



ANNAPURNA WINDING WIRES

You rely on us, We rely on experience...



ANNAPURNA WINDING WIRES
SINCE 1984



ISO 9001:2015
ISO 14001:2004
CERTIFIED



About Us :

Annapurna Winding Wires, a unit of RATHI GROUP, established in the year 1984 A.D (2040 B.S.) is the first industry of its kind in the industrial sector of Nepal. The unit is into production of Super Enameled Copper Winding Wires from SWG 8 to SWG 42, Strips, Paper Covered Strips, Earthing Wires and Annealed Copper Wires to cater the demand of local market along with the vision to supply to India and third countries. In near future the unit will come up with following products: Cotton covered wires, Submersible Wires and Rectangular Copper Winding Wires.

“You rely on us, we rely on experience” our slogan, goes well with our continued and unabated upgradation program at all levels. We believe in highest standard of ethical conduct and integrity. We always strive for excellence in our work and customer satisfaction.

The raw materials used by the unit consists of continuous cast electrolytic copper rods being imported from India and third countries and polyester enamel of different grades for different application come from Elantas Beck India Ltd. (formally Dr. Beck). Our rigid raw material inspection, continuous in-process inspection and final functionality tests in a well equipped lab ensures that our product meets industry and customer standards.

ISO 9001:2015, 14001:2004 certified company.

Product Range :

ENAMELLED ROUND COPPER WIRE

Particular	Thermal Class	Specification	Size Range
Polyester Enamelled copper wire	130 B	IS 13730/IEC 60317 Part - 34:2000	8 SWG to 42 SWG 4.064mm to 0.102mm
Modified Polyester Enamelled copper wire	155 F	IS 13730/IEC 60317 Part - 3:1996	8 SWG to 42 SWG 4.064mm to 0.102mm
Polyesterimide Enamelled copper wire	180 H	IS 13730/IEC 60317 Part - 8:1996	8 SWG to 42 SWG 4.064mm to 0.102mm
Self Solderable (Polyurethane) Enamelled copper wire	155	IS 13730/IEC 60317 Part - 20:1996	21 SWG to 42 SWG 0.813mm to 0.102mm
	180	IS 13730/IEC 60317 Part - 51	21 SWG to 42 SWG 0.813mm to 0.102mm
Poly Vinyl Acetal Enamelled copper wire	105	IS 13730/IEC 60317 Part - 51	8 SWG to 42 SWG 4.064mm to 0.50mm
Dual Coated Polyesterimide (Base coat) with polyamide-imide (Top coat) copper wire	200	IS 13730/IEC 60317 Part - 13:1993	8 SWG to 42 SWG 4.064mm to 0.102mm

- ▶ **Packing :** PT-10, PT-15, PT-25, PT-45, PT-60, PT-90 & as per customers requirements
- ▶ **Application :** Motors - AC/DC, Transformers, Stabilizer Alternators, Relay Coils, Fans light fittings & other electrical & electronic equipments

Our Brand :



PAPER INSULATED COPPER WIRES & STRIPS

Paper Insulated Copper Wires are the most commonly used wires for winding coils of transformers and other electrical equipment. We manufacture various types of (single/double/triple/multiple) paper insulated copper wires in accordance with international standards as well as per customer's requirements.

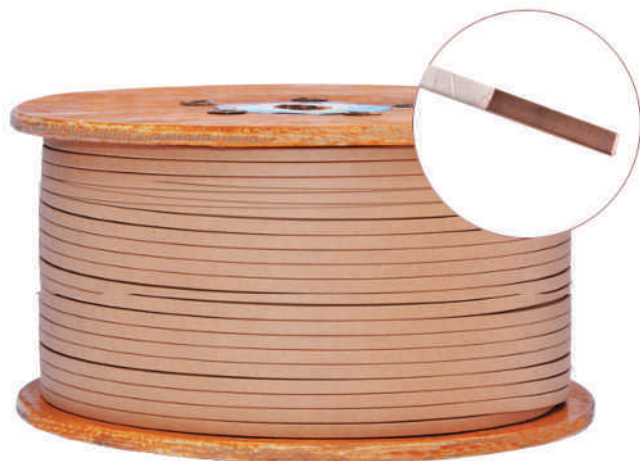
Particular	Specification	Size Range
Paper Covered (Electrical grade imported Kraft paper) Round copper conductor	IS 7404 Part 1 1991	0.8mm to 4.00mm
Paper Covered (Electrical grade imported Kraft paper) Rectangular copper conductor	IS 13730/IEC - 60317 Part 27 : 1996	Width - 5mm to 15mm Thick - 1.0mm to 5.0mm Cross sectional areal 5 to 40 sq mm

► Packing :

Flange Dia (mm) +/- 5mm	Qty (kg)
350	40
400	60
450	90
500	120

- **Application :** Transformers (dry & oil immersed)
Power Stabilizers & Heavy Electrical Equipments.

Paper winding configuration - Buttlap, Overlap



BARE COPPER WIRE & STRIPS

Particular	Specification	Size Range
Bare copper wire (Soft or Hard)	IS 4412	0.102 mm to 7.00 mm
Bare Copper Strip	IS 1897 / IS 6160	Width - 3 to 50 mm, Thickness - 1.0 mm to 5mm Cross Sectional area - 5 to 250 sqmm

► **Packaging :** Wires & Strips : 40 kg to 100 kg Bundle / spool/as per recommended by buyer.

► **Application :**

Bare Copper Wire : Bunched conductor, wire rope, cable, cotton, paper & Fibre Glass covered insulation & various types of electrical Electronic equipments and earthing purpose.

Bare Copper Strips : For paper, Nomex and Fibre glass insulation which is used in transformer industry and switchgear, Control panel and other types of Electrical Equipments and earthing purpose.



Electrical Conductivity (IACS@20°C) - 100 minimum for annealed wire

COPPER TAPES / COPPER FLATS

Particular	Specification	Size Range
Copper Tapes / Copper Flats in edges (Corner) as per customers requirements	Relevants IS, IEC & as per customer specification	Width - 5 mm, 50 mm Thick 1.0 mm to 10.0 mm Cross section area 5 to 250 sq. mm.

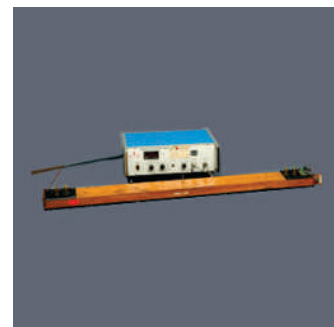
► **Packaging :** In coil or in bundle

► **Handicraft :** Electrical Conductivity (IACS@20°C) - 100% minimum, earthing & other electricals application.



TESTING EQUIPMENTS

1. Digital Laser Scan Micrometer with 0.0001 accuracy
2. Digital Micrometer (0-25)
3. Vernier Caliper
4. Unidirectional Scrap Resistance Tester
5. High Voltage Pin Hole Tester
6. Springiness Tester
7. High Voltage Tester
8. Elongation Tester
9. Cut Through Tester
10. Resistance Tester
11. Peel Tester
12. Jerk Tester
13. Heat Shock Test
14. Mandrel Winder
15. Tensile Strength Test m/c 50kv
16. Hardness Test
17. Bending test



STANDARD SWG SIZE

SWG.	SIZE MM	COND. TOL. IN MM	RES. AT 20°C Ohm/Mtr	GRADE 1		GRADE 2		GRADE 3		FOR GRADE 3 WIRE			WEIGHT	
				(Fine Covering)		(Med. Covering)		(Thick Covering)		ELN in %	B.D.N. VOLTS	SPRI BACK	Kg Per Km	M. Per Km
				MIN.	MAX. O.D.	MIN.	MAX. O.D.	MIN.	MAX. O.D.					
08.0	4.064	0.041	0.001329	0.060	4.194	0.088	4.228	0.122	4.265	35	2500	-	115.91	8.628
09.0	3.657	0.037	0.001641	0.059	3.780	0.086	3.812	0.118	3.849	35	2500	-	93.89	10.651
10.0	3.251	0.033	0.002077	0.057	3.366	0.084	3.397	0.115	3.435	35	2500	-	72.24	13.470
11.0	2.946	0.030	0.002508	0.045	3.029	0.084	3.072	0.127	3.112	34	2500	-	61.00	16.393
12.0	2.642	0.027	0.003118	0.043	2.742	0.081	2.775	0.123	2.803	34	2500	-	49.28	20.29
12.5	2.489	0.025	0.003551	0.042	2.578	0.080	2.615	0.121	2.653	34	2500	-	-	-
13.0	2.337	0.024	0.003985	0.042	2.415	0.079	2.455	0.119	2.493	33	5000	-	38.41	26.04
13.5	2.184	0.022	0.004600	0.041	2.262	0.078	2.301	0.117	2.338	33	5000	-	33.47	29.96
14.0	2.032	0.020	0.005271	0.041	2.108	0.077	2.147	0.116	2.184	33	5000	-	29.06	34.41
14.5	1.930	0.019	0.005891	0.040	2.005	0.076	2.044	0.114	2.080	33	5000	-	28.62	33.01
15.0	1.829	0.019	0.006506	0.040	1.903	0.075	1.941	0.113	1.977	33	5000	-	23.55	42.46
15.5	1.727	0.018	0.007357	0.039	1.800	0.074	1.838	0.112	1.873	33	5000	-	20.38	49.07
16.0	1.626	0.017	0.008232	0.039	1.698	0.073	1.735	0.110	1.770	32	5000	-	18.62	53.70
16.5	1.524	0.016	0.009448	0.038	1.595	0.072	1.631	0.108	1.666	32	5000	-	16.385	61.03
17.0	1.422	0.015	0.010760	0.038	1.492	0.071	1.528	0.107	1.562	32	5000	30	14.276	70.05
17.5	1.320	0.014	0.012590	0.036	1.388	0.069	1.423	0.103	1.456	32	5000	30	12.328	81.12
18.0	1.219	0.013	0.014650	0.035	1.285	0.067	1.318	0.100	1.350	31	5000	37	10.505	95.19
18.5	1.117	0.012	0.017580	0.035	1.182	0.066	1.215	0.099	1.247	31	5000	37	8.845	113.05
19.0	1.016	0.011	0.021080	0.034	1.080	0.065	1.113	0.098	1.144	30	5000	41	7.309	136.82
19.5	0.965	0.010	0.023560	0.034	1.028	0.064	1.060	0.096	1.091	30	5000	41	6.597	151.57
20.0	0.914	0.010	0.026050	0.034	0.976	0.063	1.008	0.095	1.038	30	5000	45	5.921	168.90
20.5	0.863	0.009	0.029460	0.033	0.924	0.061	0.955	0.093	0.984	30	5000	45	5.282	189.33
21.0	0.813	0.009	0.032930	0.032	0.872	0.060	0.902	0.090	0.931	29	5000	48	4.678	213.78
21.5	0.762	0.008	0.037790	0.031	0.819	0.058	0.848	0.087	0.876	29	5000	48	4.124	242.50
22.0	0.711	0.008	0.043050	0.030	0.766	0.056	0.795	0.085	0.822	28	4900	43	3.591	278.50
22.5	0.661	0.007	0.050220	0.028	0.712	0.053	0.739	0.080	0.765	28	4900	43	3.097	322.90
23.0	0.610	0.006	0.058480	0.027	0.659	0.050	0.684	0.075	0.708	27	4800	50	2.638	378.90
23.5	0.584	0.006	0.064340	0.026	0.632	0.048	0.656	0.073	0.680	27	4800	50	2.428	414.7
24.0	0.559	0.006	0.069650	0.025	0.605	0.047	0.629	0.071	0.652	26	4600	44	2.219	450.6
25.0	0.508	0.006	0.084340	0.025	0.554	0.047	0.578	0.071	0.601	26	4600	44	1.8396	543.6
26.0	0.457	0.005	0.104200	0.024	0.501	0.045	0.523	0.067	0.544	25	4600	47	1.4906	670.9
27.0	0.417	0.005	0.125200	0.022	0.458	0.042	0.480	0.064	0.500	25	4400	48	1.2367	808.6
28.0	0.376	0.005	0.153900	0.021	0.417	0.040	0.435	0.060	0.454	24	4400	50	1.0064	993.7
29.0	0.345	0.005	0.182900	0.020	0.382	0.038	0.401	0.057	0.418	23	4300	53	0.8524	1173.2
30.0	0.315	0.004	0.219300	0.019	0.349	0.035	0.367	0.053	0.384	23	4100	55	0.7116	1405.3
31.0	0.295	0.004	0.250100	0.019	0.329	0.035	0.347	0.053	0.364	23	4100	55	0.6201	1612.7
32.0	0.274	0.004	0.289900	0.018	0.306	0.033	0.323	0.050	0.339	22	4000	53	0.539	1855.1
33.0	0.254	0.004	0.337400	0.018	0.286	0.033	0.303	0.050	0.319	22	4000	53	0.4636	2156.8
34.0	0.234	0.004	0.397400	0.017	0.265	0.032	0.281	0.048	0.296	22	3900	56	0.3945	2534.8
35.0	0.213	0.003	0.479800	0.015	0.241	0.029	0.255	0.043	0.269	21	3700	59	0.3440	2907.0
36.0	0.193	0.003	0.584200	0.014	0.219	0.027	0.232	0.039	0.245	21	3500	62	0.2691	3716.0
37.0	0.173	0.003	0.727100	0.013	0.197	0.025	0.210	0.036	0.222	20	3300	65	0.2165	4615.0
38.0	0.152	0.003	0.941800	0.012	0.174	0.023	0.186	0.033	0.197	19	3200	67	0.1678	5961.0
39.0	0.132	0.003	1.249600	0.011	0.152	0.021	0.162	0.030	0.171	18	3000	67	0.1268	7888.0
40.0	0.122	0.003	1.462300	0.010	0.141	0.019	0.151	0.028	0.160	17	2800	70	0.1083	9232.0
41.0	0.112	0.003	1.735400	0.009	0.130	0.017	0.139	0.026	0.147	17	2700	73	0.0915	1930.0
42.0	0.102	0.003	2.092300	0.009	0.119	0.017	0.128	0.026	0.136	17	2700	73	0.0759	13178.0

STANDARD WIRE GAUGE CHART

Wire Number Gauge SWG	Standard Wire Gauge (SWG)		American Wire Gauge (AWG)	
	In.	mm	In.	mm
7/0	.5000	12.700	-	-
6/0	.4640	11.786	.5800	14.7320
5/0	.4320	10.973	.5165	13.1191
4/0	.4000	10.160	.4600	11.6840
3/0	.3720	9.449	.4096	10.4049
2/0	.3480	8.839	.3648	9.2658
1/0	.3240	8.230	.3249	8.2515
1	.3000	7.620	.2893	7.3481
2	.2760	7.010	.2576	6.5437
3	.2520	6.401	.2294	5.8273
4	.2320	5.893	.2043	5.1892
5	.2120	5.385	.1819	4.6203
6	.1920	4.877	.1620	4.1148
7	.1760	4.470	.1443	3.6652
8	.1600	4.064	.1285	3.2639
9	.1440	3.658	.1144	2.9058
10	.1280	3.251	.1019	2.5883
11	.1160	2.946	.0907	2.3038
12	.1040	2.642	.0808	2.0523
13	.0920	2.337	.0720	1.8288
14	.0800	2.032	.0641	1.6281
15	.0720	1.829	.0571	1.4503
16	.0640	1.626	.0508	1.2903
17	.0560	1.422	.0453	1.1506
18	.0480	1.219	.0403	1.0236
19	.0400	1.016	.0359	.9119
20	.0360	.914	.0320	.8128
21	.0320	.813	.0285	.7239
22	.0280	.711	.0253	.6426
23	.0240	.61	.0226	.5740
24	.0220	.599	.0201	.5105
25	.0200	.508	.0179	.4547
26	.0180	.457	.0159	.4039
27	.0614	.417	.0142	.3607
28	.0148	.376	.0126	.3200
29	.0136	.345	.0113	.2870
30	.0124	.315	.0100	.2540
31	.0116	.295	.0089	.2261
32	.0108	.274	.0080	.2032
33	.0100	.254	.0071	.1803
34	.0092	.234	.0063	.1600
35	.0084	.213	.0056	.1422
36	.0076	.193	.0050	.1270
37	.0068	.173	.0045	.1143
38	.0060	.152	.0045	.1016
39	.0052	.132	.0035	.0889
40	.0048	.122	.0031	.0787
41	.0044	.112	.0028	.0711
42	.0040	.102	.0025	.0635
43	.0036	.091	.0022	.0559
44	.0032	.081	.0020	.0508
45	.0028	.071	.0018	.0457



Future Plan :

COTTON COATED COPPER /ALUMINUM WIRE

ENAMELLED RECTANGLE COPPER WIRE

SUBMERSIBLE WINDING WIRE

Our Sister Concern : Jay Ganga & Sons Deals in :

Brass Wire

Earthing Plate

Lighting Arrester

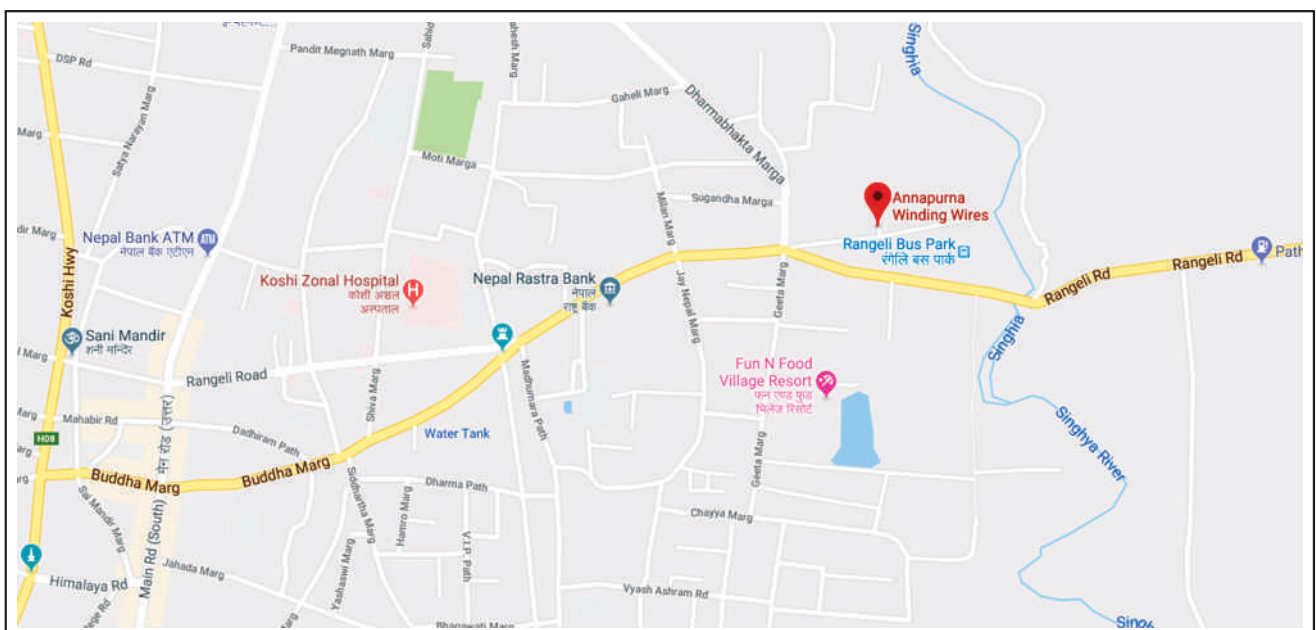
Sleeving Pipe

Insulation Materials

Insulating Paper etc



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