ELEKTRISOLA

Selfbonding Wire

Manufacturing Program and Technical Data

ELEKTRISOLA - Name **ELEKTRISOLA - Code**	**Butybond AB15** **AB15**	**Solabond FS15** **FS15**	**Solabond FSP18** **FSP18**
General			
Description			
Basecoat	mod. Polyurethane	mod. Polyurethane	mod. Polyurethane
Bondcoat	Polyvinylbutyral	Polyamide	Polyamide
Standards **IEC** (including the following standards) **NEMA** (including the following standards)	**IEC 60317-35,** 60317-2 MW 131	**IEC 60317-35,** 60317-2 MW 131	**IEC 60317-35** MW 131
Diameters available	0,010 - 0,50 mm	0,010 - 0,50 mm	0,010 - 0,50 mm
Technical values			
1. Thermal values of base coat			
Temperature index 20.000 h acc. IEC 60172	**158°C**	**158°C**	**192°C**
Cut through temperature min. °C acc. to IEC 60851-6 4. ELEKTRISOLA-typical values for 0,05 mm/0,25 mm, Grade 1B	≥ 200°C **225 / 230°C**	≥ 200°C **225 / 230°C**	≥ 230°C **260 / 265°C**
Heat Shock min. °C acc. to IEC 60851-6 3. ELEKTRISOLA-typical values for 0.05 mm/0.25 mm, Grade 1B	≥ 175°C **190 / 180°C**	≥ 175°C **190 / 180°C**	≥ 200°C **210 / 200°C**
2. Electrical values			
Low voltage continuity max. acc. to IEC 60851-5 5.2 for 0.05 mm Grade 1B ELEKTRISOLA-typical values for 0.05 mm, Grade 1B	≤ 40 **0**	≤ 40 **0**	≤ 40 **0**
High voltage continuity max. acc. to. IEC 60851-5 5.3 for 0.25 mm Grade 1B ELEKTRISOLA-typical values for 0.25 mm, Grade 1B	≤ 10 **0**	≤ 10 **0**	≤ 10 **0**
Breakdown voltage acc. IEC 60851-5 4. (at 20°C, 35% humidity) ELEKTRISOLA-typical values (cylinder) for 0.05 mm/0.25 mm Grade 1B	**160 / 120 V/µm**	**160 / 120 V/µm**	**160 / 120 V/µm**
3. Mechanical values			
Elongation min. acc. to IEC 60851-3 3.1 for 0.05 mm/0.25 mm, Grade 1B ELEKTRISOLA-typical values for 0.05 mm/0.25 mm, Grade 1B	≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**
Tensile strength ELEKTRISOLA-typical values for 0.05 mm/0.25 mm, Grade 1B	**57 / 1370 cN**	**57 / 1370 cN**	**57 / 1370 cN**
4. Bonding of wire			
Hot air bonding Oven bonding Resistance bonding	0,010 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	0,010 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	0,010 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm
Solvent bonding Recommended solvent	limited Ethanol / Methanol	suitable Ethanol / Methanol	suitable Ethanol / Methanol
Recommended bonding temperature	120 – 140°C	150 – 170°C	150 – 170°C
Resoftening temperature for 0.25 mm	≥ 100°C	≥ 140°C	≥ 170°C
Shelf life at 25°C/60% relative humidity in months	≤ 6	≤ 3	≤ 5
5. Solderability			
acc. to IEC 60851-4 5. max. seconds at °C for 0.05 mm/0.25 mm, Grade 1B	2,0s/390°C / 3,0s/390°C	2,0s/390°C / 3,0s/390°C	3,0s/390°C / 3,0s/390°C
ELEKTRISOLA-typical values acc. to IEC 60851-4 5. for 0.05 mm, Grade 1B, seconds at °C for 0.25 mm, Grade 1B, seconds at °C	**1,5s/370°C / 0,8s/390°C** **2,0s/370°C / 1,4s/390°C**	**0,5s/370°C / 0,4s/390°C** **1,2s/370°C / 0,7s/390°C**	**1,0s/370°C / 0,7s/390°C** **2,8s/370°C / 1,6s/390°C**
Properties	low bonding temperature	solvent bonding possible (hygroscopic)	solvent bonding possible, higher thermal properties (hygroscopic)
Applications	stepping motors for quartz watches, instrument coils, voice coils, sensors, proximity switch, transponders	instrument coils, loudspeakers, small motors	instrument coils, loudspeaker, small motors, sensors, transponders

ELEKTRISOLA-typical values are the result of various tests and represent average values.

Selfbonding Wire Types

Solabond FS18 FS18	Solabond PSP15 PSP15	Thermobond STP18 STP18	Thermobond QTP18 QTP18	Thermobond RT21 RT21
Polyesterimide Polyamide **IEC 60317-36** -- 0,015 - 0,50 mm	mod. Polyurethane Polyamide **IEC 60317-35**, IEC 60317-2 MW 131 0,010- 0,50 mm	mod. Polyurethane Polyamide **IEC 60317-35** MW 131 0,015 - 0,50 mm	mod. Polyurethane Polyamide **IEC 60317-35** MW 131 0,015 - 0,50 mm	A200 + Polyamidimide aromatic Polyamide **IEC 60317-38** MW 102 0,015 - 0,50 mm
195°C ≥ 265°C **315 / 325°C** ≥ 200°C **260 / 250°C**	**158°C** ≥ 200°C **225 / 230°C** ≥ 175°C **190 / 180°C**	**192°C** ≥ 230°C **260 / 265°C** ≥ 200°C **210 / 200°C**	**192°C** ≥ 230°C **260 / 265°C** ≥ 200°C **210 / 200°C**	**212°C** ≥ 320°C **365 / 380°C** ≥ 220°C **250 / 240°C**
≤ 40 **0** ≤ 10 **0**	≤ 40 **0** ≤ 10 **0**	≤ 40 **0** ≤ 10 **0**	≤ 40 **0** ≤ 10 **0**	≤ 40 **0** ≤ 10 **0**
160 / 120 V/µm	**160 / 120 V/µm**	**160 / 120 V/µm**	**160 / 120 V/µm**	**160 / 120 V/µm**
≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**	≥ 14% / ≥ 25% **23% / 40%**
57 / 1370 cN	**57 / 1370 cN**	**57 / 1370 cN**	**57 / 1370 cN**	**57 / 1370 cN**
0,015 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	0,010 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	0,015 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	0,015 – 0,50 mm 0,100 – 0,50 mm 0,100 – 0,50 mm	limited 0,100 – 0,50 mm 0,100 – 0,50 mm
suitable Ethanol / Methanol	not suitable	not suitable	not suitable	not suitable
150 – 170°C	150 – 170°C	180 – 200°C	200 – 220°C	200 – 220°C
≥ 180°C	≥ 180°C	≥ 190°C	≥ 190°C	≥ 200°C
≤ 5	≤ 6	≤ 6	≤ 6	≤ 6
3,0s/470°C / 3,0s/470°C	2,0s/390°C / 3,0s/390°C	3,0s/390°C / 3,0s/390°C	3,0s/390°C / 3,0s/390°C	--
1,3s / 470°C **3,0s / 470°C**	**0,7s/370°C / 0,4s/390°C** **1,2s/370°C / 0,7s/390°C**	**0,4s / 420°C** **0,8s / 420°C**	**1,0s / 390°C** **2,0s / 390°C**	-- --
solvent bonding possible, high thermal properties (hygroscopic)	very high resoftening temperature after thermosetting, very good properties for hot-air bonding, very good winding properties	higher thermal and mechanical properties, very high resoftening temperature after thermosetting	higher thermal and mechanical properties, very high resoftening temperature after thermosetting	very high thermal and mechanical properties, very high resoftening temperature
small motors, loudspeakers	instrument coils, loudspeakers, small motors, sensors, receiver and speaker for mobile phones	high power speaker and receiver, micro speaker, high temperature applications	high power speaker and receiver, micro speaker, high temperature applications	motors, loudspeakers

Nominal-diameter	Conductor (Bare Wire)		min. coating and max. overall diameter Grade 1B			min. coating and max. overall diameter Grade 2B		
			min. increase			min. increase		
	tolerance	section	base coat	bond coat	max. o.d.	base coat	bond coat	max. o.d.
mm	mm	mm²	mm	mm	mm	mm	mm	mm
0,010	↑	0,000078540	0,0013	0,0008	0,0133			
0,012		0,00011310	0,0013	0,0008	0,0160			
0,014		0,00015394	0,0016	0,0010	0,0190			
0,016		0,00020106	0,0016	0,001	0,022	0,004	0,001	0,025
0,018		0,00025447	0,0018	0,001	0,024	0,004	0,001	0,027
0,019		0,00028353	0,0019	0,001	0,025	0,004	0,001	0,028
0,020		0,00031416	0,002	0,002	0,026	0,004	0,002	0,029
0,021		0,00034636	0,002	0,002	0,029	0,004	0,002	0,031
0,022		0,00038013	0,002	0,002	0,030	0,005	0,002	0,033
0,023		0,00041548	0,002	0,002	0,031	0,005	0,002	0,034
0,024	Resistance tolerance binding	0,00045239	0,002	0,002	0,032	0,005	0,002	0,035
0,025		0,00049087	0,003	0,002	0,034	0,005	0,002	0,037
0,027		0,00057256	0,003	0,002	0,037	0,005	0,002	0,040
0,028		0,00061575	0,003	0,003	0,038	0,006	0,003	0,042
0,030		0,00070686	0,003	0,003	0,042	0,006	0,003	0,044
0,032		0,00080425	0,003	0,003	0,044	0,007	0,003	0,048
0,034		0,00090792	0,003	0,003	0,047	0,007	0,003	0,052
0,036		0,0010179	0,004	0,003	0,050	0,008	0,003	0,055
0,038		0,0011341	0,004	0,003	0,052	0,008	0,003	0,057
0,040		0,0012566	0,004	0,003	0,055	0,008	0,003	0,060
0,043		0,0014522	0,004	0,003	0,059	0,009	0,003	0,065
0,045		0,0015904	0,005	0,003	0,062	0,009	0,003	0,068
0,048		0,0018096	0,005	0,003	0,067	0,010	0,003	0,073
0,050		0,0019635	0,005	0,003	0,068	0,010	0,003	0,074
0,053		0,0022062	0,005	0,003	0,072	0,010	0,003	0,078
0,056		0,0024630	0,006	0,003	0,075	0,011	0,003	0,082
0,060		0,0028274	0,006	0,003	0,081	0,011	0,003	0,088
0,063		0,0031172	0,006	0,005	0,085	0,012	0,005	0,092
0,067	± 0,003	0,0035257	0,007	0,005	0,090	0,012	0,005	0,098
0,070	± 0,003	0,0038485	0,007	0,005	0,093	0,012	0,005	0,100
0,071	± 0,003	0,0039592	0,007	0,005	0,094	0,012	0,005	0,101
0,075	± 0,003	0,0044179	0,007	0,005	0,100	0,013	0,005	0,106
0,080	± 0,003	0,0050265	0,007	0,005	0,105	0,014	0,005	0,112
0,085	± 0,003	0,0056745	0,008	0,005	0,112	0,015	0,005	0,119
0,090	± 0,003	0,0063617	0,008	0,005	0,117	0,015	0,005	0,125
0,095	± 0,003	0,0070882	0,008	0,005	0,123	0,016	0,005	0,131
0,100	± 0,003	0,0078540	0,008	0,005	0,129	0,016	0,005	0,137
0,106	± 0,003	0,0088247	0,008	0,005	0,136	0,017	0,005	0,145
0,110	± 0,003	0,0095033	0,009	0,008	0,141	0,017	0,008	0,150
0,112	± 0,003	0,0098520	0,009	0,008	0,143	0,017	0,008	0,152
0,118	± 0,003	0,010936	0,010	0,009	0,150	0,019	0,009	0,159
0,120	± 0,003	0,011310	0,010	0,009	0,153	0,019	0,009	0,163
0,125	± 0,003	0,012272	0,010	0,009	0,158	0,019	0,009	0,168
0,130	± 0,003	0,013273	0,011	0,010	0,165	0,021	0,010	0,175
0,132	± 0,003	0,013685	0,011	0,010	0,167	0,021	0,010	0,177
0,140	± 0,003	0,015394	0,011	0,010	0,175	0,021	0,010	0,186
0,150	± 0,003	0,017671	0,012	0,010	0,186	0,023	0,010	0,197
0,160	± 0,003	0,020106	0,012	0,010	0,197	0,023	0,010	0,209
0,170	± 0,003	0,022698	0,013	0,010	0,210	0,025	0,010	0,221
0,180	± 0,003	0,025447	0,013	0,010	0,220	0,025	0,010	0,233
0,190	± 0,003	0,028353	0,014	0,011	0,233	0,027	0,011	0,245
0,200	± 0,003	0,031416	0,014	0,011	0,243	0,027	0,011	0,256
0,212	± 0,003	0,035299	0,015	0,012	0,258	0,029	0,012	0,272
0,224	± 0,003	0,039408	0,015	0,012	0,270	0,029	0,012	0,284
0,236	± 0,004	0,043744	0,017	0,013	0,286	0,032	0,013	0,302
0,250	± 0,004	0,049087	0,017	0,013	0,300	0,032	0,013	0,316
0,265	± 0,004	0,055155	0,018	0,013	0,316	0,033	0,013	0,333
0,280	± 0,004	0,061575	0,018	0,013	0,331	0,033	0,013	0,348
0,300	± 0,004	0,070686	0,019	0,014	0,354	0,035	0,014	0,372
0,315	± 0,004	0,077931	0,019	0,014	0,369	0,035	0,014	0,387
0,335	± 0,004	0,088141	0,020	0,015	0,393	0,038	0,015	0,412
0,355	± 0,004	0,098980	0,020	0,015	0,413	0,038	0,015	0,432
0,375	± 0,005	0,110447	0,021	0,016	0,436	0,040	0,016	0,456
0,400	± 0,005	0,125664	0,021	0,016	0,461	0,040	0,016	0,481
0,425	± 0,005	0,141863	0,022	0,016	0,489	0,042	0,016	0,511
0,450	± 0,005	0,159043	0,022	0,016	0,514	0,042	0,016	0,536
0,475	± 0,005	0,177205	0,024	0,017	0,543	0,045	0,017	0,565
0,500	± 0,005	0,196350	0,024	0,017	0,568	0,045	0,017	0,590

Intermediate sizes and restriction of outer diameter tolerances on request.
Bold printed diameters represent standardized row R20.

based on IEC 60317

min. elongation to IEC	Resistance at 20°C			min. breakdown voltage to IEC		1 kg of enamelled wire length approx		Filling factor numbers of enamelled wires / cm²		max. winding tension	Nominaldiameter
	nom.	min.	max.	Grade 1B	Grade 2B	Grade 1B	Grade 2B	Grade 1B	Grade 2B		
%	Ohm/m	Ohm/m	Ohm/m	V	V	km	km	n	n	cN	mm
3	217,65	195,88	239,41	70	125	1307		715995		1,4	0,010
3	151,14	136,03	166,26	80	150	912,3		509852		2,0	0,012
4	111,04	99,94	122,15	90	175	666,3		364483		2,5	0,014
5	85,02	76,52	93,52	100	200	510,6	477,3	280237	212719	3,2	0,016
5	67,18	60,46	73,89	110	225	406,8	384,2	230156	180417	3,9	**0,018**
6	60,29	54,26	66,32	115	240	366,4	347,5	210006	166957	4,3	0,019
6	54,41	48,97	59,85	120	250	328,9	314,7	184773	152705	4,7	**0,020**
6	49,35	44,42	54,29	125	265	294,7	284,8	158413	137316	5,1	0,021
6	44,97	40,47	49,47	130	275	269,7	256,9	147300	120169	5,5	**0,022**
7	41,14	37,03	45,26	145	290	247,8	236,6	137316	112776	6,0	0,023
7	37,79	34,01	41,56	145	290	228,4	218,5	128314	106045	6,5	0,024
7	34,82	31,34	38,31	150	300	208,3	201,0	112776	97024	7,0	**0,025**
7	29,86	26,87	32,84	165	315	178,7	173,0	97024	84356	8,0	0,027
7	27,76	24,99	30,54	170	325	165,7	158,5	89107	74016	8,5	**0,028**
8	24,18	21,76	26,60	180	350	143,7	139,4	75926	67053	9,6	0,030
8	21,25	19,13	23,38	190	375	127,1	121,5	68699	57029	10,8	**0,032**
8	18,83	17,13	20,52	210	400	112,7	107,4	61029	50123	12,0	0,034
8	16,79	15,28	18,31	225	425	100,1	95,7	53409	44399	13,2	**0,036**
10	15,07	13,72	16,43	240	450	90,29	86,56	49095	41112	14,5	0,038
10	13,60	12,38	14,83	250	475	81,50	78,30	44399	37491	15,9	**0,040**
12	11,77	10,71	12,83	265	520	70,73	67,59	38880	32079	18,0	0,043
12	10,75	9,78	11,72	275	550	64,36	61,86	34929	29564	19,4	**0,045**
14	9,447	8,596	10,297	290	580	56,48	54,21	30533	25726	21,7	0,048
14	8,706	7,922	9,489	300	600	52,45	50,45	29096	24611	23,2	**0,050**
15	7,748	7,051	8,446	315	625	46,76	45,08	26114	22277	25,6	0,053
15	6,940	6,316	7,565	325	650	41,95	40,40	23568	19994	28,2	**0,056**
16	6,046	5,502	6,590	355	680	36,55	35,29	20530	17601	31,7	0,060
16	5,484	4,990	5,977	375	700	33,01	31,83	18272	15614	34,4	**0,063**
17	4,848	4,412	5,285	400	700	29,19	28,21	16173	13946	38	0,067
17	4,442	4,042	4,842	425	700	26,85	26,06	15083	13210	41	0,070
17	4,318	3,929	4,706	425	700	26,13	25,37	14745	12932	42	**0,071**
17	3,869	3,547	4,235	425	765	23,41	22,77	13210	11665	46	0,075
17	3,401	3,133	3,703	425	850	20,69	20,07	11903	10376	52	**0,080**
18	3,012	2,787	3,265	465	875	18,30	17,78	10475	9206	57	0,085
18	2,687	2,495	2,900	500	900	16,40	15,93	9544	8365	63	**0,090**
19	2,412	2,247	2,594	500	925	14,75	14,33	8657	7572	69	0,095
19	2,176	2,034	2,333	500	950	13,34	12,97	7888	6940	75	**0,100**
20	1,937	1,816	2,069	1200	2650	11,90	11,56	7104	6198	83	0,106
20	1,799	1,690	1,917	1300	2700	10,99	10,70	6431	5687	88	0,110
20	1,735	1,632	1,848	1300	2700	10,62	10,34	6244	5531	91	**0,112**
20	1,563	1,474	1,660	1400	2750	9,558	9,310	5608	4966	99	0,118
20	1,511	1,426	1,604	1500	2800	9,240	8,992	5418	4776	102	0,120
20	1,393	1,317	1,475	1500	2800	8,541	8,321	5065	4483	110	**0,125**
21	1,288	1,220	1,361	1550	2900	7,877	7,671	4626	4092	118	0,130
21	1,249	1,184	1,319	1550	2900	7,648	7,452	4511	3996	121	0,132
21	1,110	1,055	1,170	1600	3000	6,827	6,654	4092	3624	133	**0,140**
22	0,9673	0,9219	1,016	1650	3100	5,961	5,814	3604	3199	150	0,150
22	0,8502	0,8122	0,8906	1700	3200	5,254	5,128	3216	2858	168	**0,160**
23	0,7531	0,7211	0,7871	1700	3250	4,653	4,548	2844	2545	186	0,170
23	0,6718	0,6444	0,7007	1700	3300	4,165	4,068	2582	2302	206	**0,180**
24	0,6029	0,5794	0,6278	1750	3400	3,733	3,651	2302	2065	226	0,190
24	0,5441	0,5237	0,5657	1800	3500	3,379	3,306	2109	1893	247	**0,200**
24	0,4843	0,4669	0,5026	1850	3600	3,005	2,939	1870	1676	274	0,212
24	0,4338	0,4188	0,4495	1900	3700	2,700	2,644	1702	1533	302	**0,224**
25	0,3908	0,3747	0,4079	2000	3800	2,427	2,374	1516	1359	331	0,236
25	0,3482	0,3345	0,3628	2100	3900	2,170	2,125	1373	1237	366	**0,250**
26	0,3099	0,2982	0,3223	2100	3950	1,934	1,896	1233	1114	406	0,265
26	0,2776	0,2676	0,2882	2150	4000	1,737	1,705	1121	1017	448	**0,280**
26	0,2418	0,2335	0,2506	2200	4050	1,514	1,486	979	889	507	0,300
26	0,2193	0,2121	0,2270	2200	4100	1,376	1,352	899	819	553	**0,315**
27	0,1939	0,1878	0,2004	2250	4200	1,217	1,195	793	722	618	0,335
27	0,1727	0,1674	0,1782	2300	4300	1,086	1,068	716	655	687	**0,355**
27	0,1548	0,1494	0,1604	2300	4350	0,973	0,957	642	587	759	0,375
27	0,1360	0,1316	0,1407	2300	4400	0,857	0,844	573	526	854	**0,400**
28	0,1205	0,1167	0,1244	2300	4400	0,760	0,748	510	468	954	0,425
28	0,1075	0,1042	0,1109	2300	4400	0,679	0,669	460	424	1060	**0,450**
28	0,09646	0,09366	0,09938	2350	4500	0,609	0,601	412	380	1170	0,475
28	0,08706	0,08462	0,08959	2400	4600	0,551	0,543	376	348	1287	**0,500**

Cylinder

Twist

Technical Data for Enamelled Wires

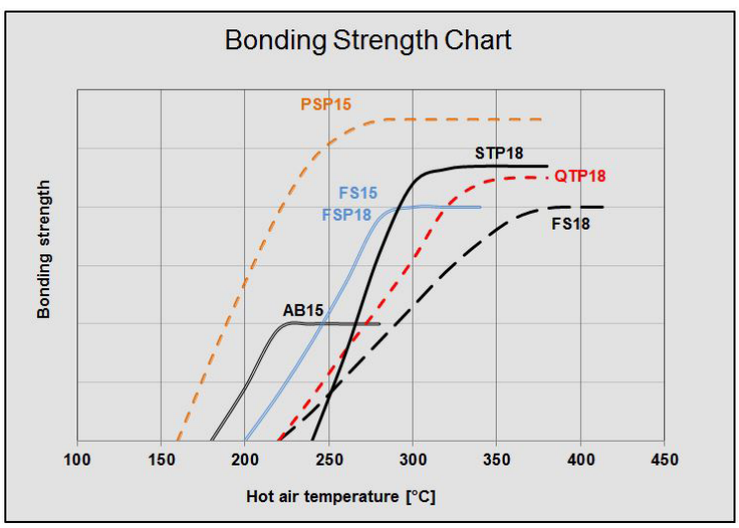
Conductance for different conductor materials

Conductor materials	copper	oxygen free copper	HTW	tombak (MS 80)	aluminium	copperplated aluminium (CCA10%)
Conductivity (20°C)	58,5 S	58,5 S	54,1 S	19,0 S	35,85 S	37,7 S

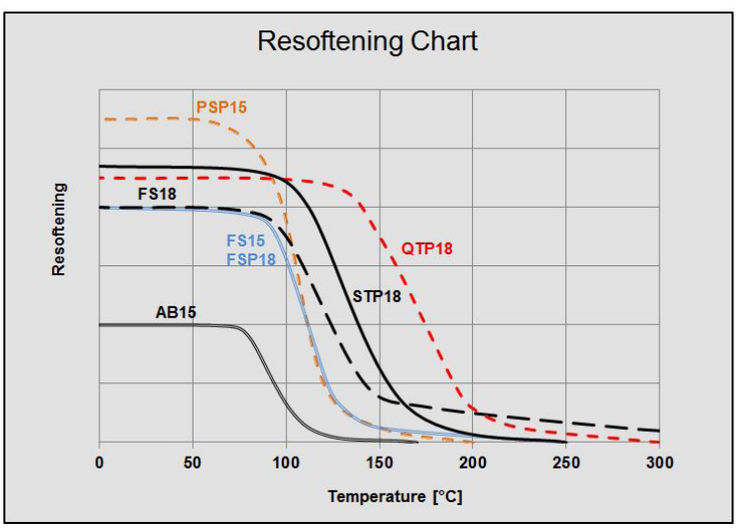
Correction factor for calculation of resistance of copper at different temperatures

Temperature °C	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Factor	1,020	1,016	1,012	1,008	1,004	1,000	0,996	0,992	0,988	0,985	0,981	0,977	0,973	0,970	0,966	0,962	0,959	0,955	0,951	0,948	0,944

Bonding strength and resoftening charts (e.g. dimension 0,08mm grade 1)



Graph. 1 Hot air bonding of different selfbonding types

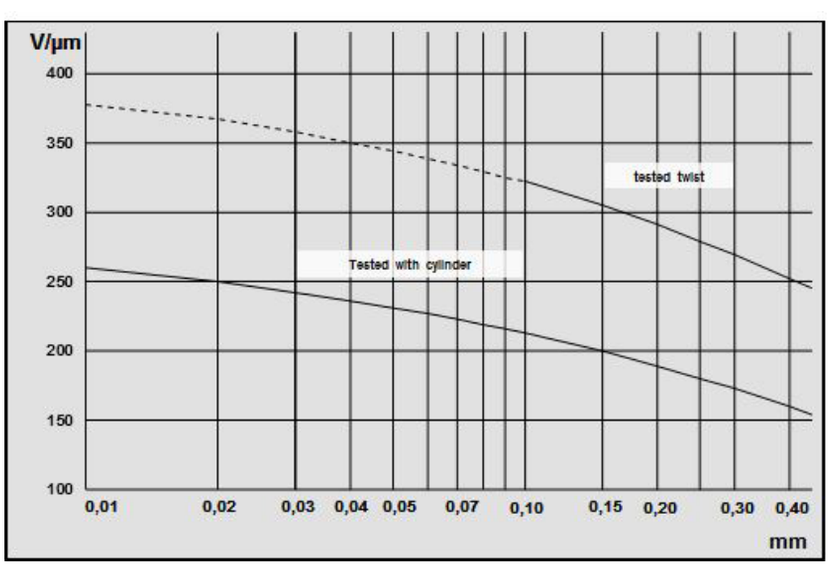


Graph. 2 Resoftening charts of different selfbonding types

Calculation of breakdown voltage (Test acc. to IEC 60851-5 4.)

The breakdown voltage depends mainly on the thickness of the insulation (see formula), but also on the bare wire diameter, the application temperature of the type of enamel.

For influence of the temperature please check the product table on page 2 and 3. Large increase of wire insulation leads to a lower non-proportional breakdown voltage.



Graph. 3 Average breakdown voltage at 20°C depending on diameter

Calculation of average values Ds:

D_s = t x Vµ [Volt], with

D_s: breakdown voltage

t: increase with insulation,

$t = d_a - d_{nom}$, with

d_a: Outer diameter

d_{nom}: bare wire diameter

$V_µ$: Volt per micron insulation, see Graph. 3

Example: Test with cylindrical electrode

d_{nom} = 0,071 mm

d_a = 0,083 mm

t = $d_a - d_{nom}$ = 0,083-0,071=0,012mm=12µm

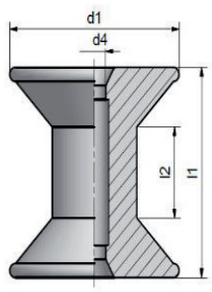
$V_µ$ = 220 V/µm, therefore

D_s = 12µ x 220 V/µ = 2.640 V

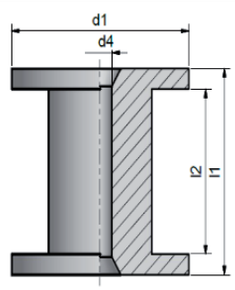
Spools and Packaging

Spool Types

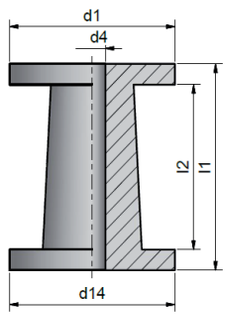
Types	Graph	Wire sizes	Characteristics
Biconical	4	0,010 - 0,15 mm	Biconical spool for fine and ultrafine wire, superb de-reeling capability, ideal for high speed winding machines
Cylindrical	5	0,050 - 0,50 mm	Straight barrel spool, solid traditional design
Tapered	6	0,100 - 0,50 mm	Stable winding due to tapered barrel spool for heavier sizes



Graph. 4 Biconical spool



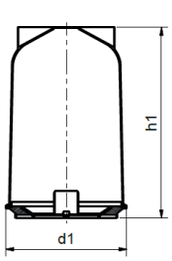
Graph. 5 Cylindrical spool



Graph. 6 Tapered spool

Spooltypes

Spooltypes	Graph.	d1 [mm]	d4 [mm]	l1 [mm]	l2 [mm]	d14 [mm]	spool weight [g]	nom.net wire weight (Grade 1) [kg]	wire sizes recommended Ø [mm]	spools per box	unit per pallet
76/45	4	63,5	16	86	60	--	70	0,3	0,010 - 0,019	6	120
79/45	4	80	16	100	70	--	80	0,7	0,020 - 0,024	4	72
80K	5	80	16	80	64	--	70	0,7	0,025 - 0,030	12/32	40/18
99/45R	4	100	16	100	49	--	130	1,2	0,024 - 0,029	9	24
99L	4	100	16	125	96	--	150	1,0	0,016 - 0,032	4/6	32/20
100K	5	100	16	100	80	--	125	1,2	0,030 - 0,036	9	18
124/45R	4	125	16	125	65	--	160	2,5	0,030 - 0,044	6/9	24/24
125K	5	125	16	125	100	--	200	2,5	0,050 - 0,060	4/9	24
159/45R	4	160	22	160	85	--	315	6,0	0,044 - 0,071	4	18
160K	5	160	22	160	128	--	350	6,0	0,050 - 0,071	4	18
199/45R	4	200	22	200	106	--	600	11,0	0,050 - 0,100	2	21
199L	4	200	22	315	221	--	900	22,0	0,050 - 0,090	Container	12
200K	5	200	22	200	160	--	600	11,0	0,060 - 0,120	2	21
249/45R	4	250	22	250	132	--	1000	25,0	0,063 - 0,140	Container	22
250KK	6	250	22	200	160	250	1050	22,0	0,100 - 0,500	Container	22
250K	5	250	22	200	160	--	1050	22,0	0,100 - 0,500	Container	22
250/400	6	236	100	400	335	250	2250	45,0	0,125 - 0,500	Container	11
315/500	6	300	100	500	425	315	4350	90,0	0,250 - 0,500	Container	6
400/630	6	375	100	630	530	400	7300	180,0	0,250 - 0,500	Container	3



Graph. 7 Container for large reels

Spool	Dimension h1	Dimension d1
199L	399	260
250	295	305
249/45R	351	306
250/400	500	315
315/500	630	400
400/630	800	500

ELEKTRISOLA-Group

Plants

Germany
ELEKTRISOLA Eckenhagen
Zur Steinagger 3
51580 Reichshof-Eckenhagen
Tel.: +49 2265 12 0
Fax: +49 2265 1222
sales@elektrisola.de

Italy
ELEKTRISOLA Atesina I
Gewerbegebiet 13
39032 Mühlen
Tel.: +39 0474 689111
Fax: +39 0474 689112
sales@elektrisola.it

Italy
ELEKTRISOLA Atesina II
Gisse, 65
39030 San Giovanni (BZ)
Tel.: +39 0474 673211
sales@elektrisola.it

Switzerland
ELEKTRISOLA Feindraht AG
Hauptstrasse 35
6182 Escholzmatt
Tel.: +41 41 4877700
sales@elektrisola.ch

U.S.A.
ELEKTRISOLA Inc.
Boscawen, N. H. 03303
Tel.: +1 603 796 2114
Fax: +1 603 796 2119
sales@elektrisola-usa.com

U.S.A.
MWS Industries.
3000 Camino Del Sol
Oxnard, CA 93030
Tel.: +1 818 264 4023
sales@mwswire.com

Mexico
ELEKTRISOLA S.A. de C.V.
Periferico M.Gomez Morin 1800
Cuauhtémoc, Chih., C.P. 31500
Tel.: +52 625 581 9000
Fax: +52 625 581 9001
sales@elektrisola.com.mx

Malaysia
ELEKTRISOLA Sdn. Bhd.
Jalan Damai 1, Janda Baik
28750 Bentong
Tel.: +60 9 2210888
Fax: +60 9 2210800
sales@elektrisola.my

China
ELEKTRISOLA Hangzhou
Xiao Ling Tou
Pingyao, Yuhang
Hangzhou 311115
Tel.: +86 571 8852 0788
Fax: +86-571 8852 0780
sales@elektrisola.cn

China
ELEKTRISOLA Precision Wire
Da Gu Tan
Futian , Boluo
Huizhou 516131
Tel.: +86 752 6826888
Fax: +86 752 6883996
sales@elektrisola.cn

European Sales Organisation

Benelux
Holger Zühlke
Area Sales Manager
Deutschland
Tel.: +49 2265 12 687
h.zuehlke@elektrisola.de

Denmark / Sweden
BEVI AB
Bevivägen 1
384 30 Blomstermala
Tel.: +46 499 27100
Fax: +46 499 27105
sales@bevi.se

Germany (Berlin)
Horst Seifert Industrievertretungen
Inh. Sascha Seifert
Mucheweg 6
14532 Stahnsdorf
Tel.: +49 3329 634890
Fax: +49 3329 634851
h.s.i@web.de

Germany (North)
Holger Zühlke
Area Sales Manager
Deutschland
Tel.: +49 2265 12 687
h.zuehlke@elektrisola.de

Germany (Bavaria)
Endres KG
Inh. Marco Kugler
Valznerweiherstr. 53
90480 Nürnberg
Tel.: +49 911 206440
marco.kugler@mac.com

Germany (South)
Horst Mickenautsch
Area Sales Manager
Deutschland
Tel.: +49 7032 894426
h.mickenautsch@elektrisola.de

Finland
Multirel Oy
Jorvas High-tech Center
Hirsalantie 11
02420 Jorvas
Tel.: +358 09 8190630
Fax: +358 09 81906321
multirel@multirel.fi

France
ELEKTRISOLA France
B.P. 83
107-111, Rue du Moulin Sarrazin
95101 Argenteuil Cedex
Tel.: +33 1 34110506
Fax: +33 1 34113435

Greece
Nicolaos G. Asteriadis
P.O. Box 50330
54013 Thessaloniki
Tel.: +30 2310 278692 + 3
Fax: +30 2310 284691
ka@asteriadis.gr

Great Britain
Vasco Rocha
Area Sales Manager
Portugal
Tel.: +39 333 9321 402
v.rocha@elektrisola.pt

Israel
Shemer Representations
P.O.B. 296
Yehud 56 101
Tel.: +972 3 5365167
Fax: +972 3 5360581
sales@shemerep.co.il

Italy / Turkey
ELEKTRISOLA Atesina III
Via Friuli 5
20046 Biassono (MI)
Tel.: +39 039 2491501
sales@elektrisola.it

Norway
Elis Elektro AS
Jerikoveien 16
1067 Oslo
Tel.: +47 2 2905670
Fax: +47 2 2905671
post@eliselektro.no

Austria
ELEKTRISOLA Eckenhagen
Zur Steinagger 3
51580 Reichshof-Eckenhagen
Tel.: +49 2265 12 0
Fax: +49 2265 1222
sales@elektrisola.de

Poland
Alexander Slubik
Area Sales Manager
Polen
Tel.: +48 889 493 523
a.slubik@elektrisola.pl

Portugal / Spain
Vasco Rocha
Area Sales Manager
Portugal
Tel.: +39 333 9321 402
v.rocha@elektrisola.pt

Romania
Feritrade s.r.l.
44 Manu Victor str., ap. 1
021857 Bukarest
Tel.: +40744525616
v.vilceanu@gmail.com

Czech Rep./ Slovakia
ERMEG s.r.o.
Zitavská 629/48
460 11 Liberec 11
Tel.: +420 485 108 148
Fax: +420 485 103 077
p.jelinek@ermeg.cz

Slovenia
Mintex d.o.o.
Ljubljanska cesta 31
1241 Kamnik
Tel.: +386 1 8310240
Fax: +386 1 8310245
mintex@siol.net

Hungary
ELEKTRISOLA Eckenhagen
Zur Steinagger 3
51580 Reichshof-Eckenhagen
Tel.: +49 2265 12 0
Fax: +49 2265 1222
sales@elektrisola.de

EUE10/2024

www.elektrisola.com