

# Polyfam<sup>®</sup> 748

## Technical Data Sheet

### Characteristics

Polyfam<sup>®</sup> 748 is a non-plasticized aqueous dispersion based on acrylic and methacrylic acid esters.

### Stabilization

Surfactants

### Recommended Application Areas

Elastomeric roof coatings  
Flexible coatings

Crack-bridging systems

### Specification

These technical data are determined for each batch before its release by our quality control laboratory.

	Unit	Value	Dev.
<b>Solids content</b> (ISO 3251: 1h; 105 °C)	%	54 ±	1
<b>Viscosity</b> (ISO 2555; Spindle 1; 20 Rpm; 23 °C) Brookfield-viscometer RVT	mPa.s (cP)	<200	1
<b>pH value</b> (ISO 976)		8.5 ±	

### Additional Data

These data are solely to describe the product. They are not subject to constant monitoring or part of the specification.

	Unit	Value
<b>Dispersion</b>		
<b>Minimum film forming temperature (MFFT)</b> (ISO 2115)	°C	< 0
<b>Density</b> (ISO 2811)	g/cm <sup>3</sup>	approx 1.03

### Film \*

#### Appearance

Clear

#### Hardness, Koenig (ISO 1522)

s

5

80

#### Glass transition temperature T<sub>g</sub> (Calculated)

°C

approx -35

Dried 1hr at 60°C then 24hr at 23±2°C and 50±5% relative humidity (ISO 3270)  
Tested at 23±2°C and 50±5% relative humidity (ISO 3270)

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application.

## Applications

Polyfam<sup>®</sup> 748 is mainly used to produce a variety of superior, 100 percent acrylic-based products specifically for use in protective elastomeric roof coatings. These coatings can be easily applied over various roofing substrates including aged built-up, polyurethane foam, galvanized steel, or cured concrete.

The benefits of formulating with Polyfam<sup>®</sup> 748 are superior exterior durability and UV light resistance, high tensile strength and elongation, as well as improved hail resistance and coating toughness to resist foot traffic and routine maintenance activities on the roof.

Its low toxicity and odour, simple water clean-up and ease of application by spray, brush or roller, results in low installation costs and facilitates handling both for contractors and manufacturers.

In addition Polyfam<sup>®</sup> 748 combines the inherent flexibility of pliable, low Tg polymers with long term resistance to dirt pickup. Without dirt pickup resistance, the roof coating would quickly darken with age. Due to dark materials' tendency to absorb heat, dirt pickup can significantly increase roof surface temperatures, which in turn increases interior temperatures and energy costs. However, coatings based on Polyfam<sup>®</sup> 748 resist dirt pickup and retain their white, reflective appearance longer than typical elastomeric coatings, thereby prolonging roof life and life time reduction of interior temperatures and air conditioning costs.

Formulations based on Polyfam<sup>®</sup> 748 have long term low-temperature flexibility, as well as an excellent wet and dry adhesion to a variety of substrates including different grades of PU foams (low and high density). They can also withstand a 180° Mandrel flexibility bend test at -25°C without breaking and cracking to accommodate thermal expansions and contractions of the substrates. Since there is no plasticizer to migrate from the system, this flexibility is retained over time. Long-term resistance to cracking can extend the life of the roof.

## Processing

Polyfam<sup>®</sup> 748 dries above 0°C to form an almost clear and crack-free film with good flexibility, water resistance and UV light resistance.

To ensure adequate storage stability, long term storage trials are recommended at any rate, especially when fillers and coloured pigments with a large specific surface area are chosen. In addition to the widespread used polyphosphates, the salts of low molecular weight polyacrylic acids (e.g. Polyfam<sup>®</sup> 101) working as a dispersing agent, should also be used to achieve further stability. Depending on the pigments and extenders, the required quantity of wetting or dispersing agent is in the range of 0.1 and 0.4 % active substance relative to the pigment/extender mixture. It should be noted, however, especially use of other wetting agents or water-sensitive components, may adversely affect the wet adhesion. Deviating from the prescribed PVC and Volume Solids suggestions can compromise the excellent tensile strength and elongation balance.

Though a variety of HEC type thickeners can be used, very good results are achieved by employing Tylose<sup>®</sup> grades of the H and MH series and/or Natrosol grades. In other cases, compatibility of the thickener with Polyfam<sup>®</sup> 748 should be test carefully before addition.

In spite of the low MFFT of Polyfam<sup>®</sup> 748, the addition of small amounts of solvents to any flexible coating systems is of advantageous to improve the processability. Addition of solvents must be done with due care.

A lot of commercially available defoamers can be included, in order to prevent excessive foaming in the paints. Trials must be carried out to determine the most suitable grades and the correct concentration.

## Preservation and Storage

To prevent attack by microorganisms, the preservatives normally used for polymer dispersions, should be added despite our preliminary preservation measures. Checks should be carried out to determine their compatibility and efficacy.

Polyfam<sup>®</sup> 748 should not be stored for longer than 6 months before processing. As far as possible, storage should be at a uniform temperature in the range of 5-25 °C. The product should, in principle, be kept away from frost.

The technical data ascertained by our quality control laboratory at the time of product release may vary according to the storage time and storage conditions and may deviate from the stated limits.

## Industry Safety and Environmental Protection

Not a hazardous substance.

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