

## TEGOSTAB® BF 2270

TEGOSTAB® BF 2270 is a polysiloxane polyoxy-alkylene block copolymer which is used as a foam stabilizer in the manufacturing process of flexible polyether polyurethane foams (hot cured foam).

### Physical Properties

Viscosity (25 °C)	1 600 ± 250 mPas
pH-value (4 % hydrous solution)	10.0 – 11
Cloud point (4 % hydrous solution)	36 – 40 °C

### Instructions for Storage

For TEGOSTAB® BF 2270 we guarantee a shelf life of at least 6 months upon delivery under the condition, that it is stored in factory-packed containers and protected against extreme weather conditions, particularly against heat and moisture.

The solidification point of TEGOSTAB® BF 2270 is below -20 °C. Storage at low temperatures is therefore principally no difficulty, it is, however, recommended to warm up undercooled material to approximately ambient room temperature before use.

### Application

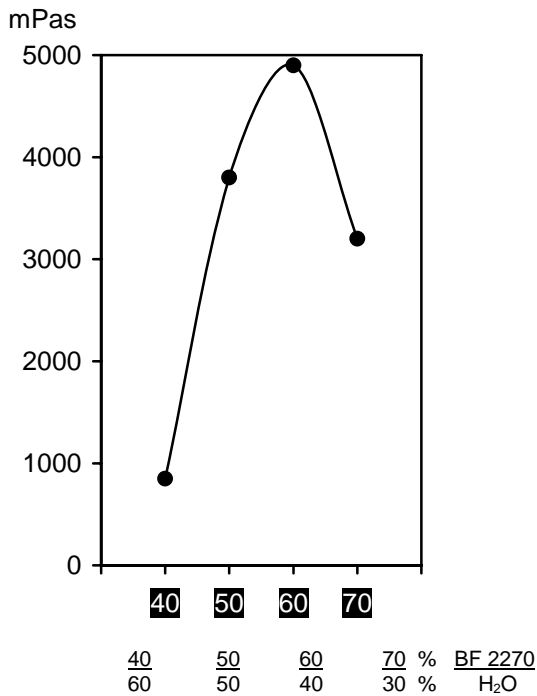
TEGOSTAB® BF 2270 can be dosed either as a separate stream or as an ingredient in a hydrous amine activator solution. There are no problems concerning solubility at all ratios commonly applied for foam production. The shelf life of such premixes is also guaranteed.

Premixes with different commercially available tertiary amines were tested for their shelf life. No loss of activity was found over a period of 5 days when they were kept at room temperature.

It is a common property of non-ionic silicon surfactants, the flexible foam stabilizers generally are assigned to, that as a consequence of special chemical bonding conditions the viscosity rises steeply at certain concentrations in hydrous solutions.

This must be considered whenever for some reason hydrous solutions at comparatively high concentration of the surfactant are to be prepared.

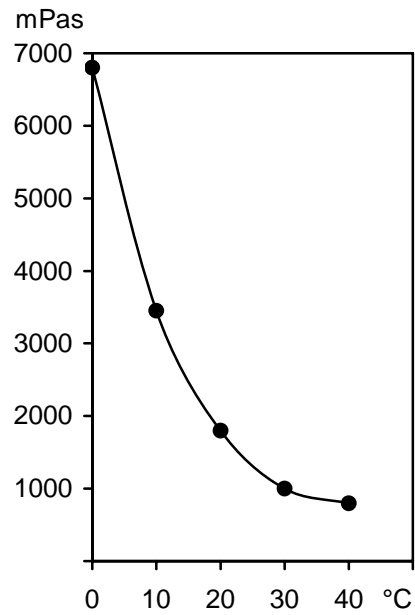
The viscosity characteristic is shown in figure 1.  
 Figure 1: Viscosity of aqueous solutions of TEGOSTAB® BF 2270 at 20 °C



When TEGOSTAB® BF 2270 is dosed as an ingredient of premixes always make sure that organic tin catalysts never come into the foam stabilizer or the activator blend. The tin catalyst, e. g. stannous octoate, is destroyed by amine and, in its turn, can change the chemical structure of the foam stabilizer quite drastically within a very short time. A product which has been damaged in this way is no longer suitable for production of perfect and stable foams.

It is the state of the art to bring all raw materials and additives to processing temperature before use. If the desirable and usual temperature for once cannot be kept due to unfavorable circumstances, it must be considered, that the flow rate of dosing pumps may vary, since their flow rate depends on the viscosity of the foam stabilizer which changes with the temperature. This dependency is shown in figure 2.

Figure 2: Viscosity of TEGOSTAB® BF 2270 at different temperatures

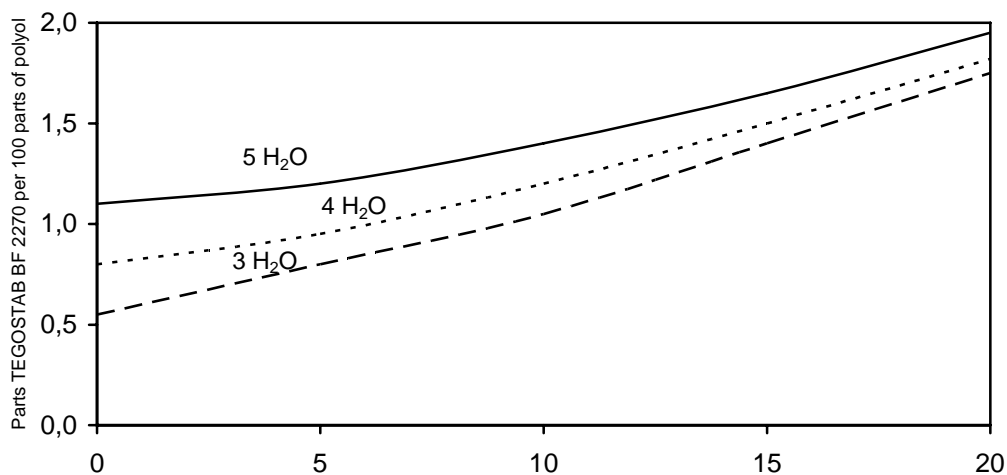


TEGOSTAB® BF 2270 belongs to the group of foam stabilizers with high activity. Nevertheless, the processing latitude is broad enough to enable the production of foams with an open cell structure without difficulty. The high activity proves an economic advantage as sufficient stabilization can be achieved with comparatively small amounts. However, this advantage is particularly obvious in formulations for low- to medium-density foams. Here the performance of TEGOSTAB® BF 2270 does not depend on whether a great amount of water is applied as the only blowing agent or auxiliary blowing agents, such as methylene chloride are also used.

Table 1	Formulations (all figures in weight per cent)			
	Polyol (OH-number 47)	100	100	100
T 80	38.1	48.3	58.4	63.5
Water	3	4	5	5.5
TEGOSTAB® BF 2270	0.6	0.8	0.8	1.5
KOSMOS® 29	0.2	0.2	0.22	0.35
TEGOAMIN® 33	0.25	0.2	0.2	0.2
Methylene chloride	-	-	-	15

The optimum applied concentration of TEGOSTAB® BF 2270 depends on the machine conditions and the design of the formulation (reactivity of the polyol, amount of blowing agent, type and quantity of activators). As a rule it is between 0.6 and 2.0 parts per 100 parts polyol. Recommendations for applied concentrations as they are given in figure 3 for different ratios water / blowing agent must therefore be regarded as standard values meant to facilitate and accelerate the optimizing work.

Figure 3:  
parts physical blowing agent per 100 parts of polyol



### **Packing**

210 kg iron drums  
1 050 kg plastic containers

### **For Information**

- on classification and labeling in accordance with shipping instructions and the Toxic Substances Control Act
- on protective measures during storage and handling
- on measures in case of accidents and fire
- on toxicology and ecological toxicity

please refer to our safety data sheets.

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