Axalta Voltron® Systems

CR Systems	Wire Enamel	Ratio of WE	Passes *	Magnet Wire Range	Mechanical Stability	Chemical Stability	Corona Resistance
Voltron® System 1210	Voltatex® 7740 base coat	100 %	> 10	standard round: 0.3 - 2.00 mm	+	+	+++
Voltron® System 1220	Voltatex® 7740 base coat	85.0 % +/- 2.5 %	> 10	standard round: 0.3 - 2.00 mm	++	++	++
	Voltatex® 8227 top coat	15.0 % +/- 2.5 %	> 3				
Voltron® System 1230	Voltatex® 7740 base coat	70.0 % +/- 5.0 %	> 8	standard round: 0.3 - 2.00 mm	++	++	+
	Voltatex® 8227 top coat	30.0 % +/- 5.0 %	> 3				
Voltron® System 1321	Voltatex® 9127 primer	7.5 % +/- 2.5 %	1 - 2	heavy round: > 2.00 mm	+++	++	+
	Voltatex® 7740 base coat	77.5 % +/- 5.0 %	> 7				
	Voltatex® 8227 top coat	15.0 % +/- 5.0 %	> 2				
Voltron® System 1421	Voltatex® 9127 primer	7.5 % +/- 2.5 %	1 - 2	rectangular / square	+++	++	+
	Voltatex® 7735FL base coat	77.5 % +/- 5.0 %	> 7				
	Voltatex® 8327 top coat	15.0 % +/- 5.0 %	> 2				
Voltron® System 2240	Voltatex® 8534 base coat	100 %	> 15	standard round: 1.00 mm	+++	++	+++
Voltron® System 2230	Voltatex® 7740 base coat	70.0 % +/- 5.0 %	> 7	standard round: 1.00 mm	++	+++	+++
	Voltatex® 8534 top coat	30.0 % +/- 5.0 %	> 3				
Voltron® System 3230	Voltatex® 7540EV base coat	70.0 % +/- 5.0 %	> 7	standard round: 1.00 mm	+++	++	+
	Voltatex® 8534 top coat	30.0 % +/- 5.0 %	> 3				

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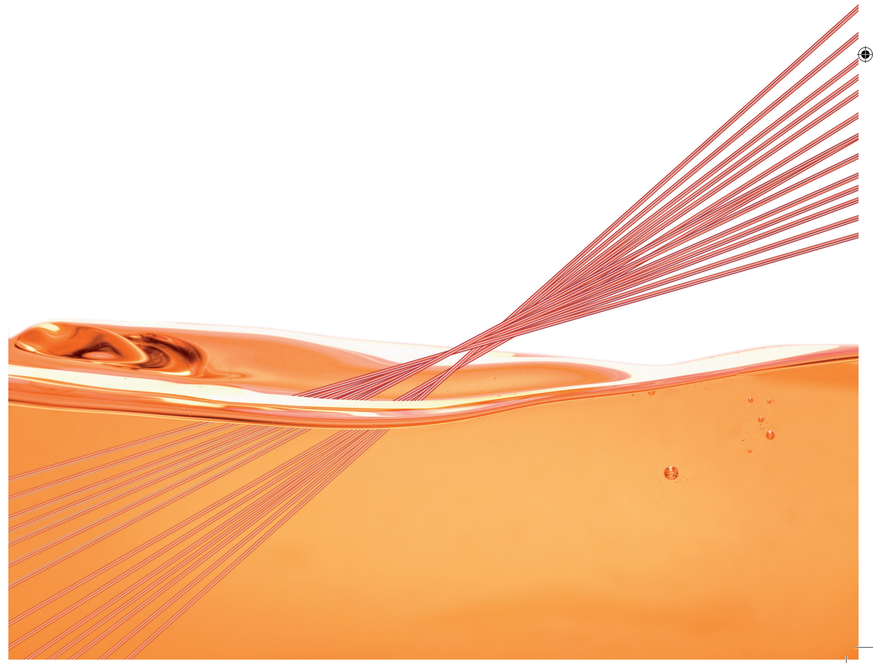
Voltatex®
Wire Enamels

Product Overview



Voltatex® Wire Enamels
Product Overview

Chemical base	Thermal class (°C)	Productname	Solid content (1g/1h/180°C)	Flow time ISO 2431	Viscosity DIN 53 015	Dimension range recommended [3]
UL File No. E102069			[%]	[sec] [23°C]	[mPa·s] [23°C]	[Ø in mm]
POLYURETHANE WIRE ENAMEL						
POLYURETHANE	155	**Voltatex® 6125**	24.0 – 26.0	–	30 – 40	0.01 – 0.60
		Voltatex® 6129	28.0 – 30.0	–	60 – 80	
	180	**Voltatex® 6335 gold**	34.0 – 36.0	90 – 110	–	0.30 – 1.00
POLYURETHANE (modified)	200	**Voltatex® 6534**	33.0 – 35.0	100 – 130	–	0.30 – 1.80
	200	**Voltatex® 6725**	24.0 – 26.0	–	50 – 80	0.01 – 0.80
POLYESTERIMIDE WIRE ENAMEL						
POLYESTERIMIDE	200	**Voltatex® 7225 AG**	24.0 – 25.0	–	43 – 55	0.01 – 0.80
		Voltatex® 7236	35.0 – 37.0	70 – 100	–	0.30 – 2.50
		Voltatex® 7240	39.0 – 41.0	–	700 – 900	
THEIC modified POLYESTERIMIDE	200	**Voltatex® 7340 AX**	39.0 – 41.0	–	1,100 – 1,600	0.30 – >3.00
		Voltatex® 7329 B	27.5 – 29.5	–	71 – 87	0.01 – 0.80
		Voltatex® 7342 B	41.0 – 44.0	–	1,200 – 2,200	0.30 – >3.00
	180	**Voltatex® 7433**	32.0 – 34.0	–	800 – 1,100	0.50 – >5.00
	200	**Voltatex® 7538**	37.0 – 39.0	–	500 – 900	0.30 – >3.00
	200	**Voltatex® 7540 EV**	39.0 – 42.0	–	1,100 – 2,000	0.30 – >3.00
	220 [9]	**Voltatex® 7740**	38.5 – 41.0	–	2,200 – 3,000[2]	0.20 – >3.00
	200	**Voltatex® 7735 FL**	33.5 – 35.0	–	800 – 2,000	0.50 – >5.00
POLYAMIDEIMIDE WIRE ENAMEL						
POLYAMIDEIMIDE	220	**Voltatex® 8123**	22.0 – 24.0	–	70 – 150	0.10 – 0.80
		Voltatex® 8132	31.0 – 33.0	–	500 – 1,000[2]	0.30 – 5.00
	240	**Voltatex® 8227**	25.0 – 29.0	–	1,700 – 2,700	0.50 – 5.00
POLYAMIDEIMIDE (modified)	–	**Voltatex® 8227SL**	25.5 – 27.5	–	1,800 – 2,800	0.50 – 5.00
POLYAMIDEIMIDE	220	**Voltatex® 8327**	26.0 – 28.0	–	2,100 – 2,900[2]	0.50 – 5.00
POLYAMIDEIMIDE (modified)	200 [1]	**Voltatex® 8534**	33.0 – 35.0	–	500 – 1,000	0.20 – >3.00
POLYAMIDE (Nylon)	–	**Voltatex® 9511**	10.0 – 12.0	–	480 – 620	–
POLYAMIDEIMIDE PRIMER						
POLYAMIDEIMIDE (modified)	180	**Voltatex® 9127**	26.0 – 28.0	–	1,300 – 1,900[2]	1.00 – 5.00
POLYVINYLFORMAL WIRE ENAMEL (FORMVAR)						
POLYVINYLFORMAL (modified)	105	**Voltatex® 9218**	17.0 – 23.0	–	3,500 – 5,500[2]	0.30 – >5.00
	120 [1]	**Voltatex® 9224**	23.0 – 25.0	–	4,000 – 6,000[2]	
SELFBONDING WIRE ENAMEL						
POLYAMIDE		**Voltatex® 8611 C**	10.0 – 12.0	33 – 43	–	0.03 – 0.50
		Voltatex® 8616 C	15.0 – 17.0	–	600 – 800	0.30 – 2.00
BUTYRAL		**Voltatex® 8710**	8.5 – 10.5	–	54 – 74	0.01 – 0.50
		Voltatex® 8718	16.5 – 18.5	–	500 – 700	0.20 – 1.00
IMPREGNATING VARNISHES FOR GLASS FIBRE COVERED & BRAIDED WIRES						
POLYURETHANE		**Voltatex® 9848**	47.0 – 49.0	100 – 140	–	–

Voltatex®	Conductor diameter [4]	Flexibility and adherence	Solderability temperature / soldering time	Dissipation factor recommended [8]	Cut through temperature tested (Lüscher)	Heat shock (1xd)
	[Ø in mm]	[1xd]	[°C / sec]	[°C]	[°C]	[1xd] [°C]
6125	0.10	5 % [5]	320 / <4.0 [6]	135 – 160	220	175 [5]
6129	0.10	5 % [5]	375 / <1.0 [6]	135 – 160	220	175 [5]
6335 gold	0.65	10 %	375 / <2.5 [6]	130 – 150	230	190
6534	0.65	5 %	375 / <2.5 [6]	170 – 190	240	190
6725	0.10	10 % [5]	375 / <4.5 [6]	170 – 190	260	210 [5]
7225 AG	0.10	20 % [5]	470 / <3.5 [7]	185 – 205	320	220 [5]
7236	0.65	15 %	470 / <6.5 [7]	185 – 205	320	200
7240						
7340 AX	1.00	15 %	–	190 – 215	380	200
7329 B	0.30	20 %	–	190 – 215	370	220
7342 B	0.65	25 %	–	190 – 215	380	220
7433	1.00	15 %	–	190 – 210	380	180
7538	0.65	15 %	–	190 – 215	380	200
7540 EV	1.00	15 %	–	190 – 220	400	200
7740	1.00	5 %	–	190 – 220	380	200
7735 FL						180
8123	0.30	15 %	–	260 – 290	400	300
8132	1.00	10 %	–	260 – 290	400	300
8227	1.00	10 %	–	260 – 300	400	300
8227SL	–	–	–	–	–	–
8327	1.00	10 %	–	240 – 280	380	300
8534	1.00	5 %	–	260 – 290	400	300
Can be applied as overcoat on thermosetting and solderable enamelled wire without reducing their solderability						
9127	1.00	30 %	–	100 – 130	300	300
9218	1.00	30 %	–	100 – 120	230	–
9224	1.00	10 %	–	110 – 130	240	160

	Layer thickness	Baking conditions	Bond strength	Resoftening temp.
8611 C	0.315	29µ + 17µ	1 h at 170 °C	2.2 N	210 °C
8616 C					
8710	0.315	30µ + 17µ	1 h at 140 °C	1.6 N	108 °C
8718					

Impregnating varnish without cresylic acid solvent is used for types of glass braided copper wire or strip, single or binded. High resistance against thermal stress, excellent electrical and mechanical properties, diluent Voltatex® 9959

Voltatex®	Temperature index acc. IEC 172	UL listed (Underwrites Laboratories)	Special characteristics and applications
	[°C]	File No. E102069	
6125	174 [5]	yes	Excellent solderable; soldering temperature >320°C; conform to IEC 60317-20.
6129			
6335 gold	195	yes	Solderable magnet wire; pin-hole and crazing resistant; conform to IEC 60317-51.
6534	210	yes	Solderable magnet wire; pin-hole and crazing resistant; conform to IEC 60317-51.
6725	211 [5]		
7225 AG	217 [5]	yes	Solderable above 450 °C, hot staking process possible, good elasticity, good dielectric and mechanical properties, conform to IEC 60317-23.
7236	217		
7240	217		
7340 AX	205	yes	Improved heat shock and flexibility, ballasts for fluorescent lamps and hermetic units.
7329 B	215	yes	Among others ballasts for fluorescent lamps and hermetic units with improved heat shock. Practice has shown excellent flexibility results.
7342 B			
7433	187 [9]	yes	Rectangular and heavy round conductors, combined with PAI topcoat [11] is possible.
7538	215	no	Polyesterimide basecoat for aluminium wires (test data are based on copper wire).
7540 EV	205	no	Polyesterimide basecoat for electrical vehicles. Improved heat shock and flexibility.
7740	213 / 222 [9]	yes	For round conductor, outstanding resistance to partial discharges [10]
7735 FL	213 / 222 [9]	yes	Specially developed for rectangular conductor, outstanding resistance to partial discharges [13]
8123	230	yes	Both overcoat and single coat, mainly used as a topcoat in combination with a polyester or polyesterimide basecoat
8132			
8227	240	yes	
8227SL	–	–	Self-lubrication effects, mainly used as a last topcoat layer with low coefficient of friction.
8327	232	yes [12]	Both overcoat and single coat for both rectangular and e.g. round conductors.
8534	200 [1]	no	Overcoat and single coat with outstanding resistance to partial discharges [13]
Provides exceptionally fine finishes with minimum friction factor			
9127	186	no	Primer for heavy round and rectangular conductor, superior adherence and flexibility.
			With excellent mechanical properties. Heavy round and rectangular conductors for use in:
9218	120	no	superconductor application
9224	120 [1]	no	hermetic application; transformer oil resistant acc. to IEC60 851-4

Bond topcoat over polyesterimide or polyurethane basecoat

Bonding wire enamel without cresylic acid solvent, bond topcoat over Polyurethane

[1] estimated
[2] measuring temperature: 25 °C
[3] depend on process condition
[4] under normal test conditions on pilot equipment
[5] tested on conductor diameter 0.30mm
[6] composition of the solder bath: Sn/Pb = 60/40
[7] composition of the solder bath: Pb/Sn = 92/8
[8] depend on wire diameter and process conditions
[9] with PAI Voltatex® topcoat
[10] preferably top coated with Voltatex® 8227
[11] preferably top coated with Voltatex® 8327
[12] in combination with basecoat Voltatex® 7433
[13] as occur e.g. in inverter fed motors mainly used in combination with Voltatex® 7740