

## ORTEGOL® FLA

The flame lamination additive ORTEGOL® FLA is especially designed to improve the adhesion of polyether polyurethane foam to a fabric. This reactive additive gives excellent adhesion properties to polyether foams after flame lamination while being built into the foam matrix to guarantee negligible emission. Specifically emission of phenol will be avoided when working with ORTEGOL® FLA as flame lamination additive.

### Physical properties

Appearance	Clear, slightly yellow liquid
Viscosity (25 °C)	~ 1600 mPas
Specific gravity (25 °C)	1.20 ± 0.02 g/cm <sup>3</sup>
Flash point	115 °C
Hydroxyl number	~ 320 mg (KOH)/g
Solubility	soluble in polyols and most organic solvents, insoluble in water and alcohols
Phosphorous content	~ 4.25 %

### Instructions for storage

For ORTEGOL® FLA we guarantee a shelf life of 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 pour point of ORTEGOL® FLA is at -9 °C, storage at low temperatures is therefore principally no difficulty, but should not go below -9 °C.

### Application

In the production process of polyether polyurethane foams ORTEGOL® FLA acts as an efficient flame lamination additive which gives improved hydrolytic stability to the final foam combined with excellent adhesion properties

comparable to polyester foams after flame lamination.

Due to interaction with a simultaneously applied flame retardant, the optimum dosage for ORTEGOL® FLA depends on the individual formulation. Applied concentrations of 5.0 to 8.0 parts by weight of ORTEGOL® FLA per 100 parts polyol are recommended. Also the usage of FR stabilizers is essential to minimize burn-off and the amount of FR additive added.

The following table gives a formulation guideline suitable for a flame laminatable polyether foam of a density of 27 kg/m<sup>3</sup>:

Ingredient	pphp
Polyether polyol OH#=48	100
TEGOSTAB® B 8242	0.8
H <sub>2</sub> O	4.0
Flame retardant	5.0-8.0
ORTEGOL® FLA	5.0-8.0
TEGOAMIN® BDE	0.06-0.09
TEGOAMIN® 33	0.1-0.15
KOSMOS® 29	0.12-0.15
Index	105

Polyether foams with a high phosphorous content are losing their hydrolytic stability due to degradation of the phosphorous compound to phosphoric acid. ORTEGOL® FLA is developed to minimize this problem. A low phosphorous content provides similar stability as polyether foams are showing without addition of conventional flame lamination additives. At the same time loss in foam hardness and smoke generation are reduced. Due to the chemical composition of ORTEGOL® FLA there is no emission of phenol found in the final foam.

### General use instructions

ORTEGOL® FLA is a low viscosity additive that can be dosed separately or as a premix with a small amount of polyol. The latter is done in practice for improving the dosing accuracy. Such premixes should, however, be used up quickly, preferably within the same day.

### Packaging

600 kg pallet (24 x 25 kg in cans)  
800 kg pallet (4 x 200 kg in plastic drums)

### Information concerning

- classification and labeling in accordance with shipping instructions and the toxic substances control act
- protective measures during storage and handling
- measures in case of accidents and fire
- toxicology and ecological toxicity

is given in our material safety data sheets.

### Legal References

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

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