

UMANG BOARDS LIMITED

PRODUCT DATA SHEET

**ENAMELLED
ALUMINIUM WIRE**



Enamelled Aluminium wire

AS PER IEC 60317

UMANG offers a superior range of super enamelled Aluminum wires aiming to cater the wide variety of applications in the industry ranging from a common motor rewinding to most critical applications like in winding in automotive parts and appliances as well as crucial for winding application in Power and Distribution Transformers. Super Enamelled winding wire is a film insulated aluminium electrical conductor used in form of coil windings in motors, transformers, generators and other electromagnetic equipment's such as AC's and refrigerators. When wound into coils, and magnetises, super enamelled winding wire creates an electromagnetic field, which is utilised to generate the required output form of energy — viz electrical to mechanical (or vice versa) electrical to electrical, and electrical to magnetic energy.

CHARACTERISTIC FEATURES

1. Diameter : 0.5 mm to 5 mm
2. Insulation class :
 - I. Modified Polyester (Class130 and 155)
 - II. Hermetic (Class180)
 - III. Dual coat (Class 200)
3. Conductor : EC grade Aluminum
4. Spools : PT 35 to PT 200



APPLICATIONS

Modified Polyester	Modified Polyester Class F	Polysterimide	Dual Coated Wire PE/PEI + PAI
Domestic equipment's, pumps, motors, stabilizers, transformers, fans and auto Electricals requiring high mechanical properties.	General purpose rotating & static equipment's like large pump motors, generators, air cooled transformers, voltage stabilizers, heavy duty domestic appliances like mixer - grinder, washing machines, where temperature is above class insulation B.	Continuously rated heavy duty motors and tools, oil filled transformers, hermetic grade for AC and refrigerator compressor, furnace motors, and for all class insulation H applications.	Special purpose machines like wind generators, large motors and generators, extra heavy duty equipment's like crane motors with heavy shock loads, AC and refrigerator compressor windings.

SIZES AND PACKING

1. SIZE – UMANG Super Enamelled Aluminum Wires are available in range of 0.5 MM TO 5MM
2. PACKING – UMANG Super Enamelled Aluminum Wires are available in PACKING: -

Size (in mm)	Reel Size
0.5 mm to 1.2 mm	PT 25 to PT 90
1.2 mm to 5 mm	PT 25 to PTT 270



TECHNICAL DATA-SHEET

Wire Type Properties	Modified Polyester	Modified Polyester	Polysterimide	Dual Coated Wire PE/PEI + PAI
Thermal Class	130	155	180	200
Class Insulation	B	F	H	H+
Colour	Brown/Reddish Golden	Light Brown to Dark Brown	Dark Brown (Mahogany)	Reddish Brown to Golden
Range (Size)	0.2 to 4.0 mm	0.2 to 4.0 mm	0.2 to 4.0 mm	0.2 to 4.0 mm
Specification	IS 13730-34, IEC 60317-34, IS 13730-9, IEC 60317-9 for 1.0 mm Wire	IS 13730-3, IEC 60317-3 for 1.0 mm Wire	IS 13730-8, IEC 60317-8, IS 13730-15, IEC 60317-15 for 1.0 mm Wire	IS 13730-13, IEC 60317-13 NEMA MW 35A/35C, IEC 60371 – 25
Mechanical Tests				
Flexibility (Upto 1.6mm)	3 x D	3 x D	3 x D	3 x D
Peel	N. A.	N. A.	N. A.	N. A.
Abrasion Av. N	5.20	-	5.45	6.45
THERMAL TESTS				
Heat Shock	155°C – 30 Min	175°C – 30 Min	200°C – 30 Min	15% Str – 3xd – 240°C
Cut Through	240°C – 2 min	270°C – 2 min	300°C – 2 min	320°C – 2 min
CHEMICAL TESTS				
Solvent Resistance	Good	Good	Very Good	Excellent
Refrigerant Resistance	N. A.	N. A.	Very Good	Excellent
Solderability	N. A.	N. A.	N. A.	N. A.
Transformer Oil	N. A.	N. A.	Excellent	Excellent
Resistance				
Electrical Resistance	Within Range	Within Range	Within Range	Within Range
Breakdown Voltage	Above 8.0 KV	Above 8.0 KV	Above 8.0 kv	Above 8.0 KV
Cont. of Covering (Pin Hole)	Normally - Nil	Normally – Nil	Normally – Nil	Normally – Nil
Tandent Delta –Bending Point	110-120	145-155	165-195	175-195

