Tyzor® Frac Fluid Crosslinkers
Product Guide

ABOUT DORF KETAL

Dorf Ketal is a global supplier of oilfield industry chemicals and crosslinkers and the world's largest supplier of zirconate catalyst chemistry for hydraulic fracturing.

Our crosslinkers have been key components in hydraulic fracturing fluids for more than 25 years. Recent innovations include 100% powder systems, high-performance custom formulations and other unique chemistries for demanding stimulation requirements.

Tyzor® Organometallic Crosslinkers are manufactured exclusively by Dorf Ketal.

PRODUCT	DESCRIPTION	APPLICATION NOTES
Tyzor® 209	Water-based titanium triethanolamine-free chelated crosslinker for hydroxypropyl guar at up to 135 °C (275 °F).	Initiates crosslinking after 30 seconds at approximately 27 °C (80 °F) in pH 7 HPG-based fluids.
Tyzor® 210	Triethanolamine zirconium complex crosslinker for guar and derivatives at up to 162.8 °C (325 °F).	Initiates crosslinking after 7 minutes at approximately 55 °C (130 °F) in pH 8.5-10 CMHPG-based fluids.
Tyzor® 211	Triethanolamine titanium complex crosslinker for natural and hydroxypropyl guar at up to 135 °C (275 °F).	Initiates crosslinking after 30 seconds at approximately 27 °C (80 °F) in pH 7 HPG-based fluids and natural guar.
Tyzor® 212	Zirconium chelate triethanolamine-free delayed crosslinker in alcohol for derivatized guar. Forms high-viscosity aqueous gels at up to 162.8 °C (325 °F).	Initiates crosslinking after 4 minutes at approximately 49 °C (120 °F) in pH 8.5-10 CMHPG-based fluids. Also effective in low-pH (4-5) applications at up to 93.3 °C (200 °F).
Tyzor® 215	Zirconium chelate delayed crosslinker in mixed alcohol solution for derivatized guar. Forms high-viscosity aqueous gels at up to 148.9 °C (300 °F).	Initiates crosslinking after 7 minutes at approximately 55 °C (130 °F) in pH 8.5-10 CMHPG-based fluids. Also effective in low-pH (4-5) applications at up to 93.3 °C (200 °F).
Tyzor® 223	Zirconium chelate crosslinker for derivatized guar in low pH fluids at up to 143.3 °C (290 °F).	Initiates crosslinking in < 30 seconds at approximately 27 °C (80 °F) in pH 4-5 CMHPG-based fluids.
Tyzor® 227	Water-based zirconium chelate delayed crosslinker for derivatized guar. Forms high-viscosity gels at up to 121.1 °C (250 °F)	Initiates crosslinking after 3 minutes at approximately 27 °C (80 °F) in pH 8.5-10 CMHPG-based fluids.

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