ROHM AND HAAS

PARALOID™ K-445

All Acrylic Modifier for Cellular Vinyl Products

Description

PARALOID K-445 is a high efficiency acrylic processing aid formulated to deliver excellent performance at an optimized loading. It will deliver low use cost relative to the industry standard PARALOID K-400 without sacrificing sheet quality at maximum production rates.

The optimized molecular architecture of PARALOID K-445 processing aid offers the following benefits:

- Low density
- Lower use cost
- Improved dosage efficiency compared to PARALOID K-400
- High melt strength
- Excellent sheet uniformity

Typical Physical Properties

These properties are typical but do not constitute specifications.

Chemical description	Acrylic polymer
Appearance	White, free-flowing powder
Bulk density, g/cc	0.455 to 0.48

Formulations

Rohm and Haas Formulation for Thick Sheet Evaluations

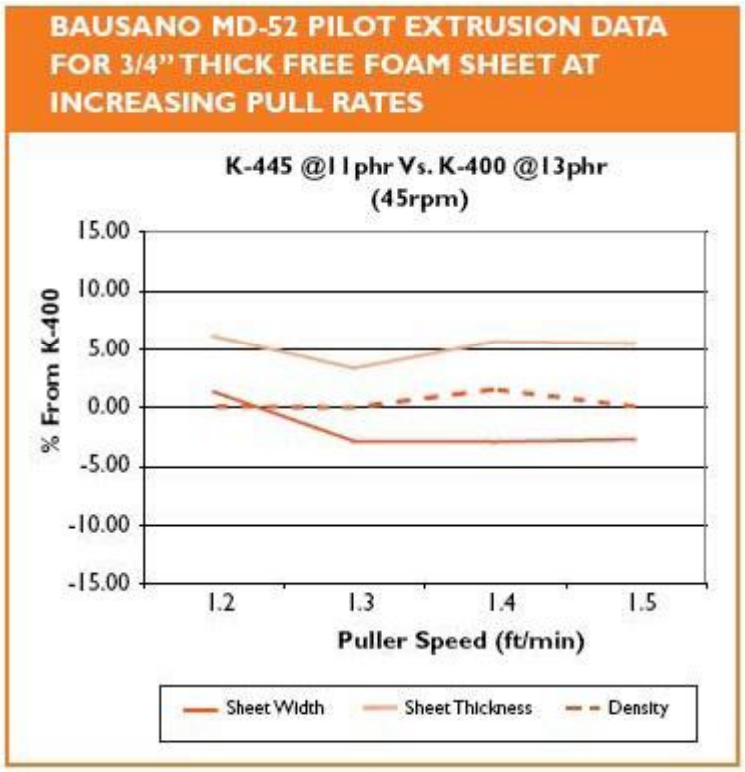
	phr
PVC (K 60)	100
ADVASTAB™ TM-181	2.0
ADVALUBE™ B-4540	1.5
Calcium Stearate	0.8
Paraffin Wax	0.5
Oxidized PE wax	0.2
PARALOID K-175	1.5
PARALOID K-400/K-445	13.0/11.0
Calcium Carbonate	5.0
TIO_2	2.0-8.0
Chemical Blowing Agent	*As needed

Expansion

PARALOID K-445's molecular architecture allows for uniform sheet expansion across wide sheet dies like the industry standard PARALOID K-400. Typically slightly greater sheet thickness is observed.

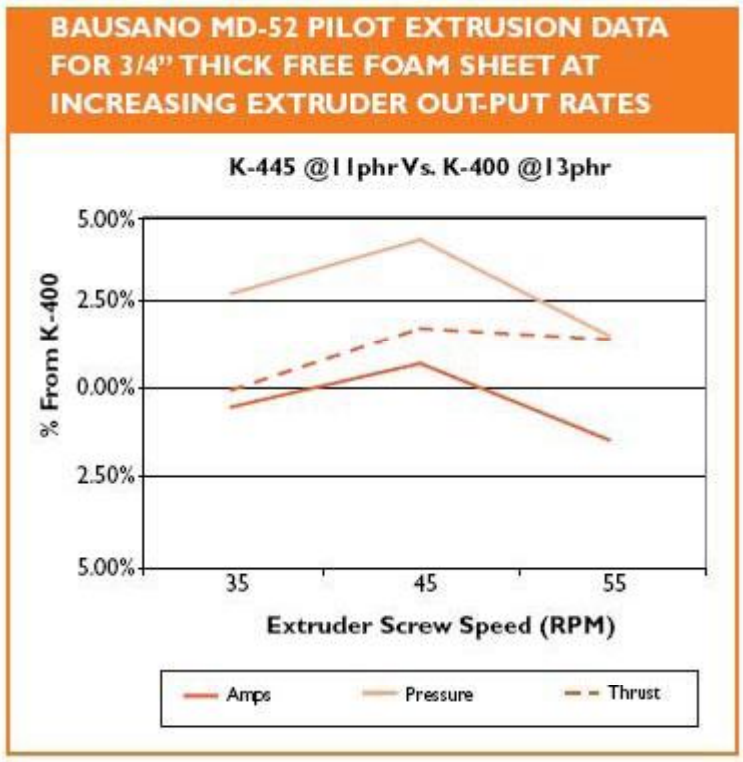
Density

The high efficiency of PARALOID K-445 processing aid enables the possibility of lower density or the efficiency of using less process aid to achieve a targeted density.



Extrusion Rheology

The PARALOID K-445 should provide near drop-in performance at a lower dosage in place of the PARALOID K-400, and a superior processing window compared to other products. Due to high loading of process aid in cellular sheet formulations, torque related responses are dependent on melt viscosity and not fusion characteristics. At increasing extrusion rates, PARALOID K-445 imparts almost no change in torque, very slight increase in thrust and modest increases in melt pressure indicating the tendency to impart consistent performance as out-put is maximized.



Technical Support

Since there are many different end use applications and production processes for Vinyl foam, it is critical for manufacturers to optimize formulations. Rohm and Haas has the technical resources and market knowledge to provide specific formulation solutions for a wide range of processes and applications. We have foam development groups at our technology centers in Spring House, Pennsylvania, USA and Valbonne, France. These development and testing laboratories are equipped with the latest foam extrusion lines that serve as proving grounds to establish processing conditions for various end uses. In addition, we offer customers all of our analytical services for product characterization and problem solving.

Standard Packaging

The standard package is either a unitized pallet of 50x50 lb. bags (2500 lb. net) or a 1700 lb. supersack. Please confer with your account manager for specific package availability.

Storage and Handling

(see MSDS for details)

Standard recommended storage conditions are as follows:

- Store indoors, protected from weather (moisture)
- Temperature should not exceed 60°C
- Protect from ultraviolet light
- With stretch hood or stretch wrap intact (if applicable)

Unopened (if material is opened, it should not be left exposed and should be used within one month); ambient temperature preferred.

When stored correctly in the original packaging, the shelf life is 2.5 years from date of manufacture.

Safe Handling Information

Avoid high concentrations of dust in air and accumulation of dust on equipment. An airborne dust of this material

can create a dust explosion. When handling and processing this material, local exhaust ventilation may be required to control dust and reduce exposure to vapors. To prevent dust explosions, employ bonding and grounding for operations capable of generating static electricity. Dispose by placing powder or pellets in airtight bags. Incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations.

Material Safety Data Sheets (MSDS)

Material Safety Data Sheets are available outlining hazards and safe handling methods. Contact Rohm and Haas for copies of the MSDS for this product and for other handling information.

Rohm and Haas Plastics Additives Solutions Provider Product Range

ACRYLIGARD™	Weatherable Acrylic Capstock Resins
ADVALUBE	Specialty Lubricants
ADVAWAX™	Specialty Waxes
ADVASTAB	Thermal Stabilizers
ADVAPAK™	Stabilizer/Lubricant One-Packs
PARALOID	Impact Modifiers
PARALOID	Processing Aids
PARALOID	Acrylic Multi-functionals and Specialties
PARALOID EXL™	Additives for Engineering Resins
VINYZENE™	Antimicrobials for Plasticized Vinyl, TPU, PU, TPE, Rubbers, Polymeric Alloys

The Plastics Additives business of Kureha Chemical was purchased by Rohm and Haas Company in 2002. Some products formerly sold under the Kureha name have been re-branded PARALOID.

March 2003
PA KM-445.PB0208E