BASF
We create chemistry

Developing together. Building with each other.

We create chemistry for advanced construction.

Construction Additives

BASF Construction Additives and Formulation Know-How for Construction Materials

To achieve groundbreaking formulations providing outstanding workability and physical properties, your system needs advanced raw materials.

The properties of construction materials, such as dry mortars or mastic systems, are influenced by the quality of local raw materials. Therefore, interactions between organic and inorganic binders, fillers and a range of chemical additives need to be controlled to ensure the best performance of the system.

We create chemistry for advanced formulations: a broad range of powder and liquid additives which enable you to formulate innovative products.

Our application-focused technical experts in our laboratories support you in optimizing your formulations and choosing the right raw materials.

Additionally, we provide you with the right solution for your specific raw materials and special local requirements.

We especially support you in:

Repair Systems and Infrastructure

Flowable Systems
- Self-levelling underlayments
- Cementitious and calcium sulphate-based screeds
- Non-shrink grouts

Non-sag Applications
- Cement-based ceramic tile adhesives
- Exterior insulation and finishing systems (EIFS/ETICS)
- Plasters, renders & skim coats

Creating chemistry for more sustainable Construction Materials

To drive sustainable development, we reviewed our entire portfolio under sustainability aspects by using the standardized “Sustainable Solution Steering Method*”. Looking at economic, environmental and social needs, we have identified key issues along the entire value chain for the Construction Materials segment. On this basis, we are able to assess the sustainability contribution of each product in its specific application.

- Material Efficiency
- Fast Construction
- Easy Application
- Low VOC
- Drinking Water Approval

* Further information at www.basf.com/sustainability

Flowable Systems

Product	Chemistry / Appearance	Applications / Type of Formulation										Properties	Sustainability contribution*
		Cementitious mortars					Calcium sulphate based mortars						
							Hemihydrate based ($CaSO_4 \cdot 1/2\ H_2O$)		Anhydrite based ($CaSO_4$)				
		Self-levelling underlayments	Flowing floor screeds	Self-levelling overlayments/ Industrial floors	Conventional floor screeds (non flowable)	Non-Shrink grouts/ Machinery grouts	Self-levelling underlayments	Flowing floor screeds	Flowing floor screeds (natural anhydrite)	Flowing floor screeds (synthetic anhydrite)	Flowing floor screeds (thermal anhydrite/FGD anhydrite)		
Superplasticizers													
Melflux® 1022 F	Polycarboxylic Ether/Powder							■	■	■	■	Optimised for gypsum based flowing floor screeds, low VOC (useful for EMICODE® EC-1)	
Melflux® 2641 F	Polycarboxylic Ether/Powder	□	□	□		□						Long flow retention (open time), high early strength development, German drinking water approval (DVGW W270 & W347)	
Melflux® 2651 F	Polycarboxylic Ether/Powder	■	■	■		■						Allround product, high early strength development, German drinking water approval (DVGW W270 & W347)	
Melflux® 4930 F	Polycarboxylic Ether/Powder	■	■	■		■						Fast dispersing effect, benefit for machine application (short mixing), French drinking water approval (compliance with positive list No. 2000/232, Apr. 27, 2000)	
Melflux® 5581 F	Polycarboxylic Ether/Powder	■	■	■		■	■					High early strength development, very useful for hemihydrate based SLUs	
Melflux® 6681 F	Polycarboxylic Ether/Powder	■		■								Very fast dispersing effect, benefit for machine application (very short mixing)	
Melflux® AP 101 F	Polycarboxylic Ether/Powder		□	□		■						Without defoamer, very useful for cementitious grouts with low viscosity	
Melflux® BF 11 F	Polycarboxylic Ether/Powder		■			■						Very good slump retainer without retardation of cement hydration	
Melflux® PP 100 F	Polycarboxylic Ether/Powder	□		□								Strong retardation, prolonged workability, preferrably for fast setting cements	
Melflux® ROBUST	Polycarboxylic Ether/Powder	■	□	■		■	■	■				Robust towards water deviations, easy to use	
Melflux® SELECT 1032 F	Polycarboxylic Ether/Powder		■					■	■	■	■	PCE optimized for flowing floor screeds, good looking surfaces	
Melflux® SELECT 2120 F	Polycarboxylic Ether/Powder	■		■		□						Optimized for ternary binder systems, med. retardation (CAC/OPC/HH resp. AH)	
Melflux® SELECT 4411 F	Polycarboxylic Ether/Powder	■		■								Optimized for ternary binder systems (CAC/OPC/HH resp. AH)	
Melflux® SELECT 5691 F	Polycarboxylic Ether/Powder						■	■				Optimized for binary binder systems (HH-rich/OPC)	
Melflux® SELECT 5731 F	Polycarboxylic Ether/Powder	■	■	■		□						Optimized for calcium sulphoaluminate cement (CSA) based systems	
Melment® F 10	Melamine-Condensate/Powder	□	□	□		□		□	□	□	□	Allround product	
Melment® F 10 G	Melamine-Condensate/Powder							□	□	□	□	Optimised for gypsum	
Melment® F 10 M	Melamine-Condensate/Powder	□	□	□		■						Enhanced dispersing effect (dosage efficiency & water reduction)	
Melment® F 15	Melamine-Condensate/ Powder	■	■	■		□						Low formaldehyde content (reduced emission)	
Melment® F 15 G	Melamine-Condensate/Powder							■	■	□	■	Optimised for gypsum, long open time, low formaldehyde content	
Melment® F 17 G	Melamine-Condensate/Powder							■	□	■	■	Optimised for gypsum, lower formaldehyde content	
Melment® F 245	Melamine-Condensate/Powder	■	■	■		■				■		Strongest dispersing effect (dosage efficiency and water reduction)	
Melment® F 4000	Melamine-Condensate/Powder	□	□	□		■						Enhanced dispersing effect (dosage efficiency & water reduction), German drinking water approval (DVGW W270 & W347)	
Stabilizers													
Starvis® 3003 F	High molecuar weight polymer/ Powder	■	□	□		□	□					Prevents bleeding and segregation, optimised for thin layer systems	
Starvis® 3040 F	High molecuar weight polymer/ Powder	□	■	□		■	□	■	■	■	■	Prevents bleeding and segregation, optimised for thick layer systems	
Starvis® 3050 F	High molecuar weight polymer/ Powder	■	■	■		■	□					Prevents bleeding and segregation, optimised for medium and thick layer systems	
Starvis® 3070 F	High molecuar weight polymer/ Powder	■	□	■			■					Prevents bleeding and segregation, optimised for thin layer systems	

Product	Chemistry / Appearance	Applications / Type of Formulation										Properties	Sustainability contribution*
		Cementitious mortars					Calcium sulphate based mortars						
							Hemihydrate based ($CaSO_4 \cdot 1/2\ H_2O$)		Anhydrite based ($CaSO_4$)				
		Self-levelling underlayments	Flowing floor screeds	Self-levelling overlayments/ Industrial floors	Conventional floor screeds (non flowable)	Non-Shrink grouts/ Machinery grouts	Self-levelling underlayments	Flowing floor screeds	Flowing floor screeds (natural anhydrite)	Flowing floor screeds (synthetic anhydrite)	Flowing floor screeds (thermal anhydrite/FGD anhydrite)		
Viscosity-enhancing Biopolymers													
KELCO-CRETE® DG	Diutan Gum/ Powder (coarse grade)		□					□	□	□	□	Prevents sedimentation of mineral particles, optimised for thick layer systems	
KELCO-CRETE® DG-F	Diutan Gum/ Powder (fine grade)	□	■			□	□	■	■	■	■	Prevents sedimentation of mineral particles, optimised for thick layer systems	
Defoamers													
Vinapor® DF 2922 F (former FoamStar® PB 2922)	Silicon free defoamer blend/ Powder	■	■	■		■	■					General purpose defoamer, RAL-UZ 113 conform, suitable for formulations complying with BFR XIV (drinking water approval for Germany)	
Vinapor® DF 2938 F (former FoamStar® PB 2938)	Polyether derivative of fatty acid on inert carrier/ Powder	□	□	□		□	□					General purpose defoamer	
Vinapor® DF 2941 F (former FoamStar® PB 2941)	Mineral oil on inorganic carrier/ Powder	□	■	□		■	□					General purpose defoamer, RAL-UZ 113 conform	
Vinapor® DF 9010 F	Fatty alcohol alkoxylates and polysiloxanes on inorganic carrier/ Powder	■	■	□		■	■	■	■	■	■	Very efficient defoaming effect, prevents air bubbles, provides smooth surface, low VOC (useful for EMICODE® EC-1, RAL-UZ 113 conform)	
Additives for conventional cementitious floor screeds													
Melvis® C 4632 F	Wetting Agent/ Powder				■							Improves finishing process with trowel (smooth surface)	
Melvis® C 1143 F	Water Reducing Agent/Powder				■							Water reduction, shrinkage reduction, faster drying	
Melvis® C 4212 F	Water Reducing Agent/Powder				■							Strong water reduction, strong shrinkage reduction, faster drying	
Melvis® C 9100 F	Water Reducing Agent/Powder				■							Very strong water reduction, strong shrinkage reduction, very fast drying	
Hydration Control Additives													
HyCon® A 7600 F	C-S-H seeding/ Powder				■							Specially designed accelerator for inorganic binders containing mainly GGBFS, improves hydration rate of GGBFS at early times and late times, alkali free	
HyCon® R 3100 F	Modified polymer/Powder	■	■	■			□	□				Selective retardation of hemihydrate in binary (OPC-rich/HH) systems	
HyCon® R 7200 F	Modified polymer/Powder						■	■				Retardation of setting of hemihydrate systems and binary (HH-rich/OPC) systems	
HyCon® S 3200 F	C-S-H seeding/ Powder	■	■	■	□	■						Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology	
HyCon® S 7042 F	C-S-H seeding/ Powder	■	■	■	□	■						Alkali free accelerator of OPC based on C-S-H seeding technolgy, improved early strength	
HyCon® S 7100 L	Aequeous suspension of C-S-H seeds/ Liquid	□	□	□		□						Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology	

■ = recommended □ = suitable

Material Efficiency · Fast Construction · Easy Application · Low VOC · Drinking Water Approval

*The respective product has been evaluated with BASF's Sustainable Solution Steering Method and provides substantial sustainability contribution in the specific application.

Non-sag Applications

Product	Chemistry / Appearance	Applications / Type of Formulation									Properties	Sustainability contribution*
					Plasters & Renders							
		Ceramic Tile Adhesives Cementitous 1C Cem	**Tile Grout** Cementitous	**EIFS/ETICS** Cementitous	Cementitious / Lime	Gypsum based	Top-Coat/ Decorative Coat	Skim coats	Monocouche Systems	Masonry Mortars		
Wetting and Workability Agents												
Melflux® grades	Polycarboxylic Ether	□	□	□								
Melment® F 10 / F15G / F17G	Melamine-Condensate/Powder	■	■	□	■	■	□	□	■	■	Improved mixing	
Vinapor® WA 2000 F	Keton Resin			■	■	■	■	■	■	■	Improved workability; Micro air voids; Creamy rheology	
Vinapor® WA 3710 F	Non-ionic surfactant (EO/PO block-copolymere (on carrier)		□	□	■	■	■	■	■	■	Good Weeting; Improved workability; Robust stabile air voids	
Vinapor® WA 3918 F	Non-ionic surfactant (Oleo-alkyleneoxide-block copolymer on carrier)		■		□	■	■	■	■	■	Excellent dispersing and wetting properties; Marked viscosity reduction; Increases color development and stability in pigmented systems	
Starvis® SE 25 F	Cationic Starch Ether/Powder	□	□	■	■	■	■	□	■	■	Stickness reduction; Little influence on consistency; no cement retardation	
Rheology Modifying Agents												
Starvis® 308 F	Synthetical Polymer/Powder	□	□	□	□	■		□	□		Rheology improvement, water retention, no retardation	
Starvis® S 3911 F	Synthetical Polymer/Powder	■	■	■	■		□		□	□	Swellable polymer for open time and sag resistance improvement, workability improvement	
Starvis® SE 30 F	Starch Ether/Powder	■	■	■	■	■	■	■	■	■	Sag resistance introduction, workability approvement	
Starvis® SE 35 F	Starch Ether/Powder	■	■	■	■	■	■	■	■	■	Sag resistance introduction, workability approvement	
Starvis® SE 45 F	Starch Ether/Powder	■	■	□	□		□		□		Efficient sag resistance introduction, low retardation	
Starvis® RS 421/01 F	Synthetical Polymer/Powder	■	□						□	□	Efficient thickening compound for basic CTA; Open time and sag resistance improvement	
Starvis® T 50 F	Synthetical Polymer/Powder	■		□	□	□			□		Very efficient sag resistance introduction	
Starvis® T 51 F	Synthetical Polymer/Powder	■		□	□	□			□		Very efficient sag resistance introduction, quick and easy mixing	
Air entraining Agents												
Vinapor® AE 3912 F	Anionic surfactant (Sodium lauryl sulphate)				■	■			□	■	High performing foaming agent, produces particularly fine, stable air bubbles	
Vinapor® AE 3913 F	Anionic Surfactant Composition				□	■			□	■	Universal product, Improved powder and handling properties (health & safety)	
Vinapor® AE 3914 F	Anionic Surfactant Composition	□		■	■	□	■	□	□	■	Fully synthetic robust air entrainer, introduces stable air	
Defoamers												
Vinapor® DF 9010 F	Fatty alcohol alkoxylates and polysiloxanes on inorganic carrier/Powder		■								Very efficient defoaming effect, easy dosing, low VOC (useful for EMICODE® EC-1, RAL-UZ 113 conform)	
Vinapor® DF 2922 F	Silicone free defoamer blend/Powder		■								Lowest Air-Entrainment during mixing, Excellent defoaming, suitable for formulations complying with BFR XIV (drinking water approval for DE)	
Vinapor® DF 2938 F	Polyether derivative of fatty acid on inert carrier		■								General purpose defoamer	
Vinapor® DF 2941 F	Mineral oil based/Powder		■								General purpose defoamer, RAL-UZ 113 conform	
Hydration Control Additives												
HyCon® S 3200 F	C-S-H seeding/Powder	□	■	□	□			■	□		Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology, slight dispersing effect	
HyCon® S 6100 F	C-S-H seeding/Powder	■	□	□	□			□	□		Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology, higher viscosity for sag resistance	
HyCon® S 7100 L	Aequeous suspension of C-S-H seeds/Liquid	□	□								Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology	
HyCon® S 7042 F	C-S-H seeding/Powder	■	■	■	□			□	□	□	Alkali free accelerator of OPC based on C-S-H seeding technolgy, improved early strength	
HyCon® A 7600 F	C-S-H seeding/Powder	■		□							Specially designed accelerator for inorganic binders containing mainly GGBFS, improves hydration rate of GGBFS at early times and late times, alkali free	
HyCon® R 6450 F	Synthetical Polymer/Powder	■	■								Retarder for ternary binder systems with improved storage and temperature resistancy	

Repair Systems and Infrastructure

Product	Chemistry / Appearance	Applications / Type of Formulation					Properties	Sustainability contribution*
		Reinforcement Protection	Repair Mortar Flowable	Repair Mortar Sag Resistant	Smoothening Compounds/ Fine Filler	Mortar Bonding Emulsion		
Superplasticizers/Wetting Agents								
Melflux® 4930 F	Polycarboxylic Ether/Powder		■	■	■		Water reducer; Higher System Strength; Improved mixing; Universal Dispersant and recommended for OPC binder	
Melflux® SELECT 5731 F	Polycarboxylic Ether/Powder		■	■			Water reducer; Higher System Strength; Only for CSA Cement based systems	
Melflux® SELECT 4411 F	Polycarboxylic Ether/Powder		■	■			Water reducer; Higher System Strength; Only for CAC Cement based ternary systems	
Melment® F 10	Melamine-Condensate/Powder		■	■	□		Wetting Aid; Water Reduction; Improved Bonding; Improved mixing	
Vinapor® WA 3710 F	Surfactant on inorganic carrier	■	■	■	■	■	Wetting Aid; Improved Bonding; Improved mixing	
Rheology Modifying Agents and Internal Curing								
Starvis® S 3911 F	Waterswellable Polymer		■	■	■		Internal curing and reduction of crack formation; Improved freeze/thaw resistance and durabilty; high sag resistance	
Starvis® S 5514 F	Waterswellable Polymer		■				Internal curing and reduction of crack formation; Improved freeze/thaw resistance and durabilty; for flowable repair mortar	
Starvis® RS 421/01 F	Synthetical Polymer/Powder			■	■		Internal curing and reduction of crack formation; Improved freeze/thaw resistance and durabilty; highest sag resistance; additional water retention	
Starvis® 3040 F	High molecuar weight polymer/Powder		■				Stabilizer for flowable Repair Mortar; Prevents bleeding and segregation, optimised for thick layer systems	
Defoamers								
Vinapor® DF 2922 F	Silicone free defoamer blend/Powder	■	■	■	■	□	Lowest Air-Entrainment during mixing, Excellent defoaming, suitable for formulations complying with BFR XIV (drinking water approval for DE)	
Vinapor® DF 2938 F	Polyether derivative of fatty acid on inert carrier	□	□	□	□	□	General purpose defoamer	
Vinapor® DF 2941 F	Mineral oil on inorganic carrier/Powder	■	■	■	■		General purpose defoamer, RAL-UZ 113 conform	
Vinapor® DF 9010 F	Fatty alcohol alkoxylates and polysiloxanes on inorganic carrier/Powder	■	■	□	■	■	Fast defoaming and deaerating properties, easy dosing	
Hydration Control Additives								
HyCon® S 3200 F	C-S-H seeding/Powder		■	■	■		Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology, slight dispersing effect	
HyCon® S 7100 L	Aequeous suspension of C-S-H seeds/Liquid					■	Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology	
HyCon® S 7042 F	C-S-H seeding/Powder		■	■	■	■	Acceleration of systems based on OPC and increase of early strength development by C-S-H seeding technology	
HyCon® A 7600 F	C-S-H seeding/Powder		■	■		■	Specially designed accelerator for inorganic binders containing mainly GGBFS, improves hydration rate of GGBFS at early times	
HyCon® R 6450 F	Synthetical Polymer/Powder		■	■	■		Retarder for CSA or CAC Cement based ternary binder systems with improved storage and temperature resistancy	

■ = recommended □ = suitable

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*The respective product has been evaluated with BASF's Sustainable Solution Steering Method and provides substantial sustainability contribution in the specific application.

Abbreviations
HH = Hemi-Hydrate
PCC = Polymer Cement Concrete
CC = Cement Concrete
SLU = Self-Levelling Underlayment
VOC = Volatile Organic Compounds

Center of Competence and Brands

BASF Construction Additives GmbH, Trostberg, Germany

Construction Additives
- HyCon®
- Melflux®
- Melment®
- Melvis®
- Starvis®
- Vinapor®

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