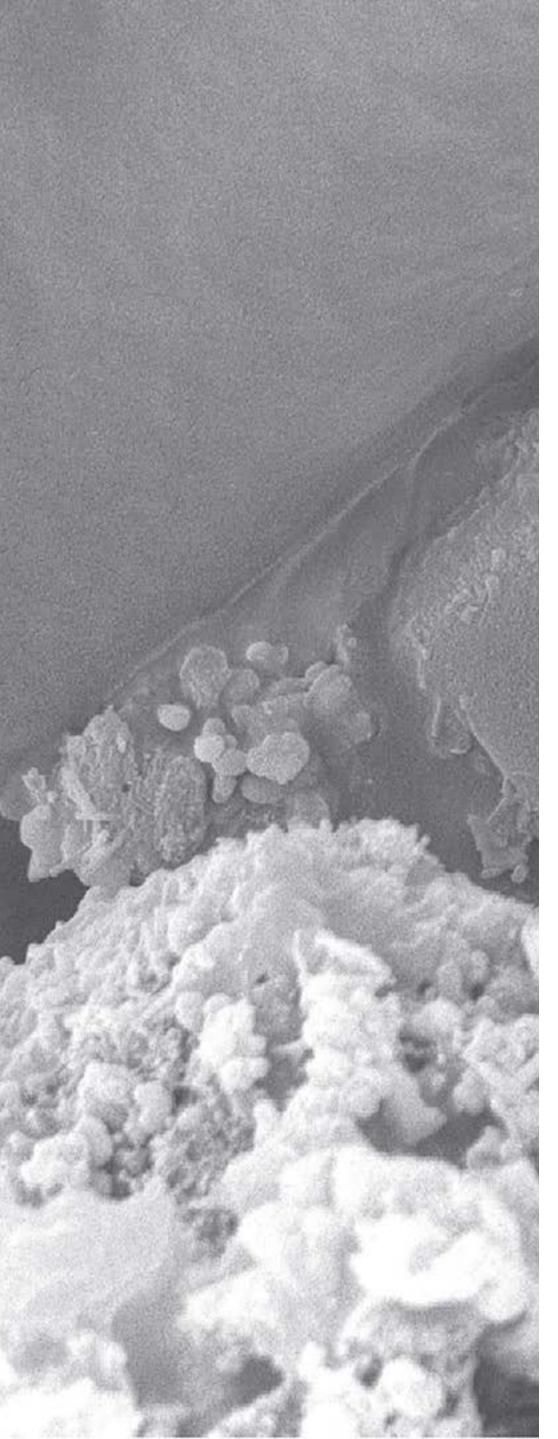
PRODUCT OVERVIEW POLYMER DISPERSIONS

CONSTRUCTION I POLYMER DISPERSIONS I EMEA



CREATING TOMORROW'S SOLUTIONS





POLYMER CHEMISTRY -A KEY TO QUALITY

Polymer binders have revolutionized the construction and paint industry more than once. WACKER has been a key player in this development. Show Milestones

Vinyl Acetate-Ethylene (VAE) – Serving the Megatrends of Today and Tomorrow

VINNAPAS® dispersions are co- and terpolymers based on vinyl acetate, ethylene and other monomers. Vinyl acetate-ethylene (VAE), in particular, combines technical performance with environmental benefits at an attractive cost-in-use ratio.

VAE dispersions are produced by the emulsion polymerization of the hard, polar monomer vinyl acetate and the soft, hydrophobic monomer ethylene. Ethylene functions as an optimal flexibilizer for vinyl acetate, incorporating permanent flexibility into VAE polymers. Consequently, the use of plasticizers can be minimized when formulations contain VAEs. In addition, all grades are stabilized without the use of APEO-based surfactants. Many of them also show low residual monomer content (<500 ppm).

Compliance with Strict Labels

VINNAPAS[®] and PRIMIS[®] are registered trademarks of Wacker Chemie AG.

Polymer binders enhance two critical characteristics of all mortars and coatings: adhesion and flexibility. They ensure the quality of buildings and prolong their life expectancy, while reducing material consumption. At the same time, they increase creative freedom by making it possible to combine a wide variety of construction materials





The Fast Track: PRODUCT FINDER

Typical G	ieneral Pr	operties						Grade									
Polymer Base	Solids Content ±1% [%]	Viscosity, Brookfield [mPa⋅s]	pH Value	Glass Transition Temperature T _g (DSC) [°C]	Minimum Film- Forming Temperature (ISO 2115) [°C]	Particle Size	t Stabilization System		<u>Renders,</u> <u>Plasters,</u> <u>Top Coat</u> <u>for ETICS</u>	<u>Adhesive</u> <u>Mortar and</u> <u>Base Coat</u> <u>for ETICS</u>	<u>Water-</u> proofing <u>Membranes</u>	<u>Tile</u> <u>Adhesives</u> (1K RTU)	<u>Cement</u> <u>Admixtures</u>	<u>Self-</u> <u>Leveling</u> Compounds	<u>Bonding</u> <u>Agents,</u> <u>Primers</u>	<u>Surface</u> <u>Treatment</u>	<u>Joint</u> <u>Compounds</u>
VAc-E	58	500-2,500	3.5-5.0	18	0	0.3-1.0	PVOH	VINNAPAS [®] 502 ND				••					••
VAc-E	55	2,000-2,800	4.0-5.0	6	0	1.0	PVOH	VINNAPAS [®] 530 ND					••	••	•		
VAc-E	53	100-400	3.0-4.5	-5	0	0.9	PVOH	VINNAPAS [®] 550 ED			••		••		•		••
VAc-E	60	3,000-6,000	4.0-6.0	10	2	0.3	PVOH & ST	VINNAPAS® EP 523	••			••					
VAc-E-VC	50	6,000-12,000	4.0-5.0	7	2	0.7	CD & ST	VINNAPAS® CEZ 3031	••	••							
VAc-E-VE	59	300-1,500	4.0-5.0	-12	0	0.3	ST	VINNAPAS® 760 ED			••		••				
VAc-E-VE	50	2,100-3,900	4.5-5.5	2	2	0.3	CD & ST	VINNAPAS® EZ 3019	••	••							
VC-E-VAc	50	1,500-3,500	4.5-7.5	10	7	0.8	PVOH	VINNAPAS® 825 ED			••		••	••	•		
VC-E-VE	60	3,000-8,000	7.0-9.0	14	7	0.3	ST	VINNAPAS® 822 HD	••	••			••				
S-A	50	1,500-3,500	7.5-8.3	18	23	0.1	ST	VINNAPAS® 202 HD	••	••	•	••			••		
S-A	50	6,000-12,000	7.5-8.5	20	12	0.1	ST	VINNAPAS® 224 HD	••	••	•	••			••		
S-A	50	700-3,000	7.0-8.0	0	0	0.1	ST	VINNAPAS® 240 HD		•	••	••			••		
S-A	42	50-500	6.5-7.5	21	13	<0.1	ST	PRIMIS [®] SAF 9000	••							••	
S-A	42	30-130	6.5-7.5	10	1	<0.1	ST	PRIMIS [®] SAF 9001								••	
А	42	40-110	8.0-9.0	20	9	<0.1	ST	PRIMIS [®] AF 1000	••								
N/A	17	50-110	11.0–13.0	N/A	N/A	N/A	N/A	PRIMIS [®] KT 3000	••								

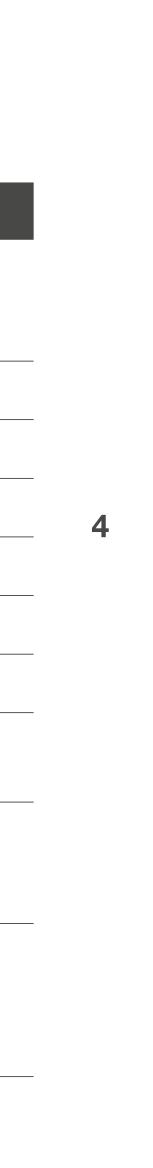




The Perfect Fit: RECOMMENDATION BY APPLICATION

Renders, Plasters, Top Coat for ETICS (1K Ready-To-Use)

Grade	Product Benefit	Performance Attributes							
		Synthetic Resin-Bound Renders	Silicone- Bound Renders	Silicate- Bound Renders	Resistance to Dirt Pick- Up	Color Stability	Durability		
VINNAPAS® EP 523	A product with a high cohesive force and versatility.	•	•		•	••	••		
VINNAPAS® CEZ 303 ⁻	Fire-resistant all-rounder with special rheological qualities.	••	••	••	•	••	•		
VINNAPAS® 822 HD	Excellent hydrophobic product with very low flammability.	••	••		••	•	••		
VINNAPAS® EZ 3019	Hydrophobic all-rounder with good color stability.	••	••		•	••	••		
VINNAPAS® 202 HD	Ammonia-free product.	••	••		••	••	••		
VINNAPAS® 224 HD	Proven benchmark for a wide range of applications.	••	••		••	••	••		
PRIMIS [®] AF 1000	Exterior binder with low dirt pick-up and high color stability.	••	••		••	••	••		
PRIMIS [®] SAF 9000	High-performance additive used as a co-binder to reduce snail trails and leeching of water-soluble additives in general. Compatible with a broad range of main binders.	N/A	N/A	N/A	N/A	N/A	N/A		
PRIMIS [®] KT 3000	High-performance additive used to significantly improve early rain resistance in colder climates. Enables final product to be used at temperatures below 6 °C. Compatible with a broad range of main binders.	N/A	N/A	N/A	N/A	N/A	N/A		



Adhesive Mortar and Base Coat for ETICS

Grade	Product Benefit	Formulation		Performance Attributes				
		1K Ready- To-Use	2K	Flame Resistance	Flexibility	Hydrophobicity	Compatibility with Cement	
VINNAPAS® 822 HD	Excellent hydrophobic product with high versatility.	••	••	••	••		••	
VINNAPAS® EZ 3019	Hydrophobic binder with special rheological properties.	••	••		••		••	
VINNAPAS® CEZ 3031	A proven all-rounder with special rheological qualities.	••	••	••	••		••	
VINNAPAS® 240 HD	High-performance product with excellent flexibility.				••			
VINNAPAS® 202 HD	Hydrophobic product with high adhesive/ cohesive strength.				•			
VINNAPAS® 224 HD	Product for ready-to-use tile adhesives and embedding mortars.				•			



Waterproofing Membranes

Grade	Product Benefit	Formulation		Performance Attributes					
		1K Ready- To-Use	2K	Dispersion; Liquid-Applied Water-Impermeable Product (EN 14891)	Cement Mortar CM (EN 14891)	Flexibility	Adhesion on Critical (Esp. Organic) Surfaces		
VINNAPAS® 240 HD	Optimum binder for flexible ready-to-use waterproofing membranes.	••		$\bullet \bullet$		••	••		
VINNAPAS® 224 HD	Proven benchmark for ready-to-use water- proofing membranes.	••		$\bullet \bullet$			••		
VINNAPAS® 202 HD	Product for rigid ready-to-use waterproofing membranes.	••					••		
VINNAPAS® 760 ED	Highly flexible product with excellent workability and outstanding adhesion properties.		••		••	••	••		
VINNAPAS [®] 550 ED	Very good combination of excellent compatibility with cement and good flexibility.	/	••		••	••	••		
VINNAPAS® 825 ED	Improved mechanical strength and abrasion resistance for rigid membranes.		••		••		••		



Tile Adhesives (1K Ready-To-Use)

Grade	Product Benefit	Performance A	Performance Attributes						
		Class D1 (EN 12004)	Class D2 (EN 12004)	Filler Load	Slip Resistance				
VINNAPAS [®] 224 HD	The proven benchmark for D2 tile adhesives.		••	••	••				
VINNAPAS® 202 HD	Ammonia-free product that provides maximum freedom in the choice of coalescing agents.		••		••				
VINNAPAS® 240 HD	Flexible product for ready-to-use tile adhesives.		••		•				
VINNAPAS [®] EP 523	A product with a high cohesive force and versatility.	••		••	•				
VINNAPAS® 502 ND	Product with high T_{g} and excellent filler acceptance.	••		••					



Cement Admixtures (2K)

Grade	Product Benefit	Performance Attributes							
		Flexibility	Adhesion	Hydro- phobicity	Elastic Modulus Reduction	Flexural Strength			
VINNAPAS [®] CEZ 3031	All-rounder with well balanced properties.		•		•				
VINNAPAS® 760 ED	Highly flexible product with excellent cement compatibility and outstanding adhesion properties.		••		••	••			
VINNAPAS [®] 550 ED	Product with improved flexibility and good mechanical strength.		••		••				
VINNAPAS® 502 ND	Product which enhances adhesion.		••		•				
VINNAPAS® 530 ND	A product that reduces the elastic modulus and enhances adhesion.		••		•				
VINNAPAS® 822 HD	Excellent hydrophobic product with high versatility.	•	•	••	•	•			
VINNAPAS® 825 ED	All-rounder with high mechanical strength.	•	•	•		••			





Self-Leveling Compounds (2K)

Grade	Product Benefit	Performance Attributes				
		Flow Support	Defoaming	Water Resistance		
VINNAPAS® 825 ED	Hydrophobic binder for 2K SLC.		•	\bullet \bullet		
VINNAPAS® 530 ND	Performance binder for 2K SLC with excellent mechanical properties.					







Bonding Agents, Primers (1K Ready-To-Use)

Grade	Product Benefit	Performance	Attributes			
		Penetration	Surface Consolida- tion	Adhesion on Critical Substrates	Flexibility	Water Resistance
PRIMIS [®] SAF 9001	Ultra-high-penetration primer and surface finish with improved hydrophobicity and flexibility.		••	••	••	
PRIMIS [®] SAF 9000	Ultra-high-penetration primer and surface finish.	••	••	••	••	••
VINNAPAS® 240 HD	High-performance primer with broad utility.	••	••	••	••	••
VINNAPAS [®] 202 HD	Low-VOC primer that provides maximum freedom in the choice of coalescing agents.		••		•	
VINNAPAS [®] 224 HD	Proven benchmark for primers.	•	••	••	•	••
VINNAPAS [®] 825 ED	Performance primer with improved cohesion strength.		••		•	
VINNAPAS [®] 530 ND	General primer with good adhesion properties.		•		•	
VINNAPAS [®] 550 ED	Low-viscosity general-purpose primer.		•	••	••	•





Surface Treatment (1K Ready-To-Use)

Grade	Product Benefit	Performance Attributes					
		Stain Resistance	Abrasion Resistance	Hydrophobicity			
PRIMIS [®] SAF 9001	Ultra-high penetration for excellent stain resistance and mechanical stability and improved hydrophobicity and flexibility.						
PRIMIS [®] SAF 9000	Ultra-high penetration for outstanding stain resistance and mechanical stability.						

● ● Excellent ● Good



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Joint Compounds (1K Ready-To-Use)

Grade	Product Benefit	Performance Attributes				
		Adhesion	Workability	Flexibility		
VINNAPAS® 550 ED	High-performance, flexible dispersion for gypsum-based joint fillers with excellent adhesion to paper tape.					
VINNAPAS® 502 ND	High-T _g product for gypsum-based joint fillers with good adhesion to paper tape and excellent sandability.					

● ● Excellent ● Good





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CREATING TOMORROW'S SOLUTIONS

A Diverse Array of Products for Growing Markets

Our product portfolio ranges from silicones, binders and polymeric additives all the way up to bioengineered pharmaceutical actives. Rounding these out is hyperpure silicon for semiconductors and solar applications.

Innovations that Improve Quality of Life

Resource scarcity, climate change, urbanization: the challenges of our time demand new responses. In our search for solutions, we invest some 3.5% of our annual sales in research and development. With their emphasis on using energy efficiently and protecting the climate and our environment, our products are already improving quality of life for people all over the world.

Global Knowledge for Local Markets

When you work with WACKER, you have 100 years of chemistry expertise at your disposal, with access to the research findings and best practices of our experts throughout the world. Our knowledge base consists of a network of 22 technical centers, 13 training centers and our basic research center.

And most importantly: we are there wherever you need us - worldwide. Our local specialists know your markets and speak your language. Working with them, you will find innovative solutions that win over your customers and make you more competitive.

Follow us:

Find us on LinkedIn, YouTube and Twitter, and we'll keep you up to date on the latest and discuss current issues with you.



All figures are based on fiscal 2018.



Silicones and Polymers

3,200 specialty products from organic and inorganic chemistry



Global Market Leader

In dispersions and dispersible polymer powders based on vinyl acetate-ethylene (VAE), in building-protection silicones and in the production of cyclodextrin and cystein.



Globally Active

- Sites worldwide
- Headquartered in Munich
- 24 production sites in Europe, Asia and the Americas
- 22 technical centers
- 13 WACKER ACADEMY training centers
- 50 sales offices

Employees: 14,500



Total Sales €4,98 billion



WACKER

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