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TOP PLAST ECO– TECHNICAL DATA

Nominal Components Properties

	TOP PLAST ECO ADHESIVE	TOP PLAST ECO HARDENER 30sec	TOP PLAST ECO HARDENER 1,5min	TOP PLAST ECO HARDENER 3,5min
Chemical Base	Reactive Isocyanate Prepolymer	Reactive Polyol Mixture	Reactive Polyol Mixture	Reactive Polyol Mixture
Colour	White	Black	Black	Black
Specific Gravity (g/cm^3)	~ 1,24	~ 1,29	~ 1,29	~ 1,29
Viscosity (mPas)	~ 49.000	~ 50.000	~ 50.000	~ 50.000
Appearance	Sag Resistant Paste	Sag Resistant Paste	Sag Resistant Paste	Sag Resistant Paste

	TOP PLAST ECO 30sec	TOP PLAST ECO 1,5min	TOP PLAST ECO 3,5min
Open time (at +23°C)	30 seconds	1.5 minutes	3.5 minutes
Processable (at +23°C)	2.5 minutes	5 minutes	15 minutes
Sandable (at +23°C)	5 minutes	10 minutes	30 minutes
Tensile strength, ASTM D-638, at +23°C	27.1 MPa	27.1 MPa	27.1 MPa
Young's Modulus, ASTM D-638, at +23°C	219 MPa	219 MPa	219 MPa
Elongation, ASTM D-638	37%	37%	37%
Water Absorption, ASTM D-570	<1,0%	<1,0%	<1,0%
Shore hardness D, ASTM D-2240	74	74	74
Shrinkage, ASTM C-733	<1,0%	<1,0%	<1,0%
Tan Delta Peak	45,8	45,8	45,8
Catalysis	at room temperature or hot (max. +120°C)	at room temperature or hot (max. +120°C)	at room temperature or hot (max. +120°C)
Minimum thickness	from 0.5mm to 1.5mm	from 0.5mm to 1.5mm	from 0.5mm to 1.5mm
Maximum thickness	about 5mm	about 5mm	about 5mm
Paint Bake	max. +150°C	max. +150°C	max. +150°C
Filling properties	very good	very good	very good
Resistance to depression	suitable for vertical applications	suitable for vertical applications	suitable for vertical applications
Consumption, 1/4" Diameter Round Bead	about 40g/m	about 40g/m	about 40g/m
Consumption, 1/2" Diameter Round Bead	about 160g/m	about 160g/m	about 160g/m
Shelf life	24 months (between +15°C and +32°C)	24 months (between +15°C and +32°C)	24 months (between +15°C and +32°C)

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Lap Shear Information

	Pretreatment					
Substrate	**Cleaning**	**Sanding**	**Cleaning**	**Bondline thickness**	**Expected failure mode**	**Average strength**
PP	Acetone	P120	Acetone	1mm	Adhesive	1,41 MPa
PMMA	IPA	P120	IPA	1mm	Mixed	2,21 MPa
PVC	IPA	P120	IPA	1mm	Mixed	3,43 MPa
ABS	IPA	P120	IPA	1mm	Adhesive	3,43 MPa
Carbon	IPA	P120	IPA	1mm	Cohesive	12,48 MPa
PP/EPDM	IPA	P120	IPA	1mm	Mixed	1,40 MPa
PA 6	IPA	P120	IPA	1mm	Adhesive	2,89 MPa
ABS/PC	IPA	P120	IPA	1mm	Adhesive	2,99 MPa
E-Coat	IPA	P800	IPA	1mm	Coating failure	9,7 MPa

Substrate	**Surface preparation for catalysis at room temperature**	**Surface preparation for hot catalysis**	**General Adhesion**	**Possible Bonding failures**
SMC, BMC, RTM, Gel Coat, Wood, HPL, PUR-RIM	Sand	Not needed	Excellent	Substrate breakage
Carbon Fiber Reinforced Plastic (CFRP)	Sand	Not needed	Excellent	Substrate breakage
Painted or primed metals or metal alloys	None	Not needed	Excellent	Coating failure
HLU, HSU	Sand	Mainly sanding	Good	Substrate breakage/ coating/ adhesive
Thermoplastics A (ABS, PA, PC/PBT, PPO/PA, PET)	Sand or clean with solvent	Mainly none	Very good	Substrate breakage
Thermoplastics B (PPO, PC/ABS, PP/EPDM)	Solvent, cleaner or primer	Solvent, cleaner or primer	Good/poor	Substrate breakage/ coating/ adhesive
Thermoplastics C (PTFE, PP, PE, PVC, PPS, POM)	Physical pre-treatment (flame, plasma)	Physical pre-treatment (flame, plasma)	Limited	Poor adhesion (adhesive)