Solvent-Based Polyurethane Polymers

AllCoat Technology is a privately owned ISO 9001:2000 registered corporation located in Wilmington, MA producing specialty polymers, coatings and adhesives for industry. We are vertically integrated, producing a wide range of solvent and water-based products designed to meet continually evolving market and environmental demands.

Manufacturing:

- Polymerization; Custom water and solvent-based polyurethane and acrylic polymers.
- Pigment/Powder Dispersion; multiple and varied milling options for consistently efficient particle size reduction.
- Custom Compounding and Blending; processes designed specific to formulation and customer's needs.
- Custom Color Matching; quality reflected in consistently meeting or exceeding color and gloss requirements.
- Contract Manufacturing; Versatile chemical manufacturer with ISO 9001:2000 Certification.

Markets:

- Textile Coatings: breathable and non-breathable water proofing systems.
- Custom Manufacturing; vertical integration promotes efficient "Bench to Batch" technology transfer and product scale up.
- Coatings; Specialty, Architectural and Industrial (OEM, Military and Marine), quality coatings customized to meet your specific needs.
- Graphic Arts; Paper, Film and Foil applications. Printable topcoats, OPV etc.
- Adhesives; Custom formulated water and solvent-based pressure sensitive and laminating adhesives.

Allow the chemists at AllCoat Technology to help you develop the best formulations for your products. We have the experience to supply your solvent based needs but with ever changing environmental regulations forcing reduced VOC content, we have the technology to assist your transfer to water-based chemistries.

Contact us or your AllCoat representative today to discuss your product needs.

100 Eames St., Wilmington, Massachusetts 01887
Phone: 978-988-0880 • Fax: 978-658-3366
www.allcoattech.com • info@allcoattech.com

AllUthane - Solventbased Polyurethane Polymers

	Description	Solids (%)	Viscosity (cps)	Specific Gravity (g/cc)	Solvent System	100% Modulus (psi)	Tensile (psi)	Elongation (%)
51825	Aromatic Polyether	40.0	35,000	0.95	DMF Methyl Ethyl Ketone	200	3000	800
	Aromatic polyether polyurethane for heat seal laminating adhesive applications. 51825 can be applied using conventional gap coating techniques or by gravure coating after suitable viscosity reduction. Crosslinker 10298 at 1-2% is recommended.							
51558	Aromatic Polyether	40.0	35,000	0.95	DMF Methyl Ethyl Ketone	1225	4150	575
	Aromatic polyurethane suitable for laminating adhesive applications. It is provided in solution and is typically applied by conventional gap coating or transfer coating techniques. Crosslinker 10298 is added at 1-2% prior to coating.							
52432	Aromatic Polycarbonate	30.0	40,000	0.98	DMF	2470	5100	270
	Tough aromatic polycarbonate polyurethane. Excellent resistance to hydrolysis.							
52448	Aliphatic Polyester	28.0	10,000	0.89	Toluene Isopropyl Alcohol	2800	4000	240
	Versatile solventbased polyurethane suitable for textile coating as well as other general purpose topcoat applications. The resin can be pigmented, has excellent color fastness and is hydrolysis resistant.							
52465	Aliphatic Polyester	30.0	30,000	0.91	DMF, Toluene Isopropyl Alcohol	1350	6500	450
	Tough aliphatic polyurethane for textile topcoat applications such as awnings and tents. 52465 has excellent adhesion to nylon, good flexibility and chemical resistance, providing long term durability in exterior applications.							
52471	Aliphatic Polyester	25.0	10,000	0.93	DMF, Toluene Isopropyl Alcohol	465	6600	675
	Soft, solventbased, aliphatic polyester polyurethane suitable for both adhesive and topcoat applications.							
52528	Aromatic Polyether	35.0	20,000	0.98	DMF	2300	5400	360
	52528 is a hard, solvent resistant polyurethane suitable for use as a laminating adhesive where solvent resistance is critical. Crosslinker 10298 is typically added at 1-2%.							
52531	Aromatic Polyether	35.0	20,000	0.94	DMF, Toluene Methyl Ethyl Ketone	400	1800	600
	52531 is a softer version of 51558, designed for use in laminating applications where a "soft hand" is desired.							
52532	Aromatic Polyether	35.0	25,000	0.92	DMF, Toluene Methyl Ethyl Ketone	120	800	900
	Very high elongation laminating adhesive where excellent softness and flexibility is desired.							
52538	Aliphatic Polyester	30.0	10,000	0.89	Toluene Isopropyl Alcohol	3400	5000	220
	52538 is a harder, higher melt point version of 52448.							
52539	Aliphatic Polyether	30.0	10,000	0.87	Toluene Isopropyl Alcohol	1700	5000	400
	52539 is a tough, aliphatic polyether polyurethane. It has a softening point > 335° F and is useful where heat resistance is required.							
52604	Aliphatic Polycarbonate	30.0	12,000	0.93	DMF, Toluene Isopropyl Alcohol	4000	5100	185
	Hard polycarbonate based polyurethane with excellent durability.							
52606	Aliphatic Polycarbonate	30.0	12,000	0.91	Toluene Isopropyl Alcohol	2300	4000	250
	Medium-hard polycarbonate based polyurethane with excellent abrasion resistance and hydrolytic stability.							
52655	Aliphatic Polycarbonate	25.0	15,000	0.87	Toluene Isopropyl Alcohol	NA	7600	7
	Very hard, aliphatic polycarbonate polyurethane with excellent chemical and stain resistance.							

AllCoat TECHNOLOGY

100 Eames St., Wilmington, Massachusetts 01887
Phone: 978-988-0880 • Fax: 978-658-3366
Ext. 311 Kurt Bimmler • kbimmler@allcoattech.com

Water-Based Polyurethane Polymers

AllCoat Technology is a privately owned ISO 9001:2000 registered corporation located in Wilmington, MA producing specialty polymers, coatings and adhesives for industry. We are vertically integrated, producing a wide range of solvent and water-based products designed to meet continually evolving market and environmental demands.

Manufacturing:

- Polymerization; Custom water and solvent-based polyurethane and acrylic polymers.
- Pigment/Powder Dispersion; multiple and varied milling options for consistently efficient particle size reduction.
- Custom Compounding and Blending; processes designed specific to formulation and customer's needs.
- Custom Color Matching; quality reflected in consistently meeting or exceeding color and gloss requirements.
- Contract Manufacturing; Versatile chemical manufacturer with ISO 9001:2000 Certification.

Markets:

- Textile Coatings: breathable and non-breathable water proofing systems.
- Custom Manufacturing; vertical integration promotes efficient "Bench to Batch" technology transfer and product scale up.
- Coatings; Specialty, Architectural and Industrial (OEM, Military and Marine), quality coatings customized to meet your specific needs.
- Graphic Arts; Paper, Film and Foil applications. Printable topcoats, OPV etc.
- Adhesives; Custom formulated water and solvent-based pressure sensitive and laminating adhesives.

Allow the chemists at AllCoat Technology to help you develop the best formulations for your products. We have the experience to supply your solvent based needs but with ever changing environmental regulations forcing reduced VOC content, we have the technology to assist your transfer to water-based chemistries.

Contact us or your AllCoat representative today to discuss your product needs.

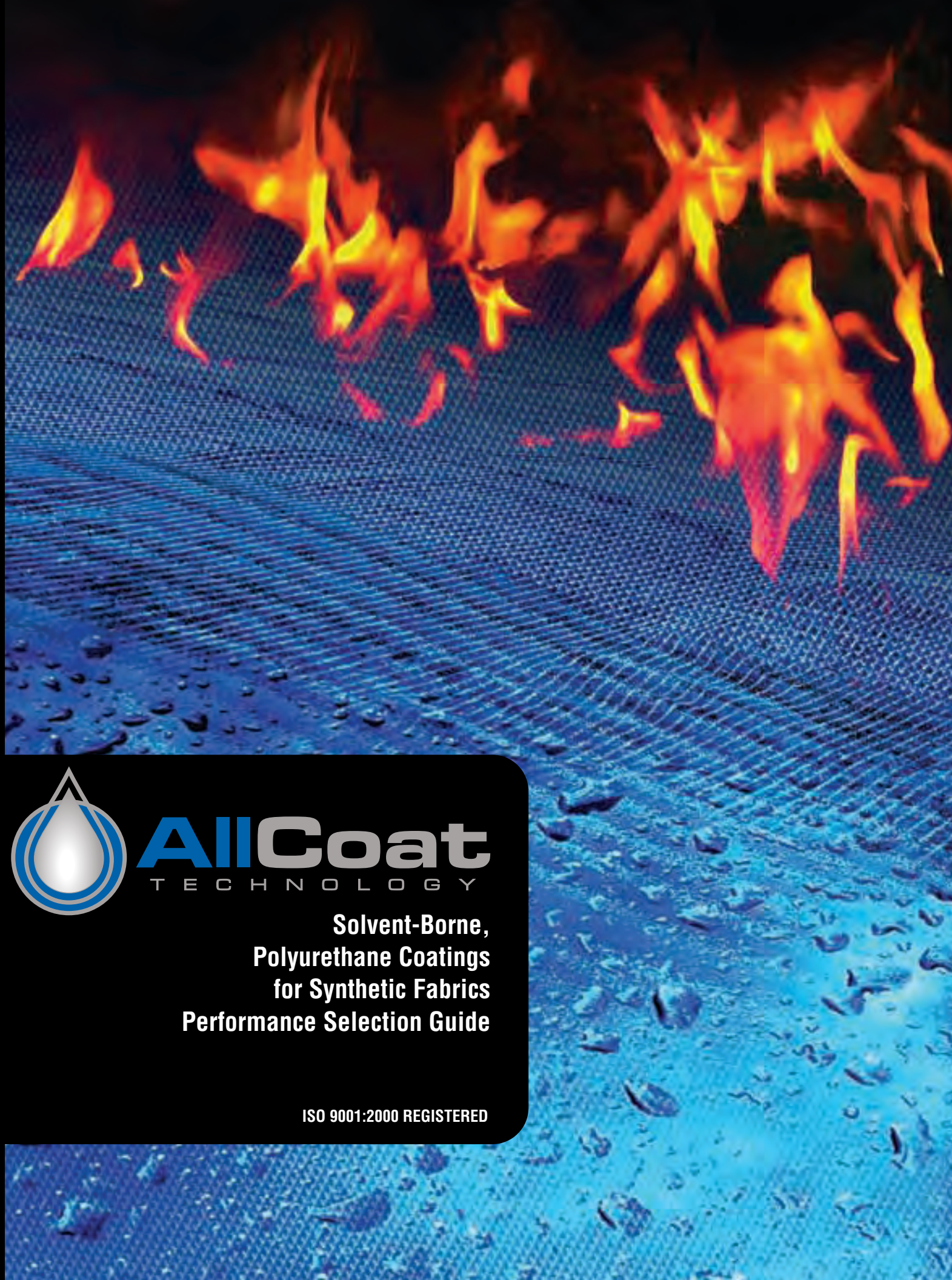
100 Eames St., Wilmington, Massachusetts 01887
Phone: 978-988-0880 • Fax: 978-658-3366
www.allcoattech.com • info@allcoattech.com

AllUthane - Waterbased Polyurethane Polymers

	Description	Solids (%)	Viscosity (cps)	pH	Specific Gravity (g/cc)	VOC %	100% Modulus (psi)	Tensile (psi)	Elongation (%)
30522	Aliphatic Polyester	35.0	125	7.7	1.02	1.3	4000	7000	300
	Solvent free waterbased aliphatic polyurethane dispersion. The polymer exhibits excellent adhesion to a variety of substrates making it suitable for formulating low VOC coatings for metal, wood and plastic substrates.								
30540	Aliphatic Polyester	40.0	400	7.7	1.03	10.0	3000	5000	375
	High solids waterbased aliphatic polyurethane dispersion with broad adhesion latitude and excellent resistance to chemicals and household cleaners. 30540 is compatible with many acrylic emulsions allowing for wide formulating latitude.								
30544	Aliphatic Polyester	35.0	40	7.7	1.03	10.0	____	4000	10
	Waterbased polyurethane dispersion designed for adhesive applications. It can function as both a laminating adhesive and a heat reactivated adhesive. The aliphatic backbone provides excellent UV resistance making it useful for exterior applications.								
30551	Aliphatic Polyether	35.0	60	7.7	1.01	0.9	1100	3000	580
	Solvent free waterbased aliphatic polyurethane dispersion for low VOC coatings where flexibility and toughness are required. An excellent film former, dried films exhibit excellent adhesion and good chemical (especially to caustic) and water resistance.								
30573	Aliphatic Polyester	35.0	160	7.5	1.03	10.0	65	262	800
	Waterbased aliphatic polyurethane dispersion designed for coating vinyl as well as other surface treated substrates such as TPO. 30573 is a soft polymer with a good balance of tensile strength, elongation and chemical resistance.								
30577-1	Aliphatic Polycarbonate	40.0	150	9.0	1.03	14.4	____	7000	10
	High solids, waterbased polycarbonate polyurethane dispersion designed for producing coatings where a combination of chemical resistance and toughness are required. The aliphatic backbone provides excellent UV resistance suitable for exterior applications.								
30581-1	Aromatic Polyether	28.0	200	9.5	1.01	8.7			
	An aromatic waterbased polyurethane dispersion for use in basecoat or adhesive applications. It is a very soft polymer with excellent clarity, film formation and adhesive properties.								
30606	Aliphatic Polyester	33.0	150	8.0	1.03	5.8	1000	3000	600
	An aliphatic waterbased polyurethane dispersion neutralized with DMEA. 30606 is a soft polymer with good tensile strength and elongation.								
30607	Aliphatic Polyether	35.0	40	8.0	1.01	1.0	374	1300	660
	Solvent free waterbased polyurethane dispersion. 30607 is a softer version of 30551, it has excellent film forming characteristics providing excellent adhesion and a good balance of flexibility and toughness.								
30625	Aliphatic Polyester	35.0	150	8.5	1.03	10.2	4400	6200	250
	Waterbased aliphatic polyurethane dispersion designed for air-dry applications requiring an excellent balance of adhesion, abrasion resistance and chemical resistance. 30625 is UV resistant and can be used for wood, metal and concrete applications.								
30631	Aliphatic Polyester	34.0	120	8.0	1.02	10.3	600	2190	550
	Waterbased aliphatic polyurethane dispersion with excellent adhesion to flexible films. 30631 has good abrasion and chemical resistance and can be used to formulate "soft-feel" coatings. 30631 is UV resistant and is compatible with many acrylic emulsions.								
30640	Aliphatic Polycarbonate	35.0	150	9.0	1.03	12.3	____	8700	45
	Waterbased aliphatic polycarbonate polyurethane dispersion designed for producing coatings where a combination of chemical resistance, flexibility and toughness are required. Crosslinked films of this polymer exhibit excellent stain resistance.								
30654	Aliphatic Polycarbonate	35.0	100	8.5	1.03	9.4	875	2600	375
	Aliphatic polycarbonate polyurethane dispersion designed for ambient cure or bake coatings for a variety of rigid and flexible substrates. Its combination of flexibility, water and solvent resistance make it suitable for textile, plastic, metal and wood applications.								

AllCoat TECHNOLOGY

100 Eames St., Wilmington, Massachusetts 01887
Phone: 978-988-0880 • Fax: 978-658-3366
Ext. 311 Kurt Bimmler, kbimmler@allcoattech.com



AllCoat
TECHNOLOGY

Solvent-Borne, Polyurethane Coatings for Synthetic Fabrics Performance Selection Guide

ISO 9001:2000 REGISTERED

Product No.	Polymer Type	% Solids (by Wt.)	Wt./Gal. (Lbs.)	Viscosity @25°C (CPS)	Properties
DURANE Basecoats					• DURANE Basecoats can be pigmented with 7633 DURANE series dispersions and are designed to be compatible with a broad range of DURANE Topcoats.
51087	Aromatic Polyester Thermoset	40	8.0	35000	• One component general purpose basecoat • Enhanced flow for tight knife settings • Good hydrostatic resistance
51144	Aromatic Polyester Thermoset	50	8.2	35000	• High solids one component basecoat • Enhanced flow for tight knife settings • Excellent hydrostatic resistance
52169	Aromatic Polyester Thermoset	50	8.5	25000	• One component high solids basecoat • Enhanced flow for tight knife settings • Useful as a stand alone coating
52295	Aromatic Polyester Thermoset	57	9.0	25000	• High solids basecoat for low demand applications • Cost effective • Enhances fabric integrity
DURANE Topcoats					• DURANE Topcoats can be pigmented with 7633 DURANE series dispersions and are designed to be compatible with a broad range of DURANE Basecoats.
51054	Aromatic Polyester Thermoset	42	8.1	8000	• Semi-gloss topcoat • Tapeable
51903	Aromatic Polyester Thermoset	40	7.9	6000	• High gloss topcoat • Soft • Non-tapeable
52060	Aromatic Polyester Thermoset	38	7.9	7000	• Multifunctional with superior abrasion properties • Firm, Non-tapeable • Useful as a one coat system
53000	Aliphatic Polyester Thermoset	42	8.2	7000	• Low gloss topcoat • Tapeable • Good hydrolytic stability
53001	Aliphatic Polyester Thermoset	40	8.1	7000	• Semi-gloss topcoat • Tapeable • Good hydrolytic stability
DURANE Laminating Adhesives					
9140	Aliphatic Polyether Thermoplastic	41	7.6	20000	• Two component soft adhesive • Designed to bond various films, fabrics and foils • Use with 10251 crosslinker
51558	Aromatic Polyether Thermoplastic	40	7.9	35000	• Two component soft adhesive • Excellent bond strength • Designed to bond various films, fabrics and foils • Excellent hydrolytic stability, heat and chemical resistance • Crosslink with 10298
51825	Aromatic Polyether Thermoplastic	40	7.6	35000	• Two component general purpose soft adhesive • Designed to bond various films, fabrics and foils • Crosslink with 10298
51885	Aromatic Polyether Thermoplastic	46	8.4	35000	• Two component, soft, fire retardant adhesive • Designed to bond various films, fabrics and foils • Crosslink with 10298
Color Dispersions					
DURANE Pigment Dispersions	N/A	N/A	N/A	N/A	• 7633 product line • Designed to complement DURANE Basecoats & Topcoats

SOLVENT-BORNE, POLYURETHANE COATINGS for SYNTHETIC FABRICS

Product No.	Polymer Type	% Solids (by Wt.)	Wt./Gal.	Viscosity @25°C (CPS)	Properties
DURANE Fire Retardant Basecoat					
51592	Aromatic Polyester Thermoset	53	8.8	30000	• Fire retardant basecoat for type 66 nylon • High Solids • Designed to be used with 52180 or 52350 topcoat
52014	Aromatic Polyester Thermoset	46	8.6	25000	• Fire retardant basecoat for type 6 or type 66 nylon • Designed to be used with 52180 or 52350 topcoat
52401	Aromatic Polyester Thermoset	46	8.6	25000	• Fire retardant basecoat for type 6 or type 66 nylon • Non-brominated formulation • Designed to be used with 52180 or 52350 topcoat
DURANE Fire Retardant Topcoat					
52180	Aliphatic Polyesther Thermoset	42	8.2	7000	• Low gloss fire retardant topcoat • Soft • Tapeable
52350	Aliphatic Polyether Thermoset	42	8.2	7000	• Semi-gloss fire retardant topcoat • Soft • Tapeable
52402	Aliphatic Polyether Thermoset	42	8.2	7000	• Low gloss, non-brominated fire retardant topcoat • Soft • Tapeable
COMFORTEX Basecoat					Basecoats can be pigmented with COMFORTEX Dispersions.
51977	Aromatic Polyester Thermoset	40	7.9	35000	• Cost effective breathable basecoat with balanced MVTs • Soft • Durable • Good hydrostatic resistance
51908	Aromatic Polyether Thermoset	40	7.8	25000	• Breathable basecoat with improved MVTs verses 51977 • Soft • Durable • Good hydrostatic resistance • Meets CRFD/PD99-04B PFU when used with 52160-D Topcoat
52394	Aliphatic Polyether Thermoset	40	7.6	30000	• Breathable basecoat with optimum MVT performance • Suitable for military and outerwear applications • Soft • Durable • Good hydrostatic resistance • Excellent hydrolytic stability • Use with COMFORTEX Topcoat 52346
COMFORTEX Topcoat					Topcoats can be pigmented with approved COMFORTEX Dispersion.
53002	Aliphatic Polyester Thermoset	31	7.6	7000	• Soft, breathable topcoat with balanced MVTs • Durable, good hydrostatic resistance • Use with COMFORTEX Basecoat 51977
52160-D	Aliphatic Polyester Thermoset	32	7.7	5000	• Soft, breathable topcoat with good MVTs • Durable, good hydrostatic resistance • Meets CRFD/PD99-04B PFU when used with 51908 Basecoat
52346	Aliphatic Polyester Thermoset	31	7.6	7000	• Breathable topcoat with optimum MVT performance • Suitable for military and outerwear applications • Soft, tapeable, durable and abrasion resistant • Good hydrostatic resistance • Excellent hydrolytic stability • Use with COMFORTEX Basecoat 52394
COMFORTEX Laminating Adhesive					
51850	Aromatic Polyether Thermo -plastic	40	7.7	35000	• Two component breathable adhesive • Excellent bond strength for film/fabric or fabric/fabric • Can be applied as a continuous or discontinuous coating • Crosslink with 10298
52282	Aromatic Polyether Thermo -plastic	37	7.6	11000	• Two component breathable adhesive • Superior bond strength for film/fabric or fabric/fabric • Can be applied as a continuous or discontinuous coating • Crosslink with 10298

AllCoat Technology
100 Eames Street, Wilmington, Massachusetts 01887
Phone: 978-988-0880 Fax: 978-658-3366 www.allcoattech.com

Coater's Corner - Helpful Hints

Observation	Adjustment*
Spitting- polymer build-up under knife that releases onto the fabric resulting in "white specks"	1. Adjust blade height. 2. Add a compatible, slow evaporating solvent to the coating.
Hazy or Frosty Appearance, Blisters	1. Adjust the oven temperatures. 2. Add a compatible, slow evaporating solvent to the coating.
Blocking	1. Increase oven temperatures. 2. If three coats are being application 2-head machine, apply first base, wind, and then coat base and top. 3. Add an additional amount of supplier recommended catalyst.
Strike-through	1. Reduce the line tension. 2. Adjust the angle of the blade moving it towards the oven. 3. Adjust the coating viscosity per supplier recommendation.
Intercoat Adhesion Difficulty	1. Lower the oven temperature. Coating may have started to cure. 2. Lower the line speed. 3. Introduce a supplier recommended, strong solvent to attack the first coat.
Excessive Tack	1. Adjust oven temperatures to optimize solvent evaporation.
Streaks	1. Adjust the line tension. Check the coating weight to monitor optimum application conditions. 2. Swipe the blade.
Slack	1. Adjust the line tension. Fabric slack may result in uneven coating weight.

*** Please consult AllCoat technical staff before making solvent or catalyst adjustments.**

Manufacturing Capabilities ISO 9001-2000

1. **Polymerization:**
   - Urethane
   - Acrylic and Vinyl Acrylic Polymers and Co-polymers
   - Solvent
   - Water
   - Aromatic and Aliphatic
2. **Dispersions:**
   - Ball Mill
   - Pebble Mill
   - Media Mill
   - High Speed
3. **Custom Compounding and Blending**
4. **Custom Color Matching**
5. **Contract Manufacturing and Packaging**

Markets Served

- **Aerospace**
- **Architectural**
- **Automotive**
- **Films, Tape and Labels**
- **Ink**
- **Industrial Coatings**
- **Marine**
- **OEM**
- **Packaging**
- **Paper Manufacturing**
- **Shoe & Footwear**
- **Textile**
- **Wall Coverings**
- **Military**
- **Pressure Sensitive Adhesives**

AllCoat TECHNOLOGY

Serving Customers Since 1923

100 Eames Street, Wilmington, Massachusetts 01887
Phone: 978-988-0880 • Fax: 978-658-3366
www.allcoattech.com • info@allcoattech.com
Technical Service: 978-988-0880 x337
Customer Service: 978-988-0880 x317