



 **BASF**

We create chemistry

**Developing together.
Building with each other.**

Formulation Additives for Construction

The construction industry benefits from recognized BASF brands and quality products

Attagel[®] attapulgite rheology modifiers by BASF offer a wide range of performance benefits including easy dispersion, formulating latitude and long-term stability in many liquid systems. Attagel thickeners and suspending agents are made from specially processed attapulgite, a hydrated magnesium aluminosilicate and a principal member of the fuller's earth family of clay minerals having the ideal formula: $3\text{MgO} - 1.5\text{Al}_2\text{O}_3 - 8\text{SiO}_2 - 9\text{H}_2\text{O}$.

The time-honored **Rheovis**[®] range comprises a broad portfolio of synthetic rheology modifiers for aqueous systems, including non-ionic associative (HEUR), anionic associative (HASE) and non-associative thickeners (ASE). Many of these highly efficient products are very environmentally friendly, low in VOC, non-APEO and non-heavy metals.

Providing a range of standard and highly efficient dispersing agents for aqueous systems, the **Dispex**[®] brand portfolio includes polymeric, oligomeric and surfactant-based dispersing agents. Benefits include outstanding viscosity reduction, improved formulation storage stability and environmental aspects, like low VOC and non-APEO.

Offering an outstanding selection of defoamer technologies for aqueous systems, the familiar **Foamaster**[®] and **FoamStar**[®] brands include products based on mineral or native oils as well as specialty-emulsion defoamers and organo-silicone, silicone-free and star-polymer based defoamers. These defoamers provide a perfect balance between excellent foam suppression, high compatibility, long-term efficiency, easy handling and environmental compliance in the form of low VOC, low SVOC and low odor solutions.

Under the **Hydropalat**[®] brand, BASF presents a selection of substrate wetting, flow control and slip control agents for water-based coatings or adhesives formulations.

The **Loxanol**[®] brand stands for film-forming agents for water-based formulations, comprising plasticizers, open-time prolongers and coalescing agents, of various technologies.

This brochure highlights the benefits of formulation additives by BASF. These products are recommended for water-based construction chemical formulations.

Rheology modifiers:

Rheology modifiers (or 'thickeners') fulfill several tasks in water-based construction chemical formulations. In many cases they are needed for the manufacturing process, e.g. to increase the viscosity of the binder system before adding other formulation components like resins or fillers. Rheology modifiers are important to adjust formulation consistency and workability during application. There are several examples where they make a strong contribution to the product performance, e.g. high yield stress thickeners are key for strong initial grab for construction adhesives and for preventing sagging for ceramic tile adhesives.

Selection Guide

■ : Recommended □ : Suitable

Product	Liquid or Powder	Applications							
		Adhesives	Sealants	Flexible Roof Coatings	Cementitious	EIFS	Ceramic Tile Adhesives	Air Weather Barriers	Fiberbonding
Attagel® 30	Powder	□	□						
Attagel 50	Powder	□	□			□	□		
Rheovis® AS 1125	Liquid	■	■	□	□	■	□	□	■
Rheovis HS 1152	Liquid	□	□				■		■
Rheovis HS 1162	Liquid	□	□				■		□
Rheovis PU 1191	Liquid	□	□	□	□		□	□	□
Rheovis PU 1251	Liquid	□		■	□		□	■	□
Rheovis AS 1920	Powder	□			□	□	□		

BASF recommends different rheology modifier (thickener) technologies: Alkali-Swellable Emulsion (ASE) type rheology modifiers lead to a significant viscosity increase of the water phase under alkaline conditions. They are suitable for applications where a shear-thinning viscosity profile is needed. Hydrophobically Modified Alkali-Swellable Emulsion (HASE) rheology modifiers combine the mechanism of ASE thickeners with associative effects, e.g. between dispersion particles, which enhances their efficiency.

Attagel® 30

Attagel 30 is made from specially processed attapulgite, a hydrated magnesium aluminosilicate and a principal member of the fuller's earth family of clay minerals having the ideal formula: $3\text{MgO} - 1.5\text{Al}_2\text{O}_3 - 8\text{SiO}_2 - 9\text{H}_2\text{O}$. The highly thixotropic behavior of these attapulgite products gives formulators a cost effective way to develop coatings with improved syneresis control and sag resistance without compromising leveling and film build.

Performance Highlights:

- Low shear viscosity builder
- Sag resistance
- Syneresis control
- Pigment suspension
- Low cation replacement potential

Sustainability Highlights:

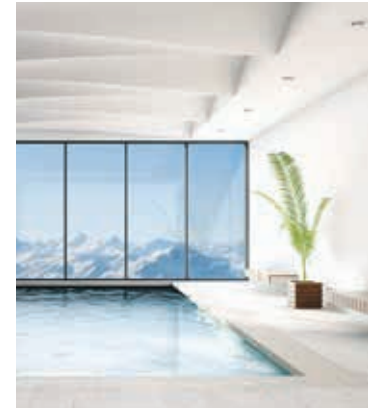
- Low VOC
- Non-APEO
- Made from naturally occurring clay
- Very low solvent content
- Virtually no odor
- Very efficient at low dosage

Applications:

Attagel 30 is recommended for thickening, pigment suspension and syneresis control of water based coatings, mastics, caulks, sealants and tape joint compounds. Due to its particle size, Attagel 30 is most suited to applications where the film thickness is greater than 3 mils. It is suitable for adhesive and sealant formulations.

Characteristic Values:

Specific Gravity	2.4
Average particle size (microns)	13
Bulk density (kg/m ³)	561



Attagel® 50

Attagel 50 is made from specially processed attapulgite, a hydrated magnesium aluminosilicate and a principal member of the fuller's earth family of clay minerals having the ideal formula: $3\text{MgO} - 1.5\text{Al}_2\text{O}_3 - 8\text{SiO}_2 - 9\text{H}_2\text{O}$. The highly thixotropic behavior of these attapulgite products gives formulators a cost effective way to develop coatings with improved syneresis control and sag resistance without compromising leveling and film build.

Performance Highlights:

- Assist in syneresis control, sag resistance, anti-settling, leveling and film build
- Highly thixotropic
- Easy to disperse in aqueous and solvent based systems
- Compatible with most physical chemical environments
- Cost effective

Sustainability Highlights:

- Low VOC
- Non-APEO
- Made from naturally occurring clay
- Very low solvent content
- Virtually no odor
- Very efficient at low dosage

Applications:

Attagel 50 is recommended for thickening, pigment suspension and syneresis control of water based coatings, mastics, caulks, sealants and tape joint compounds. Due to its particle size, Attagel is most suited to applications where the film thickness is greater than 3 mils. It is suitable for adhesive, sealant and EIFS applications.

Characteristic Values:

Specific gravity	2.4
Average particle size (microns)	9
Bulk density (loose, kg/m ³)	400



Rheovis® AS 1125

Rheovis AS 1125 is an alkali swellable emulsion (ASE) and, upon neutralization with a base, it imparts strong viscosity increase and shear thinning characteristics in water based coating systems.

Performance Highlights:

- Strong shear thinning effect
- Improves anti-settling and sag resistance
- Excellent spray properties
- Easy handling with low viscosity

Sustainability Highlights:

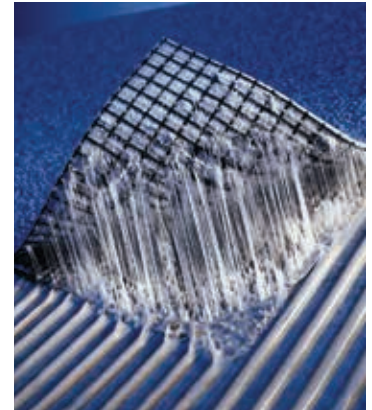
- Low VOC content
- Non-APEO
- Heavy-metals-free (e.g. organic tin compounds)
- Solvent-free
- Very efficient at low dosage

Applications:

Rheovis AS 1125 is very versatile. It is particularly recommended for flooring adhesives, sealants and EIFS formulations. Rheovis AS 1125 is also suitable for construction adhesives, ceramic tile adhesives, flexible roof coatings.

Characteristic Values:

Solids (%)	25
pH value	2.8
Viscosity (mPa-s)	17.0
Density (g/cm ³)	1.05



Rheovis® HS 1152

Rheovis HS 1152 is a hydrophobically modified alkali swellable emulsion (HASE) and upon neutralization with a base, it enhances low-shear rheology in water based coating systems.

Performance Highlights:

- Imparts cost effective pseudo-plasticity
- Improves anti-settling and sag resistance
- Easy handling with low viscosity

Sustainability Highlights:

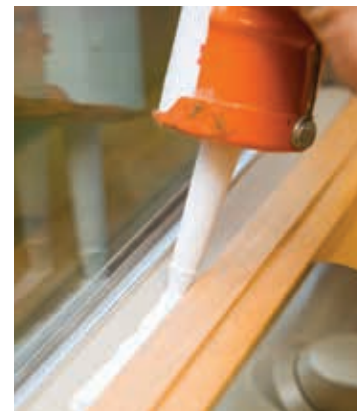
- Low VOC content
- Non-APEO
- Does not contain heavy metals or solvents
- Very efficient at low dosage

Applications:

Rheovis HS 1152 is recommended for ceramic tile adhesive and fiber bonding applications. It is suitable for adhesive and sealant formulations.

Characteristic Values:

Solids (%)	40
pH value	3.2
Viscosity (mPa-s)	5
Density (g/cm ³)	1.05



Rheovis® HS 1162

Rheovis HS 1162 is a hydrophobically modified alkali swellable emulsion (HASE) and upon neutralization with a base, it enhances low-shear rheology in water based coating systems. This pseudo-plastic rheology response gives paint formulators a cost effective way to improve anti-settling and sag resistance of the coating.

Performance Highlights:

- Imparts cost effective pseudo-plasticity
- Improves anti-settling and sag resistance
- Easy handling with low viscosity

Sustainability Highlights:

- Low VOC content
- Non-APEO
- Does not contain heavy metals or solvents
- Very efficient at low dosage

Applications:

Rheovis HS 1162 is particularly recommended for mastic ceramic tile adhesives and primers/bonding aids. Furthermore it is suitable for flooring, construction adhesives, sealant and fiberbonding applications.

Characteristic Values:

Solids (%)	35
pH value	3.5
Viscosity (mPa-s)	5
Density (g/cm ³)	1.04



Rheovis® PU 1191

Rheovis PU 1191 is a low VOC, highly-efficient associative thickener for all types of aqueous formulations.

Performance Highlights:

- Excellent low shear viscosity builder
- Highly efficient (2-5 times higher efficiency)
- Easy handling and incorporation without high shear mixing
- Excellent sag resistance for thick coatings
- Excellent chemical resistance and anti-settling properties

Sustainability Highlights:

- Low VOC
- Non-APEO
- Does not contain heavy metals or solvents
- Virtually no odor

Applications:

Rheovis PU 1191 is recommended when a shear thinning viscosity profile is needed and when the formulation is not under alkaline conditions. It is suitable for use in flooring and construction adhesives, flexible roof coatings, sealant and air weather barrier applications.

Characteristic Values:

Solids (%)	30
Viscosity (mPa-s)	2800
Density (g/cm ³)	1.03



Rheovis® PU 1251

Rheovis PU 1251 is a low VOC, non-APEO and tin free mid shear, easy to incorporate associative thickener for use in water based formulations.

Performance Highlights:

- Multi-functional; built in foam suppression and wetting properties
- Provides excellent flow and leveling

Sustainability Highlights:

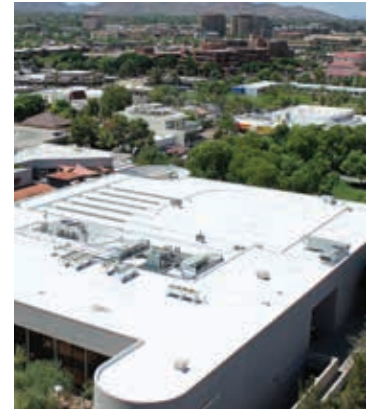
- Efficient compared to other 25% active thickeners that contain solvent
- Low VOC
- Non-APEO and non-heavy metal

Applications:

Rheovis PU 1251 is recommended in formulations that require comprehensive sustainability properties. It finds use in a range of applications that span industrial spray to architectural roll and brush to construction trowel and pour. Due to its balanced rheological profile, Rheovis PU 1251 can be used in many cases as the sole rheology modifier. It is highly recommended for flexible roof coatings and air weather barriers.

Characteristic Values:

Solids (%)	30
Active content (%)	20
Viscosity (mPa-s)	3000
Specific gravity	1.0



Rheovis® AS 1920

Rheovis AS 1920 is a highly effective rheological control thickener for systems which are supplied as “dry systems.”

Performance Highlights:

- Highly efficient, > 90% active
- Develops easy to apply rheology over a broad application range
- Immediate thickening upon addition of water provided pH > 7.5

Sustainability Highlights:

- Highly efficient thickening
- Active content > 90%
- Low VOC content
- With proper storage shelf life can exceed 2 years

Applications:

Rheovis AS 1920 is recommended for gypsum based plasters and cements. It imparts thixotropic thickening and promotes formulations that resist sagging. Being a dry powder thickener, it is most suited to “dry powder” based products where water is needed prior to application. These include tile adhesives, grouts, stuccos, plasters and mortars. Its thickening efficiency is optimized at pH levels between 7.5 and 10.5.

Characteristic Values:

Solids (%)	> 90
Particle size (microns)	< 100
Density (g/cm ³)	0.65



Dispersing agents:

Dispersing agents keep inorganic filler particles "evenly spaced", i.e. they support the dispersion of filler particles and prevent their reagglomeration and sedimentation. Dispersing agents are important during the manufacture of construction chemical products and strongly impact the performance of the final formulation: storage stability is improved and rheological properties, like workability and consistency, can be effectively controlled.

Selection Guide

■ : Recommended □ : Suitable

Product	Liquid or Powder	Applications							
		Adhesives	Sealants	Flexible Roof Coatings	Cementitious	EIFS	Ceramic Tile Adhesives	Air Weather Barriers	Fiberbonding
Dispex® AA 4030	Liquid	□	■				□		□
Dispex AA 4135	Liquid	■	■	□	■	■	■	■	□
Dispex AA 4144	Liquid	□		■			□	■	□
Dispex AA 4935	Powder	□	□		□	□			□
Dispex CX 4320	Liquid	□	■		■	■	■	■	
Dispex CX 4340	Liquid	■	■		■			■	
Dispex CX 4910	Powder	□			□	□	□		

When looking for high value-in-use in a broad application range, BASF recommends polyacrylic acid type dispersing agents like Dispex AA 4135, AA 4030 and the powder type Dispex AA 4935. In applications where enhanced water resistance is needed, modified polycarboxylates like Dispex CX 4320 and CX 4340 will be the better choice. All recommended dispersing agents act mainly through electrostatic interactions.

Dispex® AA

Dispex AA 4030, Dispex AA 4135, Dispex AA 4144, and Dispex AA 4935 are polymeric dispersing agents based on acrylic acid ammonium or sodium salt in water.

Performance Highlights:

- Dispex AA 4030 offers reduced water sensitivity due to ammonium
- Dispex AA 4030 offers reduced water sensitivity due to ammonium neutralization
- Dispex AA 4135, 4144, 4935 offer reduced odor due to sodium hydroxide neutralization

Sustainability Highlights:

- Low VOC
- Low odor
- Non-APEO
- Excellent cost performance balance

Applications:

Dispex AA 4030 is recommended for sealants and construction adhesives, and it is also suitable for flooring adhesives and ceramic tile adhesives.

Dispex AA 4135 is very versatile. It is mainly recommended for flooring adhesives, sealants, construction adhesives, for ceramic tile adhesives, flexible roof coatings and for primers/bonding aids.

Dispex AA 4144 is highly recommended for flexible roof coatings, air weather barriers and suitable for adhesive applications.

Dispex AA 4935 is recommended for water dispersible powder systems. It is also suitable for sealants, construction adhesives and flooring adhesives.

Characteristic Values:

	Dispex AA 4030	Dispex AA 4135	Dispex AA 4144	Dispex AA 4935
Solids (%)	30	35	35	95
VOC content (%)	< 0.1	< 0.1	<0.3	<0.3



Dispex® CX

Dispex CX 4320, Dispex CX 4340, and Dispex CX 4910 are polymeric dispersing agents based on the sodium salt of a modified polycarboxylate in water.

Performance Highlights:

- Excellent dispersing efficiency for inorganic fillers and pigments
- High water resistance
- Broad application range

Sustainability Highlights:

- Low VOC
- Low odor
- Non-APEO

Applications:

Dispex CX products are recommended for construction adhesives, sealants, mastic ceramic tile adhesives, mastics, flexible roof coatings, primers/bonding aids and for EIFS formulations. Furthermore, Dispex products are also suitable for flooring adhesives.

Characteristic Values:

	Dispex CX 4320	Dispex CX 4340	Dispex CX 4910
Solids (%)	25	40	> 99
VOC content (%)	< 0.1	< 0.3	< 0.1



Defoamers:

Defoamers enable accurate filling levels of reactors and vessels during manufacture of construction chemical products. Additionally they reduce foaming of the formulation during application. Defoamers make an important contribution to the appearance, workability and consistency of the final product. For example, in SLU (self-levelling underlayment) formulations defoamers are important to improve the levelling capability and to avoid surface defects. In the case of waterproofing applications they are essential to enable the necessary sealing performance.

Selection Guide

■ : Recommended □ : Suitable

Product	Liquid or Powder	Applications									
		Adhesives	Sealants	Flexible Roof Coatings	Asphalt Modification	Cementitious	Eifs	Ceramic Tile Adhesive	Air Weather Barriers	Fiberbonding	Carpet
Foamaster® MO 2133	L	■		■	□	□	■		■	□	□
Foamaster MO 2185	L	■	■		□			□		■	■
Foamaster MO NXZ	L	■	■	■	□		■		■	□	
FoamStar® ED 2522	L	□	□	□		□	□			□	■
FoamStar SI 2210	L	■	□	□	□	□	■			□	■
FoamStar SI 2213	L	□		□	■	■	■			■	■
FoamStar PB 2706	L				■	□	□	■	□	□	
FoamStar PB 2922	P					□					
FoamStar PB 2941	P					□					
FoamStar ST 2410	L			■		□	■	□	■		
FoamStar ST 2420	L			■		□	■	□	■		

Defoamers disturb the bubble stabilizing effect of surfactants in construction chemical formulations. They must be able to enter the foam lamellae, spread there and finally disrupt them. The right balance between efficacy and compatibility in the formulation is key. To serve various applications and formulations, BASF offers a broad portfolio of defoamers of different technologies: oil-based defoamers, emulsion defoamers, siloxane-based defoamers, defoamers based on special polymers or powder defoamers.

Foamaster® MO 2133

Foamaster MO 2133 is a mineral oil defoamer containing a multi-hydrophobe blend.

Performance Highlights:

- Economical universal defoamer effective in high shear environments and in low VOC systems

Sustainability Highlights:

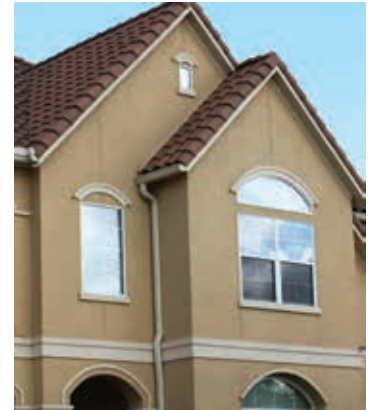
- Low VOC
- Cost effective

Applications:

Foamaster MO 2133 is recommended for flexible roof coatings, air weather barriers, EIFS and adhesive applications. Furthermore, it is suitable for asphalt modification, fiber bonding, carpet and cementitious formulations.

Characteristic Values:

Viscosity (mPa-s)	1000
Density (g/cm ³)	0.85
Solids (%)	98
Active Substance (%)	100



Foamaster® MO 2185

Foamaster MO 2185 is a highly compatible mineral oil defoamer for low viscosity fluids.

Performance Highlights:

- An easy to incorporate, highly effective defoamer

Sustainability Highlights:

- Can be added under low shear mixing
- Stays dispersed in the system

Applications:

Foamaster MO 2185 is recommended for construction adhesive, fiber bonding, and carpet applications. Furthermore, it is suitable for asphalt modification, sealant, and ceramic tile adhesive formulations.

Characteristic Values:

Viscosity (mPa-s)	400
Density (g/cm ³)	0.91
Solids (%)	94
Active Substance (%)	100



Foamaster® MO NXZ

Foamaster MO NXZ is a general purpose mineral oil defoamer with easy incorporation.

Performance Highlights:

- Good compatibility with no fish-eyes
- Universal defoamer for water-based formulations

Sustainability Highlights:

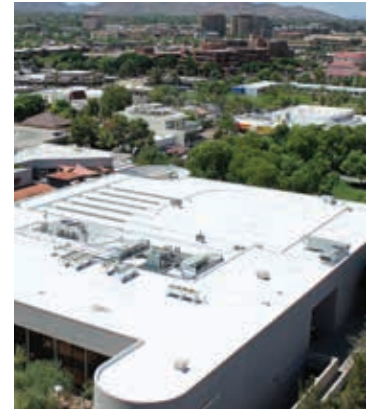
- Universal use

Applications:

Foamaster MO NXZ is recommended for flexible roof coatings, sealant, construction adhesive, EIFS, and air weather barrier formulations. Additionally, it is suitable for asphalt modification, fiber bonding, and carpet applications.

Characteristic Values:

Viscosity (mPa-s)	400
Density (g/cm ³)	0.88
Solids (%)	88
Active Substance (%)	100



FoamStar® ED 2522

FoamStar ED 2522 is an emulsion defoamer based on organo-modified silicones suspended in water.

Performance Highlights:

- Universal defoamer for water-based formulations
- High performance
- Excellent storage stability
- Easy to incorporate

Sustainability Highlights:

- Low VOC and SVOC content
- Non-APEO

Applications:

FoamStar ED 2522 is suitable for flooring adhesives, flexible roof coatings, sealants, EIFS, fiber bonding and construction adhesives. It is recommended for carpet applications.

Characteristic Values:

Viscosity (mPa-s)	1500
Density (g/cm ³)	1.0
Solids (%)	20
pH	9.0



FoamStar® SI 2210

FoamStar SI 2210 is a defoamer based on a modified polydimethylsiloxane.

Performance Highlights:

- Universal defoamer for water-based formulations
- Strong spontaneous defoaming effect
- Good long-term efficiency

Sustainability Highlights:

- Low VOC content
- Non-APEO
- Highly efficient

Applications:

FoamStar SI 2210 is specially recommended for flooring adhesive and EIFS applications. Furthermore it is suitable for sealants, construction adhesives, flexible roof coatings, air weather barriers, fiber bonding, carpet and ceramic tile adhesives.

Characteristic Values:

Viscosity (mPa-s)	75
Density (g/cm ³)	0.95
Solids (%)	> 99



FoamStar® SI 2213

FoamStar SI 2213 is a defoamer based on a modified polydimethylsiloxane.

Performance Highlights:

- Universal defoamer for water-based formulations
- Excellent compatibility
- Highly effective

Sustainability Highlights:

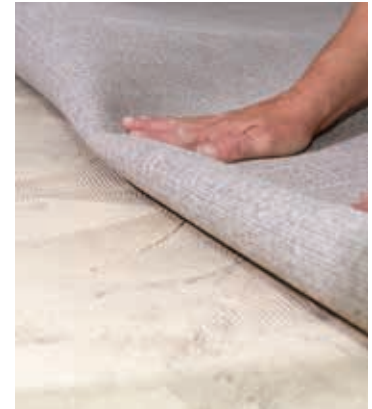
- Low VOC content
- Non-APEO

Applications:

FoamStar SI 2213 is recommended for asphalt modification, cementitious applications, EIFS, fiber bonding and carpet. Furthermore it is also suitable for flooring adhesive and flexible roof coating formulations.

Characteristic Values:

Viscosity (mPa-s)	450
Density (g/cm ³)	1.0
Solids (%)	> 99



FoamStar® PB 2706

FoamStar PB 2706 is a defoamer with a polyether derivative of a fatty acid as its chemical basis.

Performance Highlights:

- Universal defoamer for aqueous construction chemistry formulations
- Adhesion properties are not altered with use
- Good water emulsifiability

Sustainability Highlights:

- Non-APEO
- High efficiency

Applications:

FoamStar PB 2706 is recommended for ceramic tile adhesives and asphalt modification. It is suitable for air weather barriers, EIFS, and cementitious formulations.

Characteristic Values:

Acid value (mg/g)	≤ 8
pH value	4.0
Density (g/cm ³)	0.99



FoamStar® PB 2922

FoamStar PB 2922 is a powder defoamer based on a silicone-free blend of surface-active and mineral substances.

Performance Highlights:

- Universal defoamer for powder preparations
- Good water emulsifiability
- Fast escape of entrapped air while incorporating water
- Smooth and bubble-free flow

Sustainability Highlights:

- Non-APEO
- Outstanding efficiency

Applications:

FoamStar PB 2922 is suitable for cementitious applications.

Characteristic Values:

Solids (%)	100
Bulk density (g/cm ³)	0.43



FoamStar® PB 2941

FoamStar PB 2941 is a powder defoamer based on a mineral oil on an inorganic carrier material.

Performance Highlights:

- Universal defoamer for powder preparations
- Good water emulsifiability
- Efficient elimination of entrapped air

Sustainability Highlights:

- Non-APEO
- Very high efficiency

Applications:

FoamStar PB 2941 is suitable for cementitious applications.

Characteristic Values:

Active substance (%)	65.0
Bulk Density (g/cm ³)	0.43



FoamStar® ST 2410

FoamStar ST 2410 is a hyper-branched polymer blend.

Performance Highlights:

- Excellent persistence and long term defoaming
- Fast bubble-break time
- Efficient at eliminating microfoam

Sustainability Highlights:

- Low VOC and low odor
- More effective and lower dosing needed compared to mineral oil defoamers

Applications:

FoamStar ST 2410 is recommended for flexible roof coatings, air weather barriers, and EIFS. It is also suitable for cementitious and ceramic tile adhesive formulations.

Characteristic Values:

Viscosity (mPa-s)	1500
Density (g/cm ³)	0.87
Solids (%)	98
Active Substance (%)	100



FoamStar® ST 2420

FoamStar ST 2420 is a hyper-branched polymer blend.

Performance Highlights:

- Very fast bubble break times
- Effective against microfoam
- Very high persistence

Sustainability Highlights:

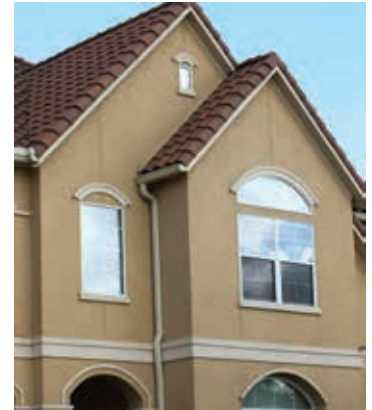
- Ultra low VOC, low odor
- More effective and lower dosing needed compared to mineral oil defoamers

Applications:

FoamStar ST 2420 is recommended for flexible roof coatings, air weather barriers, and EIFS. It is also suitable for cementitious and ceramic tile adhesive formulations.

Characteristic Values:

Viscosity (mPa-s)	1250
Density (g/cm ³)	0.85
Solids (%)	99.5
Active Substance (%)	100



Film forming and wetting agents:

BASF recommends coalescing agents, like Loxanol® CA 5310, in order to reduce the minimum film forming temperature of dispersion-based formulations. Coalescents enable a lowered application temperature of the final product. Wetting agents, like Hydropalat® WE 3370 and WE 3475, are used in adhesive formulations to improve adhesion and bonding strength to a variety of surfaces. In some cases the wetting agent also contributes to the stabilization of the formulation.

Selection Guide

■ : Recommended □ : Suitable

Product	Liquid or Powder	Applications							
		Adhesives	Sealants	Flexible Roof Coatings	EIFS	Ceramic Tile Adhesives	Air Weather Barriers	Fiberbonding	Carpet
Hydropalat WE 3475	Liquid	□				□		□	□
Hydropalat WE 3320	Liquid	■	■	□	□	■	□	□	
Hydropalat WE 3322	Liquid	■	■	□	□	■	□	□	
Hydropalat WE 3323	Liquid	■	■	□	□	■	□	□	
Hydropalat WE 3370	Liquid	■	■	□	□	■	□		
Loxanol CA 5310	Liquid	□	□	□		□	□		
Loxanol CA 5086	Liquid	□	□	□		□	□		

Hydropalat® WE 3475

Hydropalat WE 3475 is a highly efficient sulfosuccinate wetting agent with strong reduction of dynamic surface tension.

Performance Highlights:

- High efficiency with low critical micelle concentration
- Low viscosity
- Good compatibility
- Strong reduction of dynamic surface tension

Sustainability Highlights:

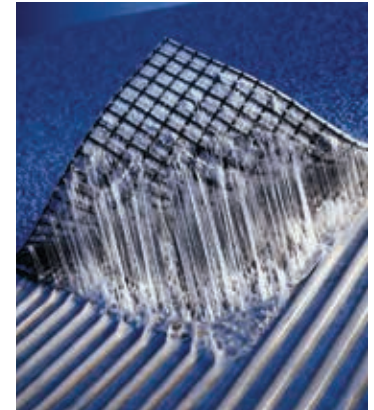
- Non-APEO

Applications:

Hydropalat WE 3475 is recommended for overcoming surface tension differences to increase wetting and adhesion to difficult to wet substrates such as flooring and polymer fibers where some foaming is tolerated or even desired.

Characteristic Values:

Solids (%)	75
Sodium Sulfate Content (%)	< 1



Hydropalat® WE 3320

Hydropalat WE 3320 nonvolatile, non-ionic surfactant which is used in waterborne coatings as a wetting and dispersing agent with improved substrate wetting.

Performance Highlights:

- Alcohol ethoxylate
- Good wetting with good compatibility
- 100% active

Sustainability Highlights:

- Non-APEO
- Low VOC

Applications:

Hydropalat WE 3320 is a good replacement for APEO surfactants used in adhesive and sealants to provide wetting on low energy substrates.

Characteristic Values:

Solids (%)	90
VOC Content (%)	< 0.1



Hydropalat® WE 3322 and Hydropalat WE 3323

Hydropalat WE 3322 and Hydropalat WE 3323 are anti-foaming, wetting and leveling agents. Hydropalat WE 3323 is also hydrophobic.

Performance Highlights:

Hydropalat WE 3322 and Hydropalat WE 3323

- Silicone and fluorine-free
- 100% active
- Foam destabilizer
- Excellent surface tension reduction without loss of adhesion

Sustainability Highlights:

Hydropalat WE 3322 and Hydropalat WE 3323

- Non-APEO
- 100% actives
- <1% VOCs

Applications:

Hydropalat WE 3322 and 3323 are recommended for adhesives and sealants that are applied to difficult to wet substrates where foam is not desired. The Hydropalat® WE 3322 and 3323 will actually help eliminate foam.

Characteristic Values:

Solids (%)	98
VOC Content (%)	< 1
Appearance	clear yellow liquid
Specific gravity	1.00
Color, Gardner	max 7.0



Hydropalat® WE 3370

Hydropalat WE 3370 is a fluorocarbon-modified polyacrylate and in water-based systems. It has excellent substrate wetting, leveling and anti-cratering.

Performance Highlights:

- Fluorinated wetting agent
- Non-foaming
- Excellent wetting without loss of adhesion

Sustainability Highlights:

- Non-APEO

Applications:

Hydropalat WE 3370 is recommended adhesives and sealants for very difficult to wet substrates where foam is not desired. Hydropalat WE 3370 is very efficient due to the fluorinated content.

Characteristic Values:

Solids (%)	60
VOC Content (%)	< 10



Loxanol® CA 5086 and Loxanol CA 5310

Loxanol CA 5086 is a high performance, low VOC, coalescing agent for water-borne applications. Loxanol CA 5310 has an excellent balance of coalescent properties.

Performance Highlights:

Loxanol CA 5086

- Increases flexibility and toughness
- Minimizes water sensitivity
- Improves film formation

Loxanol CA 5310

- Improved film formation
- Low odor
- Rheology modifier enhancer

Sustainability Highlights:

Loxanol CA 5086

- Low VOC

Loxanol CA 5310

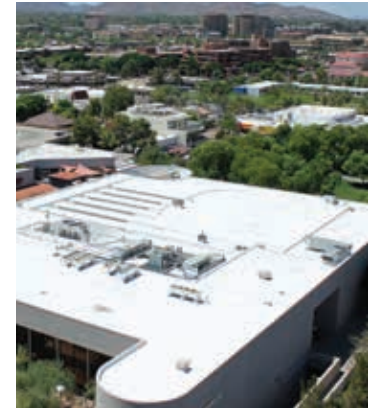
- Low VOC
- Non-APEO

Applications:

Loxanol CA 5086 and CA 5310 are recommended as low VOC coalescents for adhesives and elastomeric coatings to provide flexibility and elongation.

Characteristic Values:

	Loxanol CA 5086	Loxanol CA 5310
Solids (%)	> 97	> 98
Viscosity (mPa-s)	60	30
VOC Content (%)	< 3	< 2



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