



COATING RESIN SELECTION GUIDE

A leader in specialty resins for coatings, adhesives, sealants and elastomers



At **Etna Tec Limited LLC**, we are committed to manufacturing and distributing high quality resins that meet and exceed our customers' needs. Our mission is to help our customers succeed by providing high-grade resins that impart unique and functional properties to their coatings.

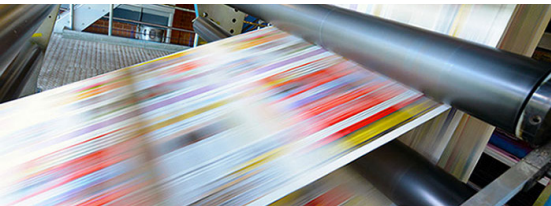
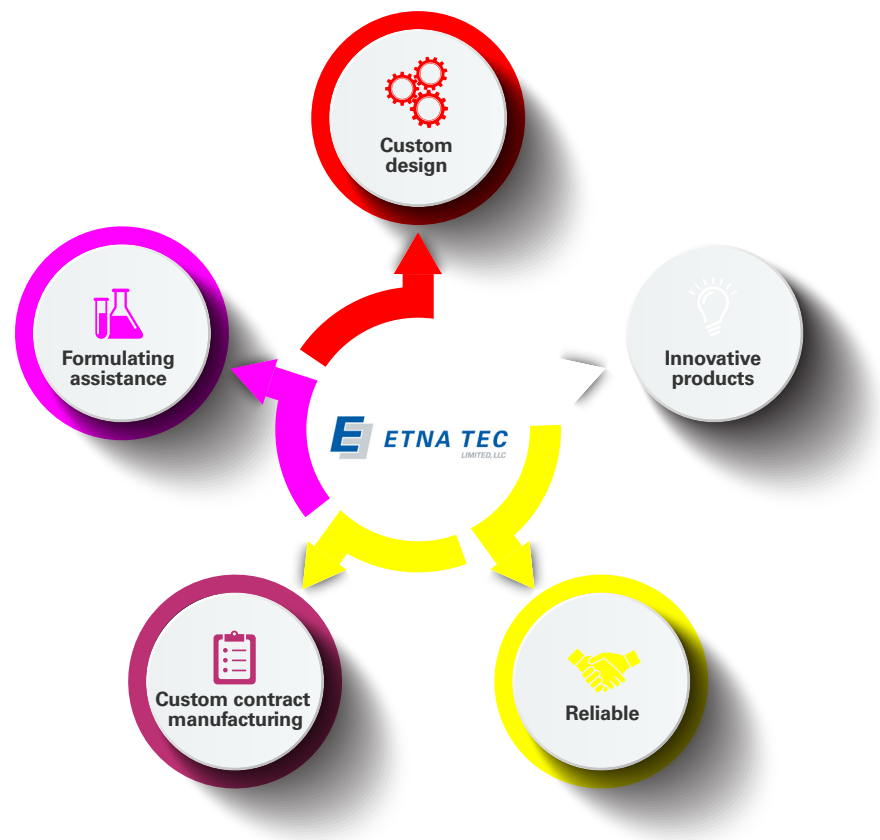


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A resin manufacturer providing solutions since 2001

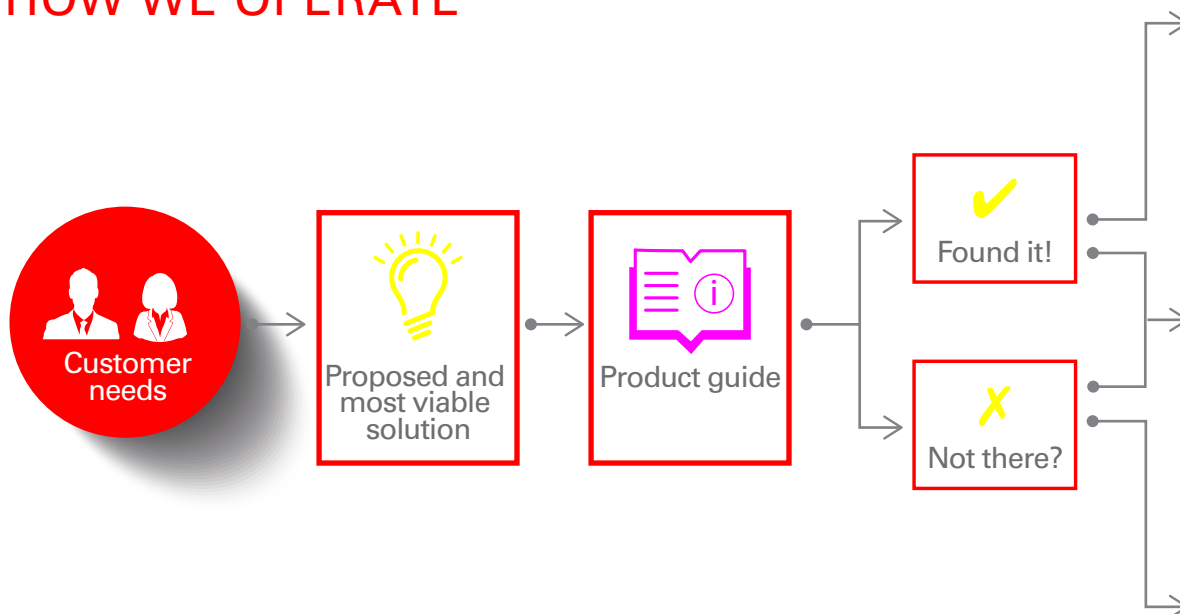
Capabilities

- Laboratory glassware: 500 milliliters to 4 liters
- Pilot plant: 10 gallon glass lined reactor
- Pilot plant: 20 gallon stainless steel reactor
- Scale up plant: 120 gallon stainless steel reactor
- Manufacturing plant: 1,000 and 3,000 gallon stainless steel reactors
- Custom synthesis capacity
- Custom contract manufacturing

Applications

- Additive manufacturing
- Aerospace coatings
- Anti-graffiti coatings
- Automotive refinish coatings
- Can and container coatings
- General industrial coatings
- Metal furniture and office equipment
- Polymer flooring
- Vinyl and leather coatings

HOW WE OPERATE



- Our **unique thermally curing multi-functional acrylate resins** accomplish a complete cure after baking in the presence of oxygen while achieving a tack free surface cure.
- Our **MFAs** are 100% Solids, VOC free, low viscosity and provides excellent finished coating properties.

Properties of our MFA products

| Part Description | % Non-Volatile | Viscosity (cps) | Color (Gardner) | Density (lbs./gal.) |
|------------------|----------------|-----------------|-----------------|---------------------|
| ✚ TEC 3065 | 100 | 70 to 110 | ≤ 1 | 8.68 - 8.90 |
| ✚ TEC 3350 | 100 | 80 - 120 | ≤ 1 | 8.93 – 9.18 |
| ✚ TEC 3570 | 100 | 230 - 330 | ≤ 1 | 9.15 - 9.35 |
| ✚ VOC free | | | | |



TEC 3065
 Unlike conventional UV cured formulations, this technology allows for the use of acrylates in a baking system, while achieving a tack free surface cure.

Product description

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| TEC 3065 | This low viscosity 100% solids Multi-functional Acrylate liquid can be used to formulate Zero VOC coatings that can be thermally cured in the presence of Oxygen. Additionally, TEC 3065 can be used as a reactive diluent to lower the VOC of Alkyd Melamine baking systems, Epoxy Urea baking systems, Acrylic Polyurethane baking systems and Polyester melamine baking systems. TEC 3065 lowers the VOC of these four types of baking systems and can enhance finished coating performance. |
| TEC 3350 | This low viscosity 100% solids Multi-functional Acrylate liquid is the same as TEC 3065 except that it is formulated with a sustainable Multi-Functional Acrylate. |
| TEC 3570 | This low viscosity 100% solids Multi-Functional Acrylate is a resin system that can be pigmented and formulated for Direct to Metal application. It is a zero VOC system as formulated and it can be used a thermal cure baking systems or used as a part of a dual cure formulation which is cured with UV light and heat. |

TEC 3570

Provides the advantages of high performance acrylates without the need of UV light.

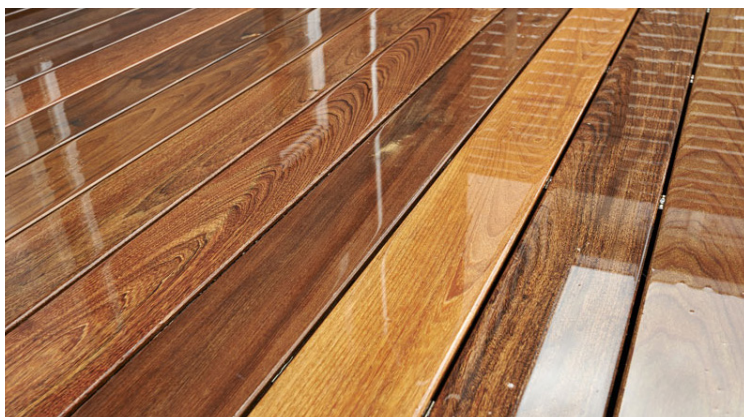


Fluorinated Resins

- At Etna Tec Ltd. LLC, we have developed techniques that allow the **synthesis of various fluorinated polymer resin systems** without the use of PFOS and PFOA.
- Our **technology is applicable to all thermoset resin systems**, such as polyaspartics, epoxies, polyurethanes and polyesters.

Properties of our Fluorinated resins

| Part description | % Non-Volatile | Viscosity (cps) | G-H Viscosity | Hydroxyl Equiv. Wt. (Neat) | Hydroxyl No. (Neat) | Acid No. | Color (Gardner) | Density (lbs./gal.) | Solvent |
|------------------|----------------|-----------------|---------------|----------------------------|---------------------|------------|-----------------|---------------------|---------|
| TEC 3296-F | 69 ± 3 | | Z5 – Z7 | | 170–190* | ≤ 3* | ≤ 2 | 9.35–9.55 | PMA |
| TEC 33100-F | 69 ± 3 | | Z3 – Z6 | | 170–200* | ≤ 3.5* | ≤ 2 | 9.35–9.55 | PMA |
| TEC 3267-F | 66 ± 3 | | Z3 | 1753 | 32 | < 10 | ≤ 2 | 9.45 | PMA |
| TEC 3341-F | 78 ± 3 | | Z1 – Z4 | 264 | 212 | 5.0 – 10.0 | < 1 | 9.15–9.35 | PMA |
| TEC 3330-F | 37 ± 3 | 5.0–25.0 | | 120 | 110–130 | 38 – 43 | | 8.85–8.95 | Water |
| TEC 3497-F | 37 ± 3 | 5.0–25.0 | | 120 | 110–130 | 38– 43 | | 8.85–8.95 | Water |



Product description

- TEC 3296-F** This is an oil-free saturated polyester supplied in PM Acetate. The resin is modified with fluorinated side chains, which are bonded directly onto the polymer backbone. It may be used alone or as a co-reactant in polyisocyanate two-component polyurethane coatings. Finished coatings formulated with TEC 3296-F can be used to formulate anti-graffiti coatings and smart coatings. Coatings formulated with 3296-F exhibit good UV light stability and weathering, as well as superior chemical and abrasion resistance. Coatings formulated with TEC 3296-F can be used on metal, concrete, wood, plastics and paper. One primary application is formulating 2K rail car interior and exterior coatings.
- TEC 33100-F** This is an oil-free saturated polyester supplied in PM Acetate. The resin is modified with fluorinated side chains, which are bonded directly onto the polymer backbone. This product offers improved UV light stability over TEC 3296-F and is slightly more flexible. It may be used alone or as a co-reactant in polyisocyanate two-component polyurethane coatings. Finished coatings formulated with TEC 33100-F are used to formulate anti-graffiti coatings and smart coatings. Coatings formulated with TEC 33100-F exhibit excellent UV resistance and increased weatherability, as well as superior chemical and abrasion resistance. Coatings formulated with TEC 33100-F can be used on metal, concrete, wood, plastics and paper. One primary application is formulating coatings that are self cleaning such exterior bulk tank coatings.
- TEC 3267-F** This is a fluorinated version of a coil coating resin. The resin is supplied in PM Acetate and is modified with fluorinated side chains, which are bonded directly onto the polymer backbone. The fluorinated resin is used in coil coating applications where self-cleaning of the final coating is important. It is also used as a co-reactant in polyisocyanate two-component polyurethane coatings. TEC 3267-F is used to formulate anti-graffiti coatings and smart coatings. Coatings formulated with TEC 3267-F exhibit excellent flexibility and formability, good UV light stability and weathering, as well as superior chemical and abrasion resistance. Coatings formulated with TEC 3267-F can be used on metal, concrete, wood, plastics and paper.
- TEC 3341-F** This is a fluorinated version of a high solids polyester resin designed to provide excellent adhesion to a variety of different plastic as well as metal substrates. TEC 3341-F is reduced in PM Acetate. It has excellent optical clarity compared to conventional fluorinated resins which are normally cloudy. It offers a good hardness/flexibility ratio combined with a low temperature cure response. It can be cross linked with melamines, glycolurils or isocyanates.
- TEC 3330-F** This is a fluorinated polyester that is neutralized with DMEA and supplied as a dispersion in water. TEC 3330-F is used in 2K cured coatings where good light stability and weatherability combined with good chemical, impact and abrasion resistance is required. It can also be crosslinked with melamines and used in baking applications. This resin is used in the formulation of high hardness self-cleaning and anti-graffiti coatings. It is used to formulate coating used on metal, concrete and plastics.
- TEC 3497-F** This is a fluorinated polyester that is neutralized with DMEA and supplied as a dispersion in water. It offers increased flexibility, when compared to TEC 3330-F. It is used as a co-reactant with isocyanates in 2K coatings. It can also be used in melamine cross linked baking systems. Coatings formulated with this resin have good light stability and weatherability coupled with good chemical and abrasion resistance.

Saturated Polyester Polyols

- The following list of resins are **manufactured with raw materials** which comply with FDA 175.300.
- These resins can be used to manufacture **FDA approvable coatings** which may come in contact with food.*

Properties of our FDA compliant saturated polyester resins

| Part description | % Non-Volatile | G-H Viscosity | Hydroxyl Equiv. Wt. (Neat) | Hydroxyl No. (Neat) | Acid No. | Color (Gardner) | Density (lbs./gal.) | Solvent |
|------------------|----------------|---------------|----------------------------|---------------------|----------|-----------------|---------------------|------------------|
| SCD 1066 | 65 ± 3 | Z5 | 1753 | 32 | < 10.0 | < 2 | 9.1 | A150 |
| TEC 3735 | 65 ± 3 | Z3 | 1753 | 32 | < 10.0 | < 2 | 9.45 | PMA |
| SCD 14786 | 85 ± 3 | Z7 | 779 | 72 | 45 | 4 | 9.7 | EEP |
| SCD 1040 | 100 | Z5- | 204 | 275 | 3 | < 1 | 9.6 | None |
| SCD 1041 | 100 | Z6 | 197 | 285 | 3.5 | < 1 | 9.65 | None |
| SCD 6150BC | 85 ± 3 | Z7 | 231 | 243 | 45 | < 1 | 10.5 | Butyl Cellosolve |



*Since we do not manufacture the coating, final approval rests with the coating manufacturer.

Product description

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|------------|---|
| SCD 1066 | An extremely flexible polyester coil coating resin with excellent cure response and weatherability. This resin has excellent drawing properties and meets FDA 175.300. This resin exhibits excellent humidity and water resistance. It can be crosslinked with melamines, glycolurils, benzoguanamines and urethane prepolymers. |
| TEC 3735 | This contains the same base resin as SCD 1066, except that it is supplied in PM Acetate, in place of 150 solvent. |
| SCD 14786 | This is an oil-free saturated polyester resin supplied in EEP solvent. It is a high solids resin with additional carboxyl functionality designed to provide a combination of hardness, flexibility and adhesion. It is used to formulate low VOC coatings for metal deco, exterior container and aluminum extrusion coatings. It has also been used to formulate heat set inks used in the container industry. |
| SCD 1040 | A cost effective solvent free polyester designed to modify the polyol portion of high solids 2 component automotive refinish urethanes. Improves adhesion, flow, levelling and VOC reduction. Can also be used as a vehicle in melamine crosslinked baking systems. |
| SCD 1041 | This is a solvent free saturated polyester resin. It is used to modify two component polyurethane coatings to improve acid resistance, adhesion, flow, leveling and VOC reduction. SCD 1041 is a versatile product that can also be used to formulate melamine crosslinking baking coatings. |
| SCD 6150BC | This is a versatile oil-free polyester that is water dispersible, or can be used in solvent-based systems. It is an excellent resin for direct-to-metal container deep draw applications, such as dome lids. It also finds use in overprint varnish applications on aluminum cans. It exhibits excellent uncatalyzed cure response and hardness, when used as a primary vehicle in melamine-crosslinked baking systems. It is also used to modify coil coatings to improve gloss, mar and corrosion resistance and flexibility. SCD 6150BC meets FDA 175.300 and is HAPS free. It is supplied at high solids in Butyl Cellosolve. |

Saturated Polyesters

Properties of our saturated polyester polyol resins

| Part description | % Non-Volatile | Viscosity (cps) | G-H Viscosity | Hydroxyl Equiv. Wt. (Neat) | Hydroxyl No. (Neat) | Acid No. | Color (Gardner) | Density (lbs./gal.) | Solvent |
|------------------|----------------|-----------------|---------------|----------------------------|---------------------|----------|-----------------|---------------------|---------------------|
| SCD 1043 | 92 ± 3 | | Z6 | 597 | 94 | 4.5 | < 1 | 9.3 | EEP |
| SCD 1091 | 79 ± 3 | | Z3+ | 292 | 192 | 6 | < 1 | 9.05 | Xylene |
| SCD 1090 | 85 ± 3 | | Z5- | 401 | 140 | 6 | 1 | 8.81 | Xylene |
| TEC 3818 | 73 ± 3 | | Z4 | 764 | 73 | < 8 | < 1 | 9.42 | PMA |
| SCD 2704 | 80 ± 1 | 5,700 | Z3 | 510 | 110 | 47 | < 1 | 9.56 | Butyl Cellosolve |



Product description

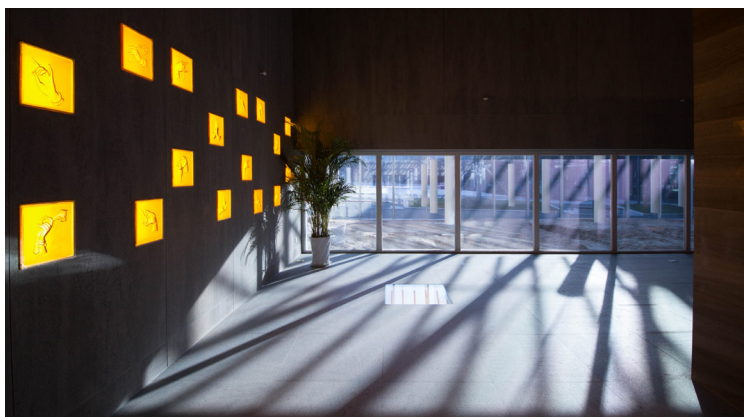
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|----------|--|
| SCD 1043 | This is a saturated polyester resin reduced in EEP, making it HAPs free. It is used to modify the polyol portion of high solids two component polyurethanes. The resin improves the adhesion, flow, leveling and VOC. As an added bonus the resin has a lower hydroxyl content which allows the use of less isocyanate in the final coating formulation. SCD 1043 has been used on coatings for truck trailers. |
| SCD 1091 | This high solids polyester was designed specifically to provide excellent adhesion to a variety of plastic and metal substrates. It also exhibits excellent low temperature cure response along with maintaining a good hardness and flexibility ratio. SCD 1091 is a primary vehicle for a variety of high solids baking finishes when crosslinked with conventional melamines. It is also used as both a primary polyol and modifier in 2K urethane systems. |
| SCD 1090 | This is an oil-free saturated polyester resin supplied in xylene. It has excellent pigment wetting and dispersing capabilities. Paints produced from SCD 1090 exhibit good corrosion and chemical resistance. SCD 1090 also provides good flow and leveling. Besides use as a grinding vehicle, SCD 1090 can be used as a primary vehicle in melamine crosslinked baking systems. |
| TEC 3818 | This is a hybrid oil-free polyester designed for use in coil coating applications. It is extremely flexible and has excellent elongation for drawing and post forming. This hybrid has enhanced chemical resistance and hardness. It can be used to make alkyd baking systems and 2K polyurethane coatings more flexible. |
| SCD 2704 | This is a flexible coil coating resin designed to increase flexibility of metal deco and coil coatings. It can be cross linked with melamines, glycolurils, benzoguanamines and urethanes. It is reduced in Butyl Cellosolve. |

Saturated Polyesters

Properties of our saturated polyester polyol resins

| Part description | % Non-Volatile | Viscosity (cps) | G-H Viscosity | Hydroxyl Equiv. Wt. (Neat) | Hydroxyl No. (Neat) | Acid No. | Color (Gardner) | Density (lbs./gal.) | Solvent |
|------------------|----------------|-----------------|---------------|----------------------------|---------------------|----------|-----------------|---------------------|------------------|
| TEC 2230 | 65 ± 3 | 10,000 - 20,000 | | 325* | 155 - 190* | ≤ 3* | ≤ 2 | 9.5 | PMA:Xylene (6:1) |
| TEC 2536 | 65 ± 3 | 7,000 - 15,000 | | 330* | 160 - 180* | ≤ 3* | ≤ 2 | 9.2 | PMA:Xylene (6:1) |
| TEC 3116 | 75 ± 3 | 3,000 - 11,000 | | 515* | 90 - 125* | ≤ 9.0* | ≤ 3 | 9.3 | PMA |

*As Supplied



Product description

| | |
|----------|---|
| TEC 2230 | This is an oil-free saturated polyester supplied in a 6:1 blend of PM Acetate and xylene. The resin is used as a co-reactant in polyisocyanate two-component polyurethane coatings. The finished coating formulated with TEC 2230 is used where light stability and weathering as well as good chemical and abrasion resistance is required. Finished coatings can be used on metal, concrete, wood, plastics and paper. |
| TEC 2536 | This is an oil-free saturated polyester supplied in a 6:1 blend of PM Acetate and xylene. The resin is used as a co-reactant in polyisocyanate two-component polyurethane coatings. Finished coatings formulated with TEC 2536 exhibit good light stability and weathering as well as superior chemical and abrasion resistance. Coatings formulated with TEC 2536 pass a thirty day soak in SKYDROL® aerospace hydraulic fluid. Finished coatings formulated with TEC 2536 can be used on metal, concrete, wood, plastics and paper. |
| TEC 3116 | This is an oil-free saturated polyester resin supplied in PM Acetate. The resin is used to improve the weatherability and flexibility of two component polyisocyanate coatings. Beyond improving weathering, TEC 3116 improves corrosion resistance, toughness and abrasion resistance. Coatings formulated with TEC 3116 can be used on metal, concrete, wood, plastic and paper substrates. |

100% Solids, Low Viscosity Polyester Diols

- Our aliphatic polyester diols are designed to be used as **modifier resins to improve flexibility** while maintaining hardness.
- These diols are also useful as reactive diluents to **reduce the viscosity of industrial coatings** without adding VOC.

Properties 100% Solids, Low Viscosity Polyester Diols

| Part description | % Non-Volatile | Viscosity (cps) | G-H Viscosity | Hydroxyl Equiv. Wt. (Neat) | Hydroxyl No. (Neat) | Acid No. | Color (Gardner) | Density (lbs./gal.) | Solvent |
|------------------|----------------|-----------------|---------------|----------------------------|---------------------|----------|-----------------|---------------------|---------|
| TEC 3666 | 100 | 700-900 | | 212 - 220 | 255 - 265 | ≤ 1 | ≤ 1 | 8.90-9.00 | None |

Product description

TEC 3666 This is a low viscosity 100% solids liquid polyester diol, designed to be a resin modifier. TEC 3666 imparts excellent exterior durability, a good balance of hardness and flexibility and stain resistance to melamine baking systems and two-component urethane cross linked systems. TEC 3666 allows the formulator to reduce the VOC of solvent based coatings, while enhancing coating performance, due to its low viscosity.



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