Sec.
Resistance to Refrigerants	: -

Bare Conductor – Copper Characteristics (Annealed Condition)

Electrical Resistivity @ 20°C	: 0.017241Ωmm²/m
Temperature Coefficient @ 20°C	: 0.00694°C
Specific Weight	: 8.89 Gr/cm³
Ultimate Tensile Strength	: 22 – 30 kg/mm²
Primary Insulation Colour	: Transparent / Natural

Technical Data - Enamelled Conductors

Standard	IEC 60317-0-1:2014 IEC 60317 – 20 NEMA MW 79-C DIN 46416-2	IEC 60317-0-1:2014 IEC 60317-51 NEMA MW 82-C
Insulation Coatings	Polyurethane **155**	Polyurethane **180**
Dimensions	0.07 – 2.00mm Ø Gr 1 or Gr 2 (L or 2L)	0.07 – 1.600mm Ø Gr 1 or Gr 2 (L or 2L)
Mechanical Properties Elongation Springiness Adherence – Flexibility Resistance to Abrasion	For 0.30mm Ø >30% <50 Excellent >67.75N	For 0.30mm Ø >30% <50 Excellent >67.75N
Electrical Properties Breakdown Voltage	7 KV	7 KV
Thermal Properties Temperature Index Cut through Heat Shock	**155** 2 min ≥ 200°C 1d, 1/2 h ≥ 175°C	**180** 2 min ≥ 230°C 1d, 1/2 h ≥ 200°C
Chemical Properties Solvent Test Solderability Resistance to refrigerants	4H 390° -	4H 390° -
MAIN USES	**Suitable for automated soldering equipment used for production/manufacturing of small motors, transformers, relays and magnet coils.**	**Suitable for automated soldering equipment used for production/manufacturing of small motors, transformers, relays and magnet coils.**

Bare Conductor – Copper Characteristics (Annealed Condition)

Description	UNIT	Particulas
Electrical Resistivity @ 20°C	Ωmm²/m	0.017241
Temperature Coefficient @ 20°C	/°C	0.00694
Specific Weight	Gr/cm³	8.89
Ultimate Tensile Strength	Kg/mm²	22 – 30
Primary Insulation Colour	Transparent / Natural	

Enamelled Copper Wire

multicomp PRO

Part Number	Bare Copper Conductor							Enamelled Coat	
	Nominal Conductor Diameter	Conductor Tolerance	Cross Sectional Area	Gauge		Nominal Electrical Resistance	Nominal weight of conductor per 1km @ density 8.89 Gr/cm³	Min. Diameter Increase	Max. overall Diameter
	mm	mm	mm²	SWG	AWG	Ω/m @ 20°C	Grams	Grade 2 (2L) mm	Grade 2 (2L) mm
ECW0.2	0.2	0.003	0.03142	35/36	32	0.5441	0.27932	0.027	0.239
ECW0.224	0.224	0.003	0.039413	34/35	31	0.4338	0.35038	0.029	0.266
ECW0.25	0.25	0.004	0.049094	33	30	0.334	0.43644	0.032	0.297
ECW0.315	0.315	0.004	0.077941	30	28	0.2193	0.69289	0.035	0.367
ECW0.4	0.4	0.005	0.12568	27/28	26	0.136	1.11729	0.04	0.459
ECW0.5	0.5	0.005	0.196375	25	24	0.08706	1.74577	0.045	0.566
ECW0.56	0.56	0.006	0.246333	24/25	23/24	0.06736	2.18989	0.047	0.63
ECW0.71	0.71	0.007	0.395971	22	21/22	0.04198	3.52017	0.053	0.789
ECW0.80	0.8	0.008	0.50272	21/22	20	0.03401	4.46918	0.056	0.884
ECW1.0	1	0.01	0.7855	19/20	18	0.02176	6.983095	0.063	1.094
ECW1.25	1.25	0.013	1.227344	17/18	16/17	0.01393	10.91108	0.067	1.349
ECW1.5	1.5	0.015	1.767375	16/17	14/15	0.009	15.71196	0.071	1.606

Part Number Table

Description	CSA	AWG	Reel Length (m)	Part Number
Wire, Copper Enamelled, 35 SWG	0.0357mm²	32AWG	1,850	ECW0.2
Wire, Copper Enamelled, 34 SWG	0.0428mm²	31AWG	1,430	ECW0.224
Wire, Copper Enamelled, 33 SWG	0.0506mm²	30AWG	1,120	ECW0.25
Wire, Copper Enamelled, 30 SWG	0.0779mm²	28AWG	720	ECW0.315
Wire, Copper Enamelled, 27 SWG	0.136mm²	26AWG	450	ECW0.4
Wire, Copper Enamelled, 25 SWG	0.203mm²	24AWG	290	ECW0.5
Wire, Copper Enamelled, 24 SWG	0.246mm²	23AWG	230	ECW0.56
Wire, Copper Enamelled, 22 SWG	0.396mm²	21AWG	140	ECW0.71
Wire, Copper Enamelled, 21 SWG	0.515mm²	20AWG	125	ECW0.80
Wire, Copper Enamelled, 19 SWG	0.815mm²	18AWG	70	ECW1.0
Wire, Copper Enamelled, 18 SWG	1.17mm²	16AWG	47	ECW1.25
Wire, Copper Enamelled, 16 SWG	2.08mm²	15AWG	32	ECW1.5