

Cyclo-pentane blown foam systems for discontinuous filling of pipes:
Daltofoam TE 34201/Suprasec 5005 and Daltofoam TE 34210/Suprasec 5005

Pipe insulation

fact sheet



PRODUCT INTRODUCTION

Dalfoam TE 34201 and Dalfoam TE 34210 are fully formulated polyol systems containing water, catalyst and silicone surfactant, developed for the discontinuous filling of pipes. Cyclo-pentane has to be added prior to pipe filling. The system Dalfoam TE 34201/Suprasec 5005 provides improved processing properties, whereas the system Dalfoam TE 34210/Suprasec 5005 provides an increased long-term thermal resistance.

PRODUCT CHARACTERISTICS

Property	Unit	Dalfoam TE 34201	Dalfoam TE 34210
Appearance	–	pale yellow liquid	pale yellow liquid
Hydroxyl value	mg KOH/g	445	490
Viscosity at 25°C (without pentane)	mPa.s	1950	3300
Density at 25°C	kg/l	1.07	1.07
Flash point	°C	>100	>100
Reactivity in foam test*			
– Cream time	s	34	41
– String time	s	179	180
Free rise density* (bagfoam)	kg/m ³	32	29

Typical Properties:

The typical physical properties are published as a guide to potential users of the product. A sales specification is published separately.

* measured at a temperature of 20°C on a laboratory bagfoam
mixing ratio: 100 pbw Dalfoam TE 34201, 9.5 pbw c-pentane and 184 pbw Suprasec 5005
mixing ratio: 100 pbw Dalfoam TE 34201, 11.4 pbw c-pentane and 198 pbw Suprasec 5005

KEY FEATURES

Daltofoam TE 34201/Suprasec 5005 provides a broad processing window through improved flow properties. Daltofoam TE 34210/Suprasec 5005 provides an increased long-term heat resistance. Both systems offer very good adhesion between foam and pipe components, i.e. steel and HDPE casing pipe. Excellent thermal and mechanical foam properties can be obtained with both systems.

Daltofoam TE 34201/Suprasec 5005:

- cyclo-pentane/water dual blown
- no surface friability
- low viscosity
- superior flow properties
- cost saving potential through reduced pipe filling density
- complies with EN253 norm

Daltofoam TE 34210/Suprasec 5005:

- cyclo-pentane/water dual blown
- no surface friability
- increased long-term thermal resistance
- complies with EN253 norm

The recommended mixing ratio of Daltofoam TE 34201 respectively Daltofoam TE 34210 and Suprasec 5005 that will give the best properties is:

100 pbw Daltofoam TE 34201, 184 pbw Suprasec 5005 and 9.5 pbw c-pentane
 100 pbw Daltofoam TE 34210, 198 pbw Suprasec 5005 and 11.4 pbw c-pentane

FOAM PROPERTIES

Foam property	Unit	Daltofoam TE 34201	Daltofoam TE 34210	EN253 requirement
Core density	kg/m ³	78.0	78.0	60
Overall density	kg/m ³	90.6	88.0	80
Compressive strength	MPa	0.45	0.44	0.30
Water absorption	%	8.3	4.9	10
Axial shear strength at 23°C	MPa	0.42	0.26	0.12
Axial shear strength at 140°C	MPa	0.25	0.14	0.08
Tangential shear strength at 23°C	MPa	0.64	0.64	0.20
Thermal conductivity (50°C)	W/m.K	0.027	0.028	0.033
CCOT*	°C/30y	144	149	120

The following properties were determined on pre-insulated DN50 pipes.

All material properties are fulfilling the requirements of the EN253 norm for buried pre-insulated pipes.

* calculated continuous operating time

HUNTSMAN

Polyurethanes

Contacting us –

In Europe

Everslaan 45
B-3078 Everberg
Belgium
Tel +32 2 758 9211
Fax +32 2 759 5501

In the Americas

286 Mantua Grove Road
West Deptford, NJ
08066-1732
USA
Tel +1 856 423 8300
Fax +1 856 423 8501

In Asia Pacific

150 Beach Road
14-05/08 Gateway West
Singapore 189720
Tel +65 297 3363
Fax +65 298 8606

Web:

<http://www.huntsmanpolyurethanes.com>

Huntsman Polyurethanes warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, NO GUARANTY, WARRANTY, OR REPRESENTATION IS MADE, INTENDED, OR IMPLIED AS TO THE CORRECTNESS OR SUFFICIENCY OF ANY INFORMATION, OR AS TO THE MERCHANTABILITY OR SUITABILITY OR FITNESS OF ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE, OR THAT ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS OR THE USE THEREOF ARE NOT SUBJECT TO A CLAIM BY A THIRD PARTY FOR INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT. THE USER SHOULD CONDUCT A SUFFICIENT INVESTIGATION TO ESTABLISH THE SUITABILITY OF ANY PRODUCT FOR ITS INTENDED USE. Liability of Huntsman Polyurethanes for all claims, whether arising out of breach of contract, warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material. Products may be toxic and require special precautions in handling. For all products listed, the user should obtain detailed information on toxicity, together with proper shipping, handling, and storage procedures, and comply with all applicable safety and environmental standards. Toxicity and risk characteristics of chemical compounds and other products may differ when used with other materials or in a manufacturing or other process. Those risk characteristics should be determined by the user and made known to handlers, processors, and end users.

Huntsman Polyurethanes is an international business unit of Huntsman International LLC. Huntsman Polyurethanes trades with Huntsman affiliated companies in the relevant countries such as Huntsman International LLC in the USA and Huntsman Holland BV in western Europe.

'Daltofoam' and 'Suprasec' are trademarks of Huntsman International LLC.

© 2000, Huntsman International LLC. All rights reserved.

Edited by Jürgen Kellner.

Designed and produced by C² creative communications.

December 2000.