

Flame retardant foam systems for pipe insulation:
Daltofoam TE 21200/Suprasec 5005, Daltofoam TE 22200/Suprasec 5005
and Daltofoam TE 42200/Suprasec 5005

Pipe insulation

fact sheet



PRODUCT INTRODUCTION

Daltofoam TE 21200, Daltofoam TE 22200 and Daltofoam TE 42200 are fully formulated polyol systems containing water, catalyst, silicone surfactant and in case of Daltofoam TE 21200 and Daltofoam TE 22200, HCFC-141b. These systems were developed for the discontinuous filling of pipes. Daltofoam TE 21200 and Daltofoam TE 22200 are HCFC-141b/water dual blown systems. The use of HCFC-141b, having ozone depletion potential and a global warming potential, is restricted in a number of countries and will be phased out in the future. It is advised to check the local legislation before implementing this system in the production. Daltofoam TE 42200 is a fully water blown system.

PRODUCT CHARACTERISTICS

Property	Unit	Daltofoam TE 21200	Daltofoam TE 22200	Daltofoam TE 42200
Appearance	–	pale yellow liquid	pale yellow liquid	pale yellow liquid
Hydroxyl value	mg KOH/g	280	335	365
Viscosity at 25°C	mPa.s	820	590	610
Density at 25°C	kg/l	1.18	1.18	1.18
Flash point	°C	>100	>100	>100
Reactivity in foam test*				
– Cream time	s	27	42	52
– String time	s	152	180	165
Free rise density* (bagfoam)	kg/m ³	36	30	32

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 Daltofoam TE 21200 and 119 pbw Suprasec 5005
mixing ratio: 100 pbw Daltofoam TE 22200 and 142 pbw Suprasec 5005
mixing ratio: 100 pbw Daltofoam TE 42200 and 162 pbw Suprasec 5005

KEY FEATURES

Daltofoam TE 21200, in combination with Suprasec 5005, allows the production of pre-insulated pipes with a discontinuous pipe filling technique. The foam provides flame retardancy classified as M1 according to the Epiradiateur test with steel facing (NFP-92-501).

Daltofoam TE 22200 and Daltofoam TE 42200, in combination with Suprasec 5005, allow the production of pre-insulated pipes with a discontinuous pipe filling technique. Foams that exhibit excellent thermal and mechanical foam properties can be obtained. In addition to that, the foam provides flame retardancy classified as B2 according to the norm DIN 4102.

- Daltofoam TE 21200: HCFC-141b/water dual blown
- flame retardancy classified as M1, Epiradiateur test with steel facing
- very good adhesion properties
- very good flow properties
- very good mechanical properties

- Daltofoam TE 22200: HCFC-141b/water dual blown
- Daltofoam TE 42200: fully water blown
- flame retardant according to DIN 4102: class B2
- very good adhesion properties
- very good flow properties
- excellent mechanical foam properties
- good long-term thermal resistance
- comply with EN253 norm

The recommended mixing ratio that will give the best properties is:

100 pbw Daltofoam TE 21200 and 119 pbw Suprasec 5005

100 pbw Daltofoam TE 22200 and 142 pbw Suprasec 5005

100 pbw Daltofoam TE 42200 and 162 pbw Suprasec 5005

FOAM PROPERTIES

Foam property	Unit	Daltofoam TE 22200	Daltofoam TE 42200	EN253 requirement
Overall density	kg/m ³	99	88	80
Core density	kg/m ³	87	78	60
Compressive strength	MPa	0.50	0.46	0.30
Closed cell content	%	>90	>90	>88
Water absorption	%	7.8	4.9	10
Axial shear strength at 23°C	MPa	0.38	0.32	0.12
Axial shear strength at 140°C		0.14	0.15	0.08
Tangential shear strength at 23°C	MPa	0.56	0.36	0.20
CCOT*	°C/30y	>120	>120	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>

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