

Clearlink®, Unilink® and Tyzor® Crosslinkers and Chain Extenders for Coatings

Product Guide



ABOUT DORF KETAL

Dorf Ketal Speciality Catalysts is a market leader in crosslinker and chain extender technologies.

Our amine technologies are superior choices for polyurea and polyurethane coatings and elastomers. And Dorf Ketal titanate and zirconate organometallics are ideal for use as inorganic co-binders in anti-corrosion coatings or crosslinkers in paints, and for forming micro- or nano-scale TiO₂ pigments, acting as surface treatment improvers or producing metal oxide systems.

Dorf Ketal's broad product line of titanate and zirconate organometallics and amine chain extenders has generated measureable customer value in the global CASE market for more than three decades and we continue to improve the performance of our customers' products and synthesize new polymer resins today.

PRODUCT	DESCRIPTION	APPLICATION NOTES
Clearlink® 1000	Aliphatic diamine chain extender for use with aliphatic isocyanates in polyurethane and polyurea	• Produces tough, UV light-stable polyurethane and polyurea coatings with improved strength and heat resistance • Can be applied using conventional spray techniques
Clearlink® 1080	Aliphatic diamine chain extender for use with aliphatic isocyanates in polyurethane and polyurea	• Produces durable, UV light-stable polyurethane and polyurea coatings with improved strength and heat resistance • Low moisture sensitivity, slower reactivity and compatibility with a wide range of polyols, co-curatives and other polyurethane chemicals • Can be applied using conventional spray techniques
Unilink® 1000 series	Zirconium-based polyurethane catalysts for filled and unfilled cast elastomers	• Delivers a fast cure profile, similar to tin, to maximize mold productivity in cast elastomers • Suitable for use with aliphatic and aromatic isocyanates and all polyols • Unilink 1030 is suitable for color-critical formulations
Unilink® 2000 series	Titanium-based polyurethane catalysts for filled and unfilled elastomers and coatings	• Slower, delayed cure profile with a snap final cure, similar to mercury, wide formulating window and tailored polyurethane properties • Suitable for use with a wide variety of isocyanates and primary polyols • Moisture-tolerant and excellent storage stability in polyols
Unilink® 4200, 4230 and 4100	Aromatic diamine chain extender for foams and elastomeric coatings	• Improved compressive strength, tensile, tear, dimensional stability and load-bearing properties in standard TDI slab-stock foam and high-resilience foam systems • Reduces foam density and softens cold-molded foam • Improves mold flow and reduces mold time • Cures TDI and MDI coating compounds at ambient temperatures. • Can be applied by spray or pour-and-spread techniques • Low viscosity improves handling, surface wetting, adhesion and finish



PRODUCT	DESCRIPTION	APPLICATION NOTES
Tyzor® 217	Water-based zirconium chelate	• Crosslinking agent for carbohydrates such as -OH or -COOH groups and functionalized polymers such as polyvinyl alcohol • Surface modifier and adhesion promoter for enhancing paper, glass, metal, pigments and other materials having oxidized surfaces
Tyzor® 9000	Reactive organic alkoxy titanate	• A binder and crosslinker for -OH or -COOH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance
Tyzor® AA Products – AA-65 – AA-75 – AA-105	Liquid titanium chelates with acetylacetonate as the chelating agent	• An adhesion promoter or a crosslinker for -OH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, enhance resistance to scratches and corrosion, add coloring effects, improve heat and light reflection and add iridescence • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic (e.g. sol-gel) processes
Tyzor® BTP	Polymeric butyl titanate	• Promotes adhesion as an inorganic binder by itself or in combination with other metal oxides in mineral-filled systems that are resistant to high temperatures • Crosslinks functional polymers or binders containing -OH, -COOH and similar functional groups to promote adhesion • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic (e.g. sol-gel) processes
Tyzor® CLA	Titanate with triethanolamine and acetyl acetone	• Acts as an adhesion promoter on functionalized surfaces • An effective crosslinker of carbohydrate-coated latex particles in highly viscous thixotropic paints • An excellent cross linker for the binders in acrylics and other water-borne paints
Tyzor® EHTAA (Tyzor® XL-100)	Titanium chelate with acetylacetonate	• Cross-links functional polymers or binders, promotes adhesion, and can serve as binder itself • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic processes
Tyzor® ET	Tetra ethyl titanate	• Cross-links polymers containing functional groups such as - OH or -COOH • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic processes • Total or partial hydrolysis in sol-gel applications, typically in combination with other metal alkoxides, and produces metal oxide systems for use as binders or coatings



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Tyzor® GBA	Specialty grade of titanium chelates	• Cross-links functional polymers or binders, promotes adhesion, and acts as binder itself • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance
Tyzor® LA	Water-based titanium chelate with lactic acid	• Cross-links binders in -OH functional water-borne paints • Forms a polymeric titanium dioxide layer in binders or coatings on various substrates to improve adhesion, increase surface hardness, enhance heat and light reflectivity, or improve corrosion resistance or scratch resistance
Tyzor® NBZ	Tetra n-butyl zirconate, an organic alkoxy zirconate	• Cross-links functional polymers or binders and promotes adhesion • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance
Tyzor® NPZ	Tetra-n-propyl zirconate, an organic alkoxy zirconate	• Forms micro- or nano-scale ZrO₂ pigments and can also be used in pyrolytic or hydrolytic processes to create polymeric ZrO₂ surface films • Total or partial hydrolysis in sol-gel processes with other metal alkoxides creates metal oxide systems for use in binders or coatings
Tyzor® OGT	Reactive organic alkoxy titanate	• A binder that can also be used as an adhesion promoter or cross-linker for -OH or -COOH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Total or partial hydrolysis in sol-gel applications, typically in combination with other metal alkoxides, produces metal oxide systems for use as binders or coatings
Tyzor® TE	Bis-triethanolamine titanium complex	• Crosslinker of carbohydrate-coated latex particles in highly viscous thixotropic paints • Crosslinker for the pigments and binders in acrylics and other water-borne paints • Acts as an adhesion promoter on functionalized surfaces.
Tyzor® TEAZ	Triethanolamine zirconium complex	• Acts as an adhesion promoter on -OH functionalized surfaces • Crosslinker of carbohydrate-coated latex particles in highly viscous thixotropic paints and binders in acrylics and other water-borne paints.
Tyzor® TnBT	Tetra-n-butyl titanate, a highly reactive organic alkoxy titanate	• A binder and adhesion promoter or crosslinker for -OH or -COOH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic processes • Total or partial hydrolysis in sol-gel applications, typically in combination with other metal alkoxides, produces metal oxide systems for use as binders or coatings
Tyzor® TOT	Reactive liquid organic alkoxy titanate	• A binder and adhesion promoter or crosslinker for -OH or -COOH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic processes • Total or partial hydrolysis in sol-gel applications, typically in combination with other metal alkoxides, produces metal oxide systems for use as binders or coatings



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Tyzor® TPT	Tetra-isopropyl titanate, a highly reactive organic alkoxy titanate	• A binder and adhesion promoter or crosslinker for –OH or –COOH functional polymers and other binders in paints • Acts as a surface treatment to increase surface hardness, promote adhesion, add coloring effects and iridescence, reflect heat and light, and improve corrosion resistance • Forms micro- or nano-scale TiO₂ pigments and can be used to create polymeric TiO₂ surface films using pyrolytic or hydrolytic processes • Total or partial hydrolysis in sol-gel applications, typically in combination with other metal alkoxides, produces metal oxide systems for use as binders or coatings
SR 1008	Specialty acrylamide monomer	• Crosslinker for polymer resins, typically acrylics. The primary polymer properties imparted include improved water and solvent resistance, improved adhesion, improved tensile strength, and flexibility.

