Technical Data Sheet

PRIMAL™ WDV-2001 GS Acrylic Emulsion

100% Acrylic Emulsion For Anti-Carbonation Flat & Textured Finishes

Regional Product Availability

EMEA

Description

PRIMAL™ WDV 2001 GS Acrylic Emulsion is a 100% acrylic emulsion with solar-UV-curing technology which can offer excellent exterior durability, water resistance, dirt pick-up resistance and mechanical stability and elasticity (including crack bridging) for use in flat and textured finishes. PRIMAL™ WDV 2001 GS Acrylic Emulsion is manufactured without the use of APEO* surfactants and no added formaldehyde* or formaldehyde generators*, enabling the formulator to develop coatings for building projects with stringent environmental and building code regulations.

The advanced technology of PRIMAL™ WDV 2001 GS Acrylic Emulsion combined with its mechanical and dirt-pick-up resistance properties that enables the formulation of anti-carbonation-type coatings suiting a harsh environment and capable of passing many of the elongation, pull-off strength, crack-bridging, CO2 diffusion and water vapour transmission specifications commonly required for this category of coatings. The general formulating space for such a coating based on PRIMAL™ WDV 2001 GS Acrylic Emulsion is around 35 +/-3 % PVC at approximately 40+/-2% volume solids and an applied dry-film thickness of about 140+/-10 microns/coat.

Textured finishes can be applied to all vertical masonry surfaces, transforming them from bland expanses of masonry into attractive and durable pieces of architecture. Trowel applied finishes are also employed as a decorative finish for EIFS (External Insulation and Finishing Systems), utilising polystyrene foam as the substrate. The size and shape of aggregates and fillers used have a dramatic effect on texture systems. Particularly in "scratch" finishes, the coarsest grades should be rounded pebbles or washed river sands which "roll" through the coating to give texture. If the coarser grades are made from crushed, angular materials, it is more difficult to apply in a uniform manner.

PRIMAL™ WDV-2001 GS Acrylic Emulsion is cement compatible and can therefore be used in 2-pack cementitious basecoats and adhesives.

APEO, formaldehyde or formaldehyde generators are not intentionally added and are not knowingly introduced from another raw material.

Typical Physical Properties

(These properties are typical but do not constitute specifications).

Property	Typical Values
Appearance	Milky white liquid
Solids contents %	46-47
pH	8.5-9.5
Viscosity Brookfield (3 spindle 60 rpm) 1600 mPa.s	1600 mPa.s
Minimum Film Formation Temperature	~7° C
Specific gravity (wet polymer)	1.03 g/cm3

Recommended Applications

- Semi-flexible anti-carbonation coatings (Roll & Spray)
- Trowel-on textured finishes
- Brush-on textured finishes
- Roll-on textured finishes
- Spray-on textured finishes

Characteristics

- Excellent exterior durability
- Excellent dirt pick-up resistance
- Good elastomeric properties and crack briding
- Superior adhesion and water Resistance

Environmental Benefits

- Manufactured without the use of APEO surfactants*
- No formaldehyde releasers**
- Enables formulators to comply with emission standards such as Green Seal

* Because we do not analyze the product for trace levels of components that may be introduced from raw materials DOW cannot guarantee the absence of these substances.
**Less than the content in industrial water used.

Exterior Texture

Grind the following	Parts by Weight	Description	Supplier Name
Water	64.00		
OROTAN™ 731A ER	8.70	Dispersant	Dow Chemical
TRITON™ DF 12	1.20	Surfactant	Dow Chemical
Byk-024	2.30	Defoamer	Byk Chemie GmbH
ACRYSOL™ RM-825	7.00	Thickener	Dow Chemical
Propylene Glycol	5.80	Solvent	Dow Chemical
TiO2 (Cristal 121)	67.10	Pigment	Cristal Global-KSA
Durcal 5	49.50	Filler	Omya
Durcal 40	139.80	Filler	Omya
Let Down			
TERGITOL™ 15 S 40 (70%)	2.80	Surfactant	Dow Chemical
PRIMAL™ WDV-2001 GS	232.50	Acrylic Polymer	Dow Chemical
Calcium Carbonate (0.35-0.7mm)	110.60	Calcium Carbonate	Omya
Calcium Carbonate (0.6-1.6mm)	174.70	Calcium Carbonate	Omya
Sand S1 (0-0.1mm)	90.40	Sand	
Byk-024	2.30	Defoamer	Byk Chemie GmbH
Butyl CARBITOL™	8.70	Coalescent	Dow Chemical
KATHON LXE	1.70	Fungicide	Dow Chemical
AMP-95™	1.00	Neutrilizer	Dow Chemical
ACRYSOL™ TT-615	5.80	Thickener	Dow Chemical
Water	24.10		
Total	**1,000.00**		

Weight Solids	75.60%	
Flexibility	23 degs	(10)degs
Elongation at Break (%)	20	5.5
Tensile Strength (Mpa)	0.4	1.61
Accelerated Ageing		
Time in Oven @ 60 degs	pH	Consistancy (g.cm)
0 days	8.8	90
7 days	8.7	150
14 days	8.7	160

Anti-Carbonation Formulation

Grind the following	Parts by Weight	Description	Supplier Name
Water	66.3		
OROTAN™ 731A ER	8.4	Dispersant	Dow Chemical
TERGITOL™ 15-S-40	2.1	Surfactant	Dow Chemical
Byk-012	2.2	Defoamer	Byk Chemie GmbH
KATHON LXE	1.4	Biocide	Dow Chemical
Propylene Glycol	15	Solvent	Dow Chemical
TiO_2 (Cristal 121)	130	Pigment	Cristal Global-KSA
Calcium Carbonate JCSF	220	Filler	Omya
Let Down			
PRIMAL™ WDV-2001 GS	439.3	Acrylic Polymer	Dow Chemical
Byk-012	0.9	Defoamer	Byk Chemie GmbH
UCAR™ Filmer IBT	7	Coalescent	Dow Chemical
ACRYSOL™ RM-8 W	18.5	Thickener	Dow Chemical
ACRYSOL™ ASE 060ER	5	Thickener	Dow Chemical
Water	83.9		
Total	**1,000.00**		

Property	Result
NV (w),%	57.00
NV (v),%	42+/-1
PVC, %	37+/-2
Specific Gravity	1.341
pH Value	>8.5
Viscosity (KU)	>140
Viscosity (poise)	45.00
Viscosity (cps)	27000
Gloss @ 60degs	8.5 +/-1
Opacity @ WFT 7mils	93.5+/-0.5

Performance Test	Results	Method
Elongation	>250%	ASTM D 412
Pull of strength	>2 N/mm2	ASTM D 4541
Crack Bridging	>1.8mm	ASTM C836:95
CO^2 Diffusion	>50m	EN 1062-6:2002
H^2O Vapour Transmission	<4m	TP/N950 /09/16074

Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal Considerations

Dispose in accordance with all, local or national regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local or national regulations. Contact your Dow Coating Materials Technical Representative for more information.

Chemical Registration

Many countries within EMEAI require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Dow does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

Note on EMEAI Product Line

Product availability and grades vary throughout the countries in the EMEAI area. Please contact your local Dow Coating Materials representative for further information and samples.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

For more information visit us on dow.com

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