

Diameters, Increase in Diameters and Resistance of
Enamelled Round Copper Winding Wires based on IS 13730-0-1

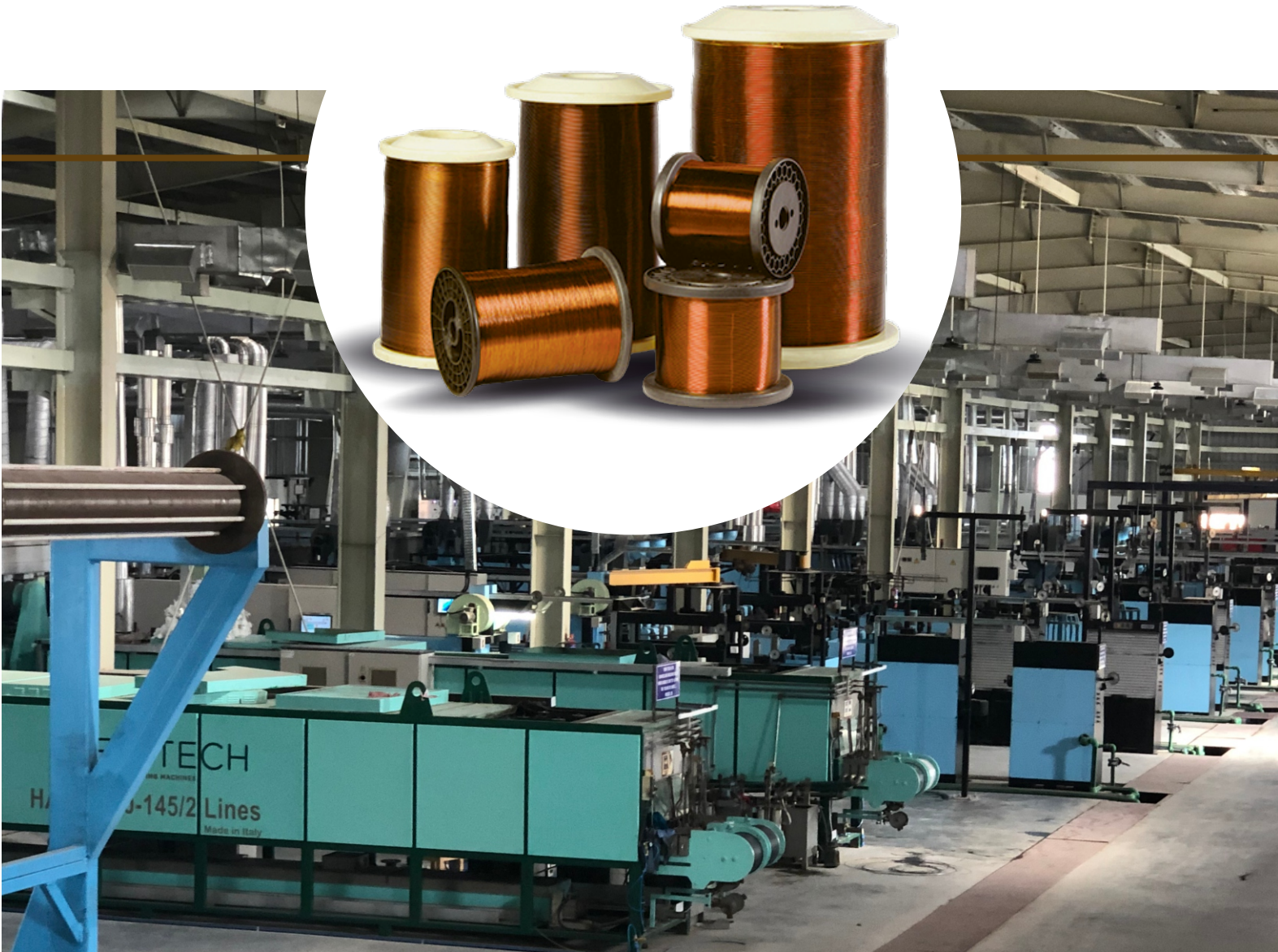
Nominal Conductor Diameter		Conductor Tolerance ±	Grade 1		Grade 2		Grade 3		Conductor Resistance at 20 Deg. C for 1 meter (Ohms)		
			Min. increase	Max. overall dia	Min. increase	Max. overall dia	Min. increase	Max. overall dia			
(SWG)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	Nominal	Max.	Min.
12	2.642	0.026	0.043	2.722	0.081	2.764	0.123	2.803	0.003118	-	-
13	2.337	0.023	0.042	2.415	0.079	2.455	0.119	2.493	0.003985	-	-
14	2.032	0.020	0.041	2.108	0.077	2.147	0.116	2.184	0.005271	-	-
15	1.829	0.018	0.040	1.903	0.075	1.941	0.113	1.977	0.006506	-	-
16	1.626	0.016	0.039	1.698	0.073	1.735	0.110	1.770	0.008232	-	-
17	1.422	0.014	0.038	1.492	0.071	1.528	0.107	1.562	0.01076	-	-
18	1.219	0.012	0.035	1.285	0.067	1.318	0.100	1.350	0.01465	-	-
19	1.016	0.010	0.034	1.080	0.065	1.113	0.098	1.144	0.02108	-	-
20	0.914	0.009	0.034	0.976	0.063	1.008	0.095	1.038	0.02605	0.02686	0.02526
21	0.813	0.008	0.032	0.872	0.060	0.902	0.090	0.931	0.03293	0.03396	0.03194
22	0.711	0.007	0.030	0.766	0.056	0.795	0.085	0.822	0.04305	0.04442	0.04175
23	0.610	0.006	0.027	0.659	0.050	0.684	0.075	0.708	0.05848	0.06017	0.05687
24	0.559	0.006	0.025	0.605	0.047	0.629	0.071	0.652	0.06965	0.07178	0.06760
25	0.508	0.005	0.025	0.554	0.047	0.578	0.071	0.601	0.08434	0.08711	0.08168
26	0.457	0.005	0.024	0.501	0.045	0.523	0.067	0.544	0.1042	0.1075	0.1011
27	0.417	0.005	0.022	0.458	0.042	0.480	0.064	0.500	0.1252	0.1293	0.1212
28	0.376	0.005	0.021	0.417	0.040	0.435	0.060	0.454	0.1539	0.1595	0.1487
29	0.345	0.004	0.020	0.382	0.038	0.401	0.057	0.418	0.1829	0.1888	0.1772
30	0.315	0.004	0.019	0.349	0.035	0.367	0.053	0.384	0.2193	0.2269	0.2121
31	0.295	0.004	0.019	0.329	0.035	0.347	0.053	0.364	0.2501	0.2592	0.2414
32	0.274	0.004	0.018	0.306	0.033	0.323	0.050	0.339	0.2899	0.3011	0.2792
33	0.254	0.004	0.018	0.286	0.033	0.303	0.050	0.319	0.3374	0.3512	0.3242
34	0.234	0.004	0.017	0.265	0.032	0.281	0.048	0.296	0.3974	0.4149	0.3809
35	0.213	0.003	0.015	0.241	0.029	0.255	0.043	0.269	0.4798	0.4978	0.4625
36	0.193	0.003	0.014	0.219	0.027	0.232	0.039	0.245	0.5842	0.6081	0.5618
37	0.173	0.003	0.013	0.197	0.025	0.210	0.036	0.222	0.7271	0.7596	0.6967
38	0.152	0.003	0.012	0.174	0.023	0.186	0.033	0.197	0.9418	0.9888	0.8982
39	0.132	0.003	0.011	0.152	0.021	0.162	0.030	0.171	1.2496	1.3192	1.1841
40	0.122	0.003	0.010	0.141	0.019	0.151	0.028	0.160	1.4623	1.5502	1.3811
41	0.112	0.003	0.009	0.130	0.017	0.139	0.026	0.147	1.7354	1.8477	1.6318

IS 13730 & IEC 60317 are completely harmonized standards & identical

POLYCAB

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ENAMELLED ROUND
COPPER WINDING WIRES



V'YU Industries Pvt. Ltd. - manufacturers of **POLYCAB** brand super enamel copper wire is an enterprise promoted by MR. Ranjit Ladha, Mr. Rashmikant Amin, Mr. Anil Hariani and Mr. Himanshu Bagla. Company is established with initial capacity to produce 7200 metric Tons of super enamelled copper wire per annuam focused with manufacturing of high quality wide range of excellent Super Enamelled Copper wires mainly for Motors, Transformers and switch gears and submersible pumps.

The products of the company are manufactured in synergy with environment and are well accepted for their high quality, consistency and durability by electrical and electronic industries.

The company produces Highest standard of Super Enanelled copper wire in a technologically advanced plant having 11 SICME ITALIA & 4 NEWTECH enamelling machine with inline drawing equipped with the state of art infrastructure and latest equipment at UDWADA near Vapi- GUJARAT & Daman
Our product range include wires of CLASS F, CLASS H, CLASS H+, PVA, POLYESTER, MODIFIED POLYESTER, DUAL COAT, SELF SOLDERING ranging from diameter 0.10 mm to 2.60 mm

Our approach will be to provide value addition to the customers keeping pricing in check and reach out to end users and cater to their needs of superiority of quality at an affordable price.

Our proudcts range comply with INTERNATIONAL quality as per IS, IEC, NEMA, DIN, JIS etc. with a view to keep pace with the EVER CHANGING requirements of the Industries.
We are ISO Certified company and IATF & UL Certification Under process

Types of Enamelled Round Copper Winding Wires and its Applications

		Modified Polyvinyl Acetal	Modified Polyvinyl Acetal (For hermetic applications)	Modified Polyurethane	Dual coated Modified Polyurethane + Bondal	Modified Polyester	Modified Polyester	Modified Polyurethane	Dual coated Polyurethane + Polyamide	Polyester - Imide	Dual coated Polyesterimide + Epoxy Bondal	Dual coated Polyester (Imide) + Polyamideimide	Polyamide - Imide	Dual coated Polyesterimide + Polyamide Imide	Polyimide
PROPERTY	Type Class	PVA 105	Mod. PVA 120	PU 130	PU + Bond. 130	PE 130	Mod. PE 155	PU 155	PU + PA 155	PEI 180	PEI +PA 180	PEI + PA 180	PAI 200	DC(PEI+PAI) 200	PI 220
STANDARD	IS : 13730	Part 1	Part 12	Part 4	Part 2	Part 34	Part 3	Part 20	Part 21	Part 8	Part 37	Part 22	Part 26	Part 13	Part 7
	IEC - 60317	Part 1	Part 12	Part 4	Part 2	Part 34	Part 3	Part 20	Part 21	Part 8	Part 37	Part 22	Part 26	Part 13	Part 7
	NEMA 1000	MW 15 C	-	MW 75 C	-	-	MW 5 C	MW 79 C	MW 80 C	MW 30 C	-	MW 76 C	MW 81 C	MW 35 C, 73 C	MW 16 C
SIZE							1.00	0.30	0.30	1.00	1.00	1.00	1.00	1.00	1.00
COVERING	Grade	G2	G2	G1	G1B	G2	G2	G1	G1	G2	G1B	G2	G1	G2	G2
ELOGATION (%)	IS/IEC - Min.	30	30	23	23	30	30	23	23	30	30	30	30	30	30
	NEMA - Min.	32	-	26	-	-	32	26	26	32	-	32	32	32	32
	Vyu Value	36	36	30	30	36	36	30	30	36	36	36	36	36	36
SPRINGNESS (Deg.)	IS/IEC - Max.	45	45	50	50	45	45	50	50	45	45	45	42	45	45
	NEMA - Max.	58	-	55	-	-	58	55	50	58	-	58	58	58	58
	Vyu Value	38	38	43	47	38	38	43	43	38	38	38	36	38	38
FLEXIBILITY (No Crack)	IS/IEC	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d	1 X d
	NEMA	20% +3d	-	15% +1d	-	-	20% + 3d	15% +1d	15% +1d	20% +3d	-	20% +3d	20% +3d	20% +3d	20% +3d
	Vyu Value	10% +1d	10% +1d	15% +1d	15% +1d	10% +1d	10% +1d	15% +1d	15% +1d	10% +1d	10% +1d	10% +1d	10% +1d	10% +1d	10% +1d
ABRASION (N)	IS/IEC - Min.	9.6/11.3	9.6/11.3	2.3/2.7	2.3/2.7	8.8/10.4	8.8/10.4	2.3/2.7	2.65/3.2	9.2/10.9	5.75/6.75	9.6/11.3	5.95/7.05	9.6/11.3	6.6/7.8
	NEMA - Min.	980/1150	-	250/290	-	-	-	250/290	285/335	980/1150	-	980/1150	550/645	980/1150	710/835
	Vyu Value	10.6/12.4	10.6/12.4	2.7/3.7	2.7/3.7	9.7/11.4	9.7/11.4	2.7/3.7	3.2/4.2	10.1/12.0	6.8/7.8	10.6/12.4	7.9/8.9	10.6/12.4	7.3/8.6
HEAT SHOCK (1/2 Hr.) Deg. C	IS/IEC	155 - 1d	175 - 1d	155 - 0.71mm	155 - 0.71mm	155 - 6d	175 - 0.71mm	175 - 0.71mm	175 - 0.71mm	200 - 2.24mm	200 - 2.24mm	200 - 2.24mm	220 - 2.24mm	220 - 2.24mm	240 - 2.24mm
	NEMA	175 - 20% +3d	-	175 - 6d	-	-	175 - 20% +3d	175 - 20% +3d	175 - 20% +3d	200 - 20% +3d	-	200 - 20% +3d	240 - 20% +3d	220 - 20% +3d	280 - 20% +3d
	Vyu Value	175 - 1d	200 - 1d	175 - 0.71mm	175 - 0.71mm	175 - 6d	200 - 0.71mm	200 - 0.71mm	200 - 0.71mm	220 - 2.24mm	220 - 2.24mm	220 - 2.24mm	240 - 2.24mm	240 - 2.24mm	260 - 2.24mm
CUT THROUGH (For 2 min.) Deg. C	IS/IEC	170	170	170	170	240	240	200	200	300	300	320	350	320	400
	NEMA	180	-	200	-	-	250	200	200	300	-	325	325	300	450
	Vyu Value	190	190	190	190	260	260	220	220	320	320	340	370	340	420
HV PIN HOLE (V DC)	IS/IEC	1500 - 5	1500 - 5	750 - 25	750 - 25	1500 - 5	1500 - 5	750 - 25	750 - 25	1500 - 5	1000 - 25	1500 - 5	1000 - 25	1500 - 5	1500 - 5
	NEMA	1500 - 5	-	750 - 25	-	1500 - 5	1500 - 5	750 - 25	750 - 25	1500 - 5	-	1500 - 5	1000 - 25	1500 - 5	1500 - 5
	Vyu Value	1500 - 2	1500 - 2	750 - 5	750 - 5	1500 - 2	1500 - 2	750 - 5	750 - 5	1500 - 2	1000 - 5	1500 - 2	1000 - 5	1500 - 2	1500 - 2
BDV (V)	IS/IEC - Min.	5000	5000	2200	2200	5000	5000	2200	2200	5000	2700	5000	2700	5000	5000
	NEMA - Min.	5700	-	2425	-	-	5700	2425	2175	5700	-	5125	3175	5700	5700
	Vyu Value	8000	8000	4500	4500	8000	8000	4500	4500	8000	5500	8000	5500	8000	8000
RANGE	SWG	12-42	12-42	21-42	21 - 42	12-42	12-42	21 - 42	21 - 42	12-42	16 - 42	12-42	16 - 42	12-42	12-42
Applications		For E Class Oil, Synthetic liquid filled transformers, Motors, DC fields, Armature winding ballasts, Ele. meter coils, Portable tools & Domestic appliances.	For B Class Motors for hermetic, Refrigeration & Air cond. systems	For B Class Direct soldering and bonding small motors, Ignation coils, Low voltage tranformers, Relays, Solenoids and TV deflection coils.	For B Class Direct soldering and bonding small motors, Ignation coils, Low voltage tranformers, Relays, Solenoids and TV deflection coils.	For B Class Dry type Transformers, Stator winding fractional and HP motors, DC & Armature winding.	For F Class Dry type transformers, Stator winding fractional and HP motors, DC & Armature winding, Hand tools Contactor coils, Motors for domestic appliances.	For F Class Direct soldering and bonding small motors, Ignation coils, Low voltage transformers, Relays, Solenoids and TV Deflection coils.	For F Class Direct soldering and bonding small motors, Ignation coils, Low voltage transformers, Relays, Solenoids and TV deflection coils & used on high speed automatic coil winding machine.	For H Class Dry type transformers, Stator winding fractional and HP motors, DC & Armature winding, Hand tools contactor coils, Motors for chemical ind. and High torque continuous working requirements.	For H Class Direct bonding clutch & brake coils, Helical & toroidal coils, Deflection yoke coils.	For H Class Dry type transformers, stator winding fractional and HP motors, DC & Armature winding, Encapsulated coils & used on high speed automatic coil winding machine.	For W Class Motors for atomic power station, Hermetic, Hand tools, Chemical industries, Furnaces and Working in radioactive atmosphere.	For W Class Dry type transformers, Stator winding fractional and HP motors, DC & Armature winding, Hand tools contactor coils, Motors for chemical industries, Automotive alternator stators, Solenoids, Television play-back transformers, Toroidal yokes.	For C Class Dry type transformers, Fractional and integral HP motors, High temp continuous duty coils, Relays, Hermetic and sealed units, Heavy duty hand tool motors.

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