ORGANİK KİMYA

Redispersible Powder Polymers &
Polymer Emulsions & Specialty Chemicals

Construction Solutions

Company Profile

Starting its journey in 1924 as a chemicals trader, today, with over 90 years of experience in the chemicals industry, we have been providing solutions to a variety of markets and applications utilizing different technologies. Our manufacturing and service locations enable us to serve our customers all around the world.

We have been employing the power of science and customer intimacy since our humble beginnings and we started our polymer emulsions production in 1965 with this notion. Besides our Istanbul polymer emulsions plant with 120,000 tpa production capacity, we invested in a new plant with an 80,000 tpa production capacity in Rotterdam in 2007. With our perpetual ambition to grow our business, we increased our production capacity over 30 times in the past 30 years to reach 200,000 tpa. Serving more than 2,000 customers in over 80 countries, Orgal® is the brand that customers know and trust when it comes to polymer emulsions.

Leveraging our expertise in liquid polymer emulsions, Organik Redispersible Powders, ORP®, was established in 2011 with a diverse range of products in powder form to address the needs of the construction chemicals industry. Our redispersible powder polymer plant with 20,000 metric tons of production capacity was built in Tuzla, Istanbul to fulfill this mission.

Our Tuzla plant investment also includes hot melt production with a capacity of 12,000 metric tons to serve the industrial adhesives market.

Organik Kimya's customers enjoy valuable solutions for a variety of applications in 6 different business units:

- Coating Solutions
- Construction Solutions
- Textile & Leather Performance Solutions
- Pressure Sensitive Adhesives & Paper Solutions
- Industrial Adhesives Solutions
- Life Sciences & Material Solutions

With its focus on customer collaboration and service, dedication to innovation and technology while caring for the environment, Organik Kimya relentlessly works to add value to its customers.

What we have accomplished so far is only a glimpse of what we will accomplish in the future.

Innovation promotes sustainability

The world is changing.
We know that our products rely on an increasingly constrained set of natural resources, whether these are crude oil derivatives or other raw materials. Therefore, we have based our sustainability strategy on a few different principles as part of our corporate culture and management systems. To lead in the creation of a green future by integrating business with a vision of sustainability that covers the entire product life cycle is our commitment to the environment and to future generations.

Organik Kimya's Green Future Vision focuses on the active promotion of sustainable development across the entire supply chain.

For further information, please visit www.organikkimya.com

Environmental **Awareness**

Innovative Solutions

Energy **Optimization**

Waste **Management**

Water Based Solutions

Social **Responsibility**

Construction Solutions

In the ever changing and demanding construction market, innovative solutions, product quality and fast delivery to the market have been integral to respond to the market needs. Organik Kimya, supplying polymer emulsions to various markets since 1965, established a dedicated "Construction Solutions" business unit to better answer the needs of this industry. With its dedicated Research & Development, Sales, Marketing and Technical Solutions Teams, Organik Kimya's Construction Solutions Business Unit understands and delivers customer expectations.

The dedicated Research & Development and Commercial Teams have also been crowned with the inauguration of redispersible powder polymer plant. Today, Organik Kimya Construction Solutions Business Unit supplies the market with polymer emulsions, redispersible powder polymers and specialty additives.

Polymer Emulsions

Offering a wide array of styrene, vinyl acetate and acrylic chemical compositions, Organik Kimya Construction Solutions offers innovative solutions with various polymerization technologies for the cementitious and dispersion based construction chemicals markets.

Redispersible Powder Polymers

Construction Solutions provides solutions in carbon rich monomer combinations of vinyl versatate and acrylics that highlight properties such as water resistance, saponification resistance and flexibility.

Specialty Additives

Acrylic associative and non-associative rheology modifiers specifically are designed for fullfilling different application rheology requirements of different markets. Dispersion agents, both ammonia or sodium based salts, are able to work with different dispersing systems and chemistries. Rheology modifiers and dispersion agents are used in both dispersion based and liquid components of 2K Cementitious Systems.

Technical Solution Partnership Approach

Construction Solutions has dedicated synthesis and application laboratories within Organik Kimya's Research & Development Center. With state of the art equipment, Construction Solutions Laboratories are able to performe all application and analysis tests in accordance with the regional and international standards. Customer intimacy and solving customer needs is of utmost importance to Construction Solutions; therefore, joint projects and testing for customers at the laboratories are executed with much diligence.

Polymer Emulsions Application Areas

	2K Cementitious Waterproofing Mortars	Cement Modifiers	Curing Membrane & Concrete Sealers	Sealants	Dispersion Based Tile Adhesives	Elastomeric Waterproofing Membranes	Smooth Surface Contact Primers
Orgal® Hydroflex 10	★★	★★★★					
Orgal® Hydroflex 57	★★★★	★★		★★★★		★★	
Orgal® K 640 R	★★★★	★★		★★★★		★★	
Orgal® K 640 N	★★★★	★★		★★★★		★★	
Orgal® K 635 N	★★★★	★		★★★★		★★★	
Orgal® Tibonder D2				★	★★★★		
Orgal® Tibonder D2 V				★★	★★★★		
Orgal® PST 65				★★★★		★★★	
Orgal® Rooflex S6				★★★★	★★	★★★★	
Orgal® Rooflex 35	★			★★★★		★★★★	
Orgal® 803 CM	★	★★★★					
Orgal® 900 CM	★★★	★★★★					
Orgal® 50 CM	★	★★★★	★		★★★		★★
Orgal® 530 CM		★★★★	★★				
Orgal® PST 5010	★	★★★		★★★★	★★	★	
Orgal® Multiflex S5		★★	★	★★★★	★★★	★★	★★★★
Orgal® Betoprime S4			★★				★★★★
Orgal® K 6970	★	★		★★★★	★	★★	
Orgal® K 6987			★★★★				★★
Orgal® PR 667			★★★★				
Orgal® PR 670			★★★★				
Orgal® PR 056	★	★	★	★★	★★★	★★	★★★
Orgal® PST 50 A			★★	★	★★★		★★★

★★★★ Excellent ★★★ Very Good ★★ Good ★ Suitable

Redispersible Powders
Application Areas

	Tile Adhesives	Flexible Tile Adhesives	Tile Grouts	ETICS Adhesives	ETICS Base Coat	Decorative Renders & Plasters	Flooring Mortars	Repair Mortars	Gypsum Based Skim Coats & Joint Fillers	Cementitious Waterproofing Mortars
ORP® 5070 MP	★★★★	★★★★	★★★	★★★	★★	★★★	★★	★★★★	★★★★	★★
ORP® 6072 MP	★★★★	★★★★	★★★	★★	★★	★★	★★	★★★★	★★★★	★★
ORP® 7085 HM	★★★	★★★	★★	★★	★★	★★		★★★	★★★★	★
ORP® 7099 RD	★★★	★★	★★	★	★	★		★★	★★★★	
ORP® Hydroflex 64	★★★	★★★★	★★★★	★★★★	★★★★	★★★★		★★★★	★★★	★★★★
ORP® 7365 HP	★★★	★★★	★★★★	★★★★	★★★★	★★★★		★	★★★	★★★★
ORP® 5377 HP	★★★	★★★	★★★★	★★	★	★★★★	★★	★★★★	★★	★★★
ORP® Thermobond 45				★★★★	★★★★	★★★★		★★★	★★★	
ORP® Thermobond 74	★★★	★★★★	★★★	★★★★	★★★★	★★★		★★	★★★	★★★
ORP® 7044 ES	★★★	★★★★	★★★	★★★★	★★★★	★★★		★	★★★	★★★
ORP® Thermobond 65	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★★	★★★	★★★
ORP® Flowbond 58							★★★★	★★★★		
ORP® 7680 SL			★★★				★★★★	★★★★		
ORP® 7082 WP	★★★	★★	★	★	★	★★	★		★★★	

★★★★ Excellent ★★★ Very Good ★★ Good ★ Suitable

Tiling Systems

Cementitious Tile Adhesives | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Adhesion After Heat Aging	Adhesion After Water Immersion	Transverse Deformation
ORP® 5070 MP	VA / VV	8	Excellent	Excellent	Excellent
ORP® 6072 MP	VA / VV / AC	8	Excellent	Excellent	Excellent
ORP® Thermobond 65	VA / VV / AC	0	High	High	High
ORP® 7085 HM	VA / AC	7	High	High	High
ORP® 7099 RD	VA / AC	5	High	Medium	Medium

Features & Benefits

Specifically designed powder polymers are able to provide high adhesion values by their hard and water resistant natures. They are also flexible due to their branched molecular structures.

Dispersion Based Tile Adhesives | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)
Orgal® Tibonder D2 V	S / AC	50	7.5 - 9.0	1000	0	6
Orgal® Tibonder D2	S / AC	50	7.5 - 9.0	1000	24	24
Orgal® PST 50 A	S / AC	50	7.5 - 9.0	11000	20	20

	Workability	Adhesion After Heat Aging	Adhesion After Water Immersion
Orgal® Tibonder D2 V	Excellent	Excellent	Excellent
Orgal® Tibonder D2	Excellent	Excellent	Excellent
Orgal® PST 50 A	Excellent	Excellent	Medium

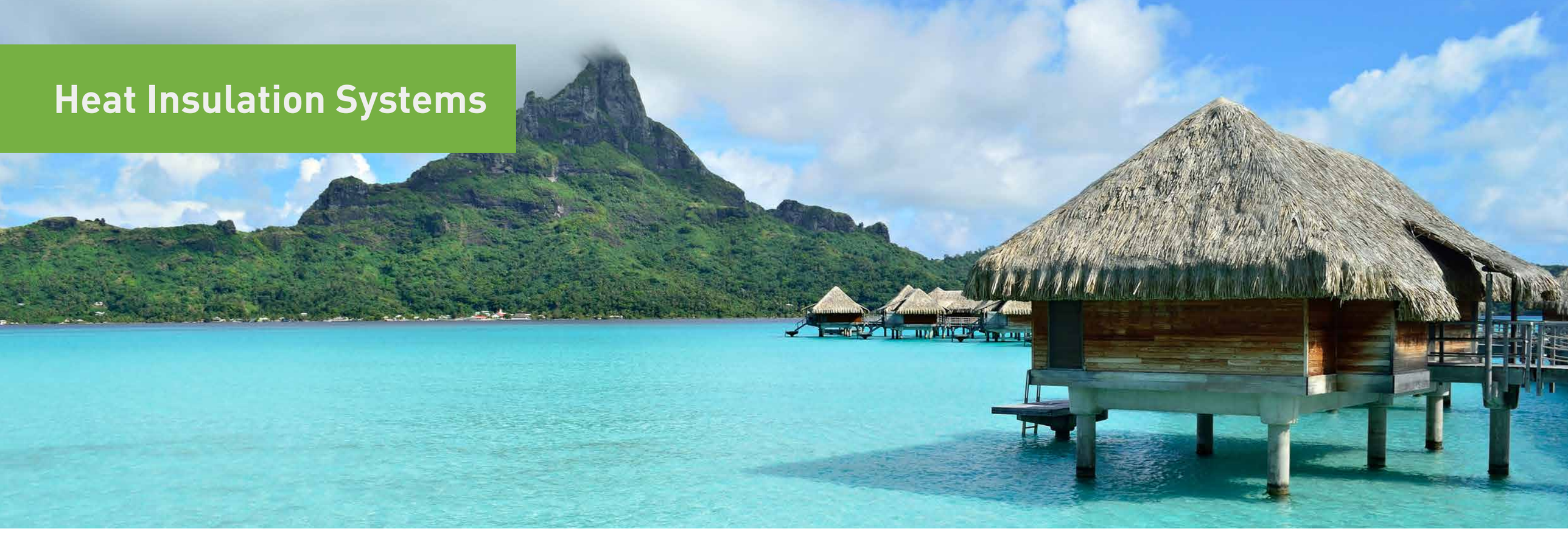
Tile Grouts | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Hydrophobicity	Abrasion Resistance	Strength After Freeze-Thaw Cycles
ORP® Hydroflex 64	VA / VV / AC	0	Excellent	Excellent	Excellent
ORP® 7365 HP	VA / AC	0	Excellent	High	High
ORP® 5377 HP	VA / VV	9	Excellent	Excellent	Excellent

Features & Benefits

Hydrophobically modified powder polymers provide not only water repellency but also high water resistance for tile grouts.

Heat Insulation Systems



Insulation Board Adhesives | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Transverse Deformation	Adhesion to Mineral Surfaces	Adhesion to Hydrophobic Surfaces
ORP® 7044 ES	VA / AC	0	Excellent	Excellent	Excellent
ORP® Thermobond 45	VA / AC	5	Excellent	Excellent	Excellent
ORP® Thermobond 74	VA / AC	0	High	Excellent	High
ORP® Thermobond 65	VA / VV / AC	0	High	Excellent	High
ORP® 7085 HM	VA / AC	7	High	High	Medium

Features & Benefits

Redispersible powder polymers offered for insulation board adhesives are able to adhere on both mineral surfaces (wall) and hydrophobic surfaces (insulation boards).

Base Coats & Renders | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Hydrophobicity	Impact Resistance	Adhesion to Hydrophobic Surfaces
ORP® Thermobond 45	VA / AC	5	Excellent	High	Excellent
ORP® Thermobond 74	VA / AC	0	High	High	Excellent
ORP® 7044 ES	VA / AC	0	High	Excellent	Excellent
ORP® 7365 HP	VA / AC	0	Excellent	Excellent	Excellent
ORP® Thermobond 65	VA / VV / AC	0	High	High	High

Features & Benefits

ORP® Thermobond series of polymers provide water resistance, high adhesion on insulation boards and high impact resistance thanks to their soft/semi-soft and flexible molecular structures.

Waterproofing Solutions

2K Cementitious Waterproofing Mortars | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Crack Bridging	Water Resistance	Adhesion
Orgal® Hydroflex 57	S / AC	57	7.0 - 9.0	1200	0	-10	Orgal® Hydroflex 57	Excellent	Excellent	Excellent
Orgal® K 640 R	S / AC	57	7.0 - 9.0	1200	0	-10	Orgal® K 640 R	Excellent	High	High
Orgal® K 640 N	S / AC	57	7.0 - 9.0	1200	0	-10	Orgal® K 640 N	Excellent	High	High
Orgal® K 635 N	S / AC	53	6.0 - 8.0	1000	0	-23	Orgal® K 635 N	Excellent	High	High
Orgal® Hydroflex 10	AC	50	7.5 - 8.5	500	9	10	Orgal® Hydroflex 10	Medium	Excellent	Excellent

Elastomeric Waterproofing Membranes | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Crack Bridging	Flexibility	Water Resistance	Adhesion	Dirt Pick-up Resistance	UV Resistance
Orgal® Rooflex S6	S / AC	50	7.5 - 9.0	9000	0	-6	Orgal® Rooflex S6	Excellent	Excellent	Excellent	Excellent	Medium	Medium
Orgal® Rooflex 35	AC	60	5.0 - 7.0	1300	0	-35	Orgal® Rooflex 35	Excellent	Excellent	High	High	Excellent	Excellent
Orgal® PST 65	S / AC	50	7.5 - 9.0	13000	0	-3	Orgal® PST 65	Excellent	High	High	High	Medium	Medium

1K Cementitious Waterproofing Mortars | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Crack Bridging	Flexibility	Water Resistance
ORP® 7365 HP	VA / AC	0	Excellent	Excellent	Excellent
ORP® 7044 ES	VA / AC	0	Excellent	Excellent	High
ORP® Thermobond 74	VA / AC	0	Excellent	High	High
ORP® Thermobond 65	VA / VV / AC	0	High	High	High

Features & Benefits

High water resistance and flexibility are the key features of recommended powder polymers for water insulation applications.

Self-Levelling Underlayments | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Flow Support	Adhesion to Mineral Surfaces	Abrasion Resistance	Features & Benefits
ORP® Flowbond 58	VA / AC	5	Excellent	Excellent	Excellent	Rheologically modified powder polymers increase flow ability, sedimentation resistance and abrasion resistance.
ORP® 7680 SL	VA / AC	5	Excellent	Excellent	Excellent	

2K Self-Levelling Mortars & Screeds | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Flow Support	Adhesion	Impact Resistance
Orgal® K 640 R	S / AC	57	7.0 - 9.0	1200	0	-10	Orgal® K 640 R	High	Excellent	Excellent
Orgal® PST 5010	S / AC	50	7.5 - 9.0	2000	11	11	Orgal® PST 5010	High	Excellent	High
Orgal® 50 CM	S / AC	50	7.5 - 9.0	7000	18	18	Orgal® 50 CM	Excellent	Excellent	Medium

Sealants | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Tensile Strength	Elongation	Recovery	Water Resistance	Adhesion
Orgal® PST 65	S / AC	50	7.5 - 9.0	13000	0	-3	Orgal® PST 65	High	Excellent	Excellent	Excellent	High
Orgal® K 640 R	S / AC	57	7.0 - 9.0	1500	0	-10	Orgal® K 640 R	Medium	Excellent	Excellent	High	High
Orgal® K 6970	S / AC	50	8.0 - 9.0	3000	0	6	Orgal® K 6970	High	High	Excellent	Excellent	High
Orgal® PST 5010	S / AC	50	7.5 - 9.0	2000	11	11	Orgal® PST 5010	Excellent	High	Excellent	Excellent	High
Orgal® PST 50 A	S / AC	50	7.5 - 9.0	11000	20	20	Orgal® PST 50 A	Excellent	Medium	Excellent	Excellent	High

Cement Modifiers | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Compressive & Flexural Strength	Abrasion Resistance	Water Resistance
Orgal® 803 CM	AC	47	9.0 - 10.0	300	10	15	Orgal® 803 CM	Excellent	Excellent	Excellent
Orgal® 900 CM	AC	47	9.0 - 10.0	300	5	6	Orgal® 900 CM	High	High	Excellent
Orgal® 50 CM	S / AC	50	7.5 - 9.0	7000	18	18	Orgal® 50 CM	Excellent	Excellent	Excellent
Orgal® 530 CM	VA / AC	53	4.0 - 7.5	5000	3	4	Orgal® 530 CM	High	High	High

Gypsum Based Skim Coats & Joint Fillers | Redispersible Powders

	Monomer Composition	MFFT (˚C)	Adhesion	Flexibility	Features & Benefits
ORP® 7085 HM	VA / AC	7	Excellent	Excellent	Semi-hard and flexible polymers are more suitable for gypsum based applications. Better adhesion behaviour on different surfaces and joint tapes.
ORP® 7082 WP	VA / AC	6	Excellent	High	
ORP® 7099 RD	VA / AC	5	Excellent	Medium	

Curing Membranes & Concrete Sealers | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Penetration	Abrasion Resistance	Water Resistance
Orgal® K 6987	AC	46	7.5 - 8.5	500	14	21	Orgal® K 6987	High	Excellent	Excellent
Orgal® PR 670	S / AC	30	7.0 - 8.0	100	0	8	Orgal® PR 670	Excellent	High	High
Orgal® PR 667	S / AC	34	8.0 - 8.5	100	0	1	Orgal® PR 667	Excellent	High	Medium

Smooth Surface Contact Primers | Polymer Emulsions

	Monomer Composition	Solid Content (%±1)	pH	Viscosity (mPa.s, max)	MFFT (˚C)	Tg (˚C)		Water Resistance	Adhesion
Orgal® Betoprime S4	S / AC	50	7.5 - 9.0	9500	0	-4	Orgal® Betoprime S4	Excellent	Excellent
Orgal® Multiflex S5	S / AC	50	7.0 - 8.0	1000	0	5	Orgal® Multiflex S5	Excellent	Excellent
Orgal® PST 50 A	S / AC	50	7.5 - 9.0	11000	20	20	Orgal® PST 50 A	High	High
Orgal® PR 056	S / AC	50	8.0 - 9.0	3000	0	5	Orgal® PR 056	High	High

Dispersants & Thickeners

	Chemical Composition	Total Solids (%±1)	pH	Viscosity (mPa.s max)		Applications
Dispersant DMA 40	Sodium Polycarboxylate	40	5.0 - 6.0	2,000	Dispersant DMA 40	Low foaming polymeric dispersing agent
Dispersant K 850	Sodium Polycarboxylate	30	9.0 - 10.5	350	Dispersant K 850	Polymeric dispersing agent
Dispersant ASP 40	Ammonium Polycarboxylate	40	6.5 - 7.5	400	Dispersant ASP 40	Low foaming polymeric dispersing agent
Orgal® M 340	ASE	30	2.0 - 4.0	n/a	Orgal® M 340	General purpose acrylic thickener with pseudoplastic profile
Orgal® M 420	ASE	28	2.0 - 4.0	n/a	Orgal® M 420	General purpose acrylic thickener with pseudoplastic profile
Orgal® HT 465	HASE	30	2.0 - 4.0	n/a	Orgal® HT 465	General purpose hydrophobically modified acrylic thickener with pseudoplastic profile

Notes

Legend

S	Styrene	MFFT (°C)	Minimum Film Formation Temperature
AC	Acrylic	Tg (°C)	Glass Transition Temperature
VA	Vinyl - Acetate	Viscosity (mPa.s, max)	Brookfield Viscosity at 25 °C
VV	Vinyl - Versetate	n/a	Not Applicable
ASE	Alkali Swellable Emulsion		
HASE	Hydrophobically Modified Alkali Swellable Emulsion		

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