Technical Data Sheet

SURECEL™ 466 Processing Aid

Description

SURECEL™ 466 Processing Aid is an ultra-high molecular weight acrylic copolymer, used as a processing aid in foamed PVC formulations. SURECEL™ 466 for extruded foamed vinyl products is designed to offer greater efficiency and foam expansion than other predecessor high molecular weight processing aids. Its ultra-high molecular weight enables greater expansion at equal loadings or can enable similar expansion at reduced loadings.

Applications

SURECEL™ 466 Processing Aid is recommended for extruded foamed PVC sheet and profile applications. Its molecular weight and molecular weight distribution are well tuned for delivering the rheology needed for even die flow. This facilitates achieving the surface quality necessary for point of display foam PVC sheet for printing applications. For even thicker foam sheet applications, such as thick trim board, its sibling product, SURECEL™ 467 Processing Aid, is recommended as being designed for even greater sheet thicknesses.

Regional Product availability

- North America

Typical properties

	SURECEL™ 466 Processing Aid
Physical appearance	White, free-flowing powder
Bulk density aerated (g/cm^3)	0.40 to 0.50
Volatiles (% max)	<1%

[1] Typical properties, not necessarily specifications

Key attributes

- Excellent density reduction capablity for cellular applications
- High melt strength
- Excellent sheet uniformity and sheet surface

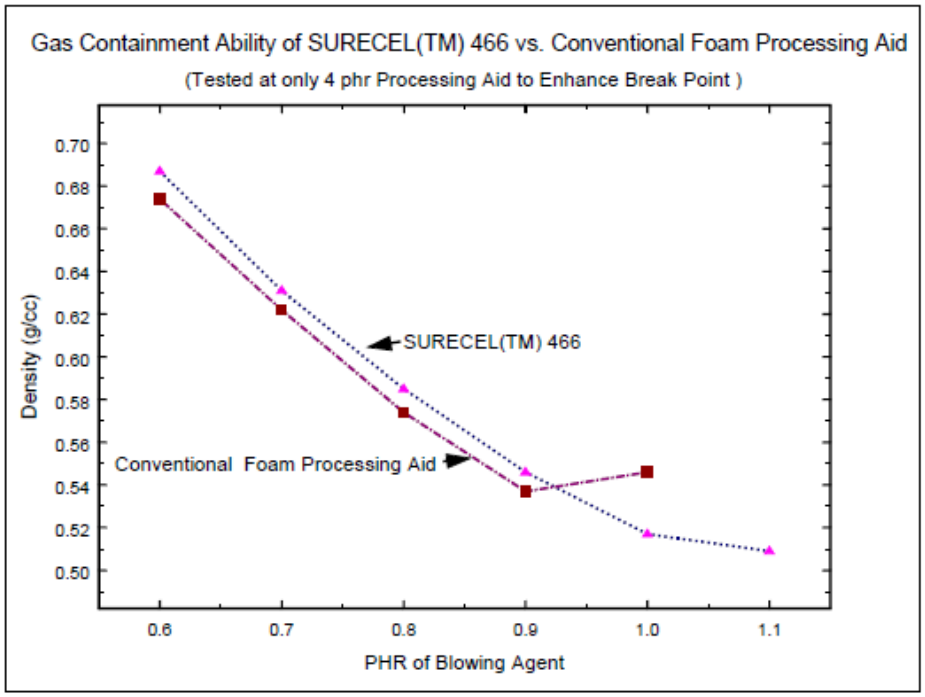
PVC Formulation Used for Evaluation presented below

Ingredient	phr
PVC, K59	100
ADVASTAB® TM-181FS Thermal Stabilizer	2.5
Foam Processing Aid	**4**
CaSt	1.3
ADVALUBE® B-3310 Lubricant	0.6
Paraffin wax	0.8
Oxidized PE wax	0.2
PARALOID™ K-175 Processing Aid	2
TiO2	5
$CaCO_3$	10
Blowing agent	variable

Note: ® ADVASTAB and ADVALUBE are trademarks of PMC Cincinnati, Inc.

Gas Containment Limit Capability

SURECEL™ 466 Processing Aid, used at equal loading, can accommodate more blowing agent to achieve lower density than a conventional processing aid. Its higher melt strength and elasticity reduces cell rupture and the resulting cell collapse, allowing lower density to be achieved at high blowing agent loadings.



Efficiency vs. Conventional High Molecular Weight Foam Processing Aid

SURECEL™ 466 Processing Aid, being an ultra-high Mw foam processing aid, can be employed at lower levels than conventional high Mw foam processing aids. Its improved rheology, particularly its elasticity, imparts higher foam expansion. Thus, SURECEL™ 466, at 7.5phr, gives the same expansion as 10phr of a conventional foam processing aid. However, it maintains equal density and surface appearance qualities.

Foam Cell Promoter	Relative volume expansion out of the die	Sheet Density	Surface appearance and foam cell quality	Melt pressure and extruder torque
10 phr of Conventional	1	0.55	=	=
7.5 phr of SureCel ™ 466	1	0.55	=	=

Note: Volume expansion is measured on foam rods as $(\text{Foam Diameter})^2$ / $(\text{Die Diameter})^2$

Product Packaging

The standard package is a 500-900 kg super sacks/big bags/FIBC bags.

Please consult a Dow representative for specific package availability for this product.

Quality management system

The Dow Chemical Company (Dow) and its subsidiaries have implemented a comprehensive quality management system pursuant to Good Manufacturing Practices (GMP) and various quality management standards including ISO 9001. An overview of **The Dow Quality Management System Manual** can be obtained at the following Internet web site – http://www.dow.com/en-us/about-dow/our-company/beliefs-and-culture/quality-culture. As part of that system, the Dow Plastics Additives business maintain ISO 9001 registration for most of our manufacturing plants. A copy of these certificates available upon request.

Storage and handling precautions

Store unopened in original packaging at ambient temperature. If material is opened, it should not be left exposed and should be used within one month. When stored correctly in the original packaging, the shelf life is 3 years from date of manufacture.

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage. Contact Dow for copies of the SDS and for more information on this product. Information contained in a TDS document cannot substitute a SDS.

Disposal considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

Medical Applications Restrictions

Dow prohibits sale into certain medical applications. Please check with Dow if you believe your application could be in violation of this policy.

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. The customer is solely responsible for determining the suitability of the Dow product for the uses contemplated by customer. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow and available online at www.dow.com.

Regulatory Information

If your application includes a sensitive application such as food contact or drinking water requirements or if you need other regulatory information, please contact your local Dow representative.

Contact information:

If you should have any questions regarding this notice, please contact your local Dow Representative or www.dow.com/contact