PARALOID™ K-416 High Molecular Weight Process Aid

For Foam Core Pipe Applications

Regional Product Availability

- North America
- Asia-Pacific

Description

PARALOID™ K-416 High Molecular Weight Process Aid offers improved efficiency for density reduction and foam expansion without sacrificing the lubricating properties of PARALOID K-415.

PARALOID K-416 Process Aid is recommended for cellular core PVC pipe. Other applications and processes, such as foam profiles or deck board, may benefit from the metal release provided by PARALOID K-416.

Typical Properties

Bulk density:	0.32–0.53 g/cc
Appearance:	Free flowing white powder

Benefits

- Improved efficiency–effective at lower levels than PARALOID™ K-415 Process Aid
- PARALOID K-416 Process Aid is a bifunctional material combining the necessary melt strength with the convenience of metal release in one product. This formulation provides metal release without the risk of additional plate-out.
- Lower use cost
- Better cell structure at equal loading
- Enables density reduction

Performance

PARALOID™ K-416 Process Aid more efficiently delivers melt performances leading to lower costs. On an equal loading basis, PARALOID K-416 improves melt pressure, density and swell. Depending on the application, savings can be realized through lower density or lower formulated cost of the compound.

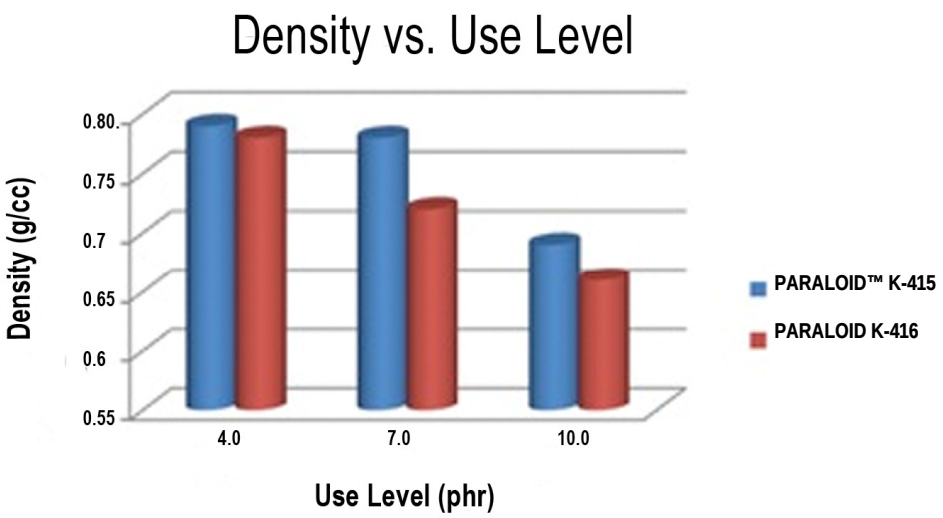
The following compound was employed to demonstrate these performances tabulated below.

Formosa F-614	100
Chemical Blowing Agent	0.4
ADVASTAB™-181FS Stabilizer	2
ParaffinWax XL-165	0.8
CaSt Norac	1.3
AC-629A	0.2
ADVALUBE™ B3310 Lubricant	0.6
TiO_2 (RCL-4)	2.5
$CaCO_3$ (UFT)	10

Performance (Continued)

Brabender Single Screw Extrusion with a Rod Die:
BZ1 160°C, BZ2 170°C, BZ3 180°C, and Die 160°C

	PARALOID™					
	K415 - 4.0 phr	K415 - 7.0 phr	K415 - 10.0 phr	K416 - 4.0 phr	K416 - 7.0 phr	K416 - 10.0 phr
Torque m-g	2995	3260	3502	3293	3680	4027
Melt temp C	172	171	172	172	172	173
Melt pressure PSI	960	1102	1250	1024	1257	1452
Density g/cc	0.79	0.78	0.69	0.78	0.72	0.66
Rod Diameter mm	10.70	12.62	14.00	11.08	13.46	15.21



Regulatory Compliance

All components of PARALOID™ K-416 Process Aid are TSCA listed.

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.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

CAUTION! Failure to maintain proper volume level when using immersion heaters can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

Storage

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

Disposal

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.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Plastics Additives Technical Representative for more information.

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.

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