




world of PVB resin

Mowital BA

Technical Data Sheet

Characteristics

Mowital BA grades belong to the group of polyvinyl acetals. The properties of Mowital BA grades are mainly determined by the presence of acetal, hydroxyl and acetate groups. The combination of two aldehydes leads to other properties, e.g. a higher glass transition temperature and rheology.

Recommended Uses

Mowital BA grades are used as binder for printing inks, pigment preparations, pigment chips; Binder for coatings (adhesion promotion/ corrosion protection primers).

Form supplied

Fine-grained, free-flowing white powder.

Storage

Mowital BA grades can be stored in its original packaging under dry and cool conditions for at least 12 months.

Waste disposal

In accordance with current regulations and/or after consultation with site operator and/or with the responsible authorities Mowital may be taken to waste disposal sites or incineration plants.

Specification

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

Grade	Non-volatile content (DIN 53216)	Content of polyvinyl alcohol ¹⁾	Content of polyvinyl acetate ²⁾	Dynamic viscosity ³⁾ 10 % solution in Ethanol ⁴⁾
	wt-%	wt-%	wt-%	mPa · s
Mowital BA 20 S	≥ 97,5	14 - 18	1 - 4	24 - 30
Mowital BA 55 HH	≥ 97,5	11 - 14	1 - 4	160 - 220

¹⁾ Hydroxyl groups in terms of polyvinyl alcohol

²⁾ Acetyl groups in terms of polyvinyl acetate

³⁾ according to DIN 53015, at 20 °C

⁴⁾ containing 5 % water

Additional Data:

Grade	Glass Transition Temperature (DSC, ISO 11357-1)	Bulk density (DIN EN 543) / 20° C
	°C	g/l
Mowital BA 20 S	84	250 - 400
Mowital BA 55 HH	92	200 - 350

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

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Nomenclature

Our Mowital grades are named using a self-explaining nomenclature. The tradename Mowital is followed by the capitals BA stating the aldehyde used: B is standing for butyraldehyde and A for acetaldehyde. The numbers refer to the degree of polymerization, the higher the number the higher the degree of polymerization (viscosity). The suffixes S and HH indicate the degree of acetalisation, S being the lower and HH the higher acetalisation degree.

Properties and uses

Mowital BA grades are thermoplastic polyvinyl butyral resins which are supplied as fine-grained, free-flowing powders.

The properties of the various grades are mainly determined by their molecular weights and their degree of acetalisation. Mowital grades are soluble in a broad variety of organic solvents.

Mowital BA grades shows good compatibility with suitable plasticizers and different polymers. They are able to cross-link with other resins such as phenolic, epoxide and melamine resins.

Processing

Mowital BA grades can be processed and applied by the usual equipment of the printing ink and lacquer industry.

Applications

Preferred solvents for Mowital BA grades are alcohols such as ethanol, iso-propanol, n-butanol or diacetone alcohol. In printing ink applications commonly ethanol is used. The grades are also well-soluble in esters, such as e. g. methyl acetate, ethyl acetate and n-butyl acetate.

Mowital is not soluble in water. However, a water content of up to 10% in the solvent mixture is possible and can be used to influence solution viscosity. Increase or decrease of viscosity depends on the type of solvents (e.g. increase in ethanolic solution) and must be tested in advance.

Due to its good flow properties and excellent pigment wetting, Mowital BA grades are well-suited for the production of pigment concentrates and preparations (pigment chips).

The adhesion to organic and inorganic substrates, e. g. based on cellulose acetate, polyethylene, polypropylene, polystyrene, polyester - eventually surface treated - and aluminium are good. If necessary, the adhesion

properties to difficult substrates, such as e. g. surface-treated OPP-films with homopolymer or ethylen-propylene-copolymer surface layers, can be improved by addition of an adhesion-promoter, e. g. ®Lupasol WF (BASF).

Mowital BA grades are used to manufacture shop and wash primers (1K and 2K primers). The films adhere extremely well to steel, iron, zinc, aluminium and other metals.

To achieve further improvement in anti-corrosion protection as well as adhesion Mowital BA can be combined with low-molecular weight phenolic, epoxy or urea resins.

The good anchorage of the primer on metal is caused by a binder/ pigment/ orthophosphoric acid/ metal complex.

Besides binders for printing inks, Mowital BA grades also can be used advantageously for applications where low melt viscosity or an increased solid content along with high wetting affinity to pigments/ fillers are required.

Industrial Safety and Environmental Protection

Not a hazardous substance within the meaning of the current Dangerous Substances Regulations (GefStoffV).

A safety data sheet is available on request.

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 therefore not be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is subject to our General Conditions of Sale.

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