

**HEAT SHOK TEST FOR ENAMELLED ROUND COPPER WINDING WIRES(BASIS : IS 13730-.. and IS 13778 – 6)**

Nominal Conductor Diameter				Heat shock test requirements					
				Temp. & Mandrel diameters (mm) stretching requirements					
Over	Up to incl.	From	Up to incl.	Part 34 Polyester Wires Class 130L	Part 3 Polyester Wires Class 155	Part 8 Polyester imide Wires Class 180	Part 13 PE (PEI) + PAI Wires Class 200	Part 20 PUR Solderable Class 155	Part 1 PVA Wires Class 105
(mm)		(SWG)		155	175	200	220	175	155
Heat Shock Temperature °C				155	175	200	220	175	155
0.05	0.063	47	46	3d	0.150 <sup>(1)</sup>	0.150 <sup>(1)</sup>	0.150 <sup>(1)</sup>	0.150 <sup>(1)</sup>	D
0.063	0.8	-	45	3d	0.150 <sup>(2)</sup>	0.150 <sup>(2)</sup>	0.150 <sup>(2)</sup>	0.150 <sup>(2)</sup>	D
0.08	0.112	44	41	3d	0.150 <sup>(3)</sup>	0.150 <sup>(3)</sup>	0.150 <sup>(3)</sup>	0.150 <sup>(3)</sup>	D
0.112	0.14	40	39	3d	0.15	0.15	0.15	0.15	D
0.14	0.16	39	38	3d	0.25	0.25	0.25	0.25	D
0.16	0.14	38	37	3d	0.28	0.28	0.28	0.28	D
0.18	0.2	-	36	4d	0.315	0.315	0.315	0.315	D
0.2	0.224	-	35	4d	0.355	0.355	0.355	0.355	D
0.224	0.25	-	34	4d	0.4	0.4	0.4	0.4	D
0.25	0.28	33	32	6d	0.63	0.63	0.63	0.63	D
0.28	0.315	31	30	6d	0.71	0.71	0.71	0.71	D
0.315	0.355	-	29	6d	0.8	0.8	0.8	0.8	D
0.355	0.4	-	28	6d	0.9	0.9	0.9	0.9	D
0.4	0.45	-	27	6d	1	1	1	1	D
0.45	0.5	-	26	6d	1.12	1.12	1.12	1.12	D
0.5	0.56	25	24	6d	1.25	1.25	1.25	1.25	D
0.56	0.63	-	23	6d	1.4	1.4	1.4	1.4	D
0.63	0.71	-	-	6d	1.6	1.6	1.6	1.6	D
0.71	0.8	-	22	6d	1.8	1.8	1.8	1.8	D
0.8	0.9	-	21	6d	2	2	2	2	D
0.9	1	-	20	6d	2.24	2.24	2.24	2.24	D
1	1.12	-	19	7d	3.55	3.55	3.55	3.55	D
1.12	1.25	-	18	7d	4	4	4	4	D
1.25	1.4	-	-	7d	4.5	4.5	4.5	4.5	D
1.4	1.6	-	17	7d	5	5	5	5	D
1.6	5	16	11	10% stretch	25% Stretch	25% Stretch	25% Stretch	25% Stretch	25% Stretch

**Notes :**

- 1) d = Nominal Conductor diameter
- 2) D = Overall diameter of the wire
- 3) Elongation before winding on Mandrel
  - (1) = 15% (Or to the breaking point of conductor)
  - (2) = 10% (Or to the breaking point of conductor)
  - (3) = 5% (Or to the breaking point of conductor)