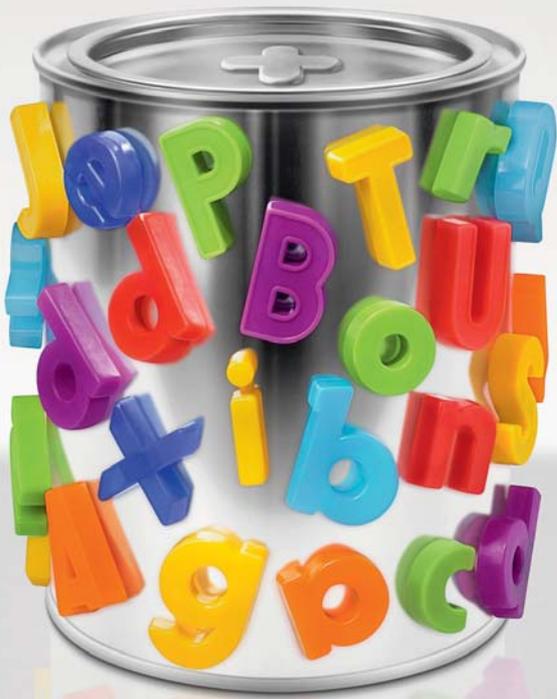


TEGO[®] AddBond – For Maximum Adhesion



tego

Evonik. Power to create.

TEGO® AddBond



Improving Adhesion

The products of the TEGO® AddBond series are specialty polyester resins for use as adhesion-enhancing components in solventborne, waterborne, or radiation-curing coatings and printing inks. Due to their broad compatibility with a large number of binders they are very suitable for physically or oxidatively drying, thermosetting, or radiation-curing formulations.

They improve adhesion to a number of substrates, including critical substrates like metals, minerals, and various types of plastics, and are therefore often used in under coats. They also improve intercoat adhesion, so that they are highly recommended even in multi-coat formulations.

The adhesive power of the TEGO® AddBond products, combined with their excellent resistance to hydrolysis and their water-repellent properties, significantly improve corrosion protection in coatings.

In effect coatings, TEGO® AddBond improves the cohesion within the film layer. Moreover, these products also help to improve gloss and flexibility.

Product range/supply form

TEGO® AddBond HS	75% by wt. in n-butyl acetate
TEGO® AddBond LTH	Irregular, drop-shaped pellets
TEGO® AddBond LTW	60% by wt. in xylene
TEGO® AddBond LTW-B	60% by wt. in n-butyl acetate
TEGO® AddBond 2220 ND	60% by wt. in Solvent Naphtha 150
TEGO® AddBond 2325	60% by wt. in n-butyl acetate
TEGO® AddBond 1270	70% by wt. in sec.-butanol
TEGO® AddBond DS 1300	45% by wt. in dem. water, neutralizer: Dimethylaminoethanol

Packaging

Solvent containing grades:

Screw cap drum, net content 25 kg

Steel drum, net content 200 kg

TEGO® AddBond LTH:

PE-bag, antistatic, net content 25 kg

TEGO® AddBond DS 1300:

PE-canister, net content 25 kg,

Srew cap drum, net content 200 kg

Storage stability

When protected against light and humidity and at storage temperatures of less than 25°C, TEGO® AddBond products have a storage stability of 6 months.

Avoid storing TEGO® AddBond 1270 at temperatures below 10°C and TEGO® AddBond DS 1300 at temperatures below 5°C.

Safety

Any safety information needed may be obtained from our MSDS.

Contact with foods

This Product can be used in compliance with the following section(s) and may be subject to any applicable limitations: Food Contact Notification (FCN) 918. 1) As a monomer, alone, or in combination with the polyhydric alcohols listed in 21 CFR 175.300 (b)(3)(vii)(c), in the production of polyester can coatings used in the manufacture of articles or component of articles for contact with food. 2) As a monomer in the production of polyester resins used as components of adhesives for food contact applications, compliant with 21 CFR 175.105 and 175.125. With limitations specified in FCN.

Properties and Applications



General

Because of free carboxyl groups present in the resins, reactions may occur with basic pigments (e.g., zinc oxide). This reaction could be beneficial and lead to a higher paint film density.

On the other hand, this may lead to an undesirable increase in viscosity. Using smaller amounts of TEGO® AddBond or choosing a more compatible grade could be helpful. Adhesion may deteriorate if resins are used along with surfactants. Resins may be combined with polysiloxanes in the usual dosages.

TEGO® AddBond HS

TEGO® AddBond HS is a high solids co-binder. The use of TEGO® AddBond HS in paint formulations enables the VOC content to be reduced. The product results in excellent adhesion properties on metals and plastics.

TEGO® AddBond LTW, LTW-B and 2220 ND

The soft TEGO® AddBond LTW, LTW-B and 2220 ND have a flexibilizing effect and differ from one another primarily in their supply form. TEGO® AddBond 2220 ND is particularly suitable in the can coating and coil coating sectors. Systems based on saturated polyester resins, amine resins and isocyanate resins demonstrate better storage and processing properties.

TEGO® AddBond LTH

The swelling of hard TEGO® AddBond LTH in water is very minimal. Dissolved in plasticizers, it can be used in the manufacture of self-adhering organosols and plastisols. One noteworthy feature is that plasticizers do not migrate into TEGO® AddBond LTH when it is applied to plasticizer-containing PVC. In radiation-curing systems TEGO® AddBond LTH tends to increase the curing speed. Furthermore, volume shrinkage that occurs during curing can be reduced. To achieve short dissolving times, heat should be used along with fast stirrers in the production of resin solutions. A minimum dissolving temperature between 50 and 60°C is recommended for solvents and monomers. For plasticizers this temperature should be between 90 and 100°C.

TEGO® AddBond 2325

TEGO® AddBond 2325 is particularly suitable for use in systems in which other TEGO® AddBond products are incompatible.

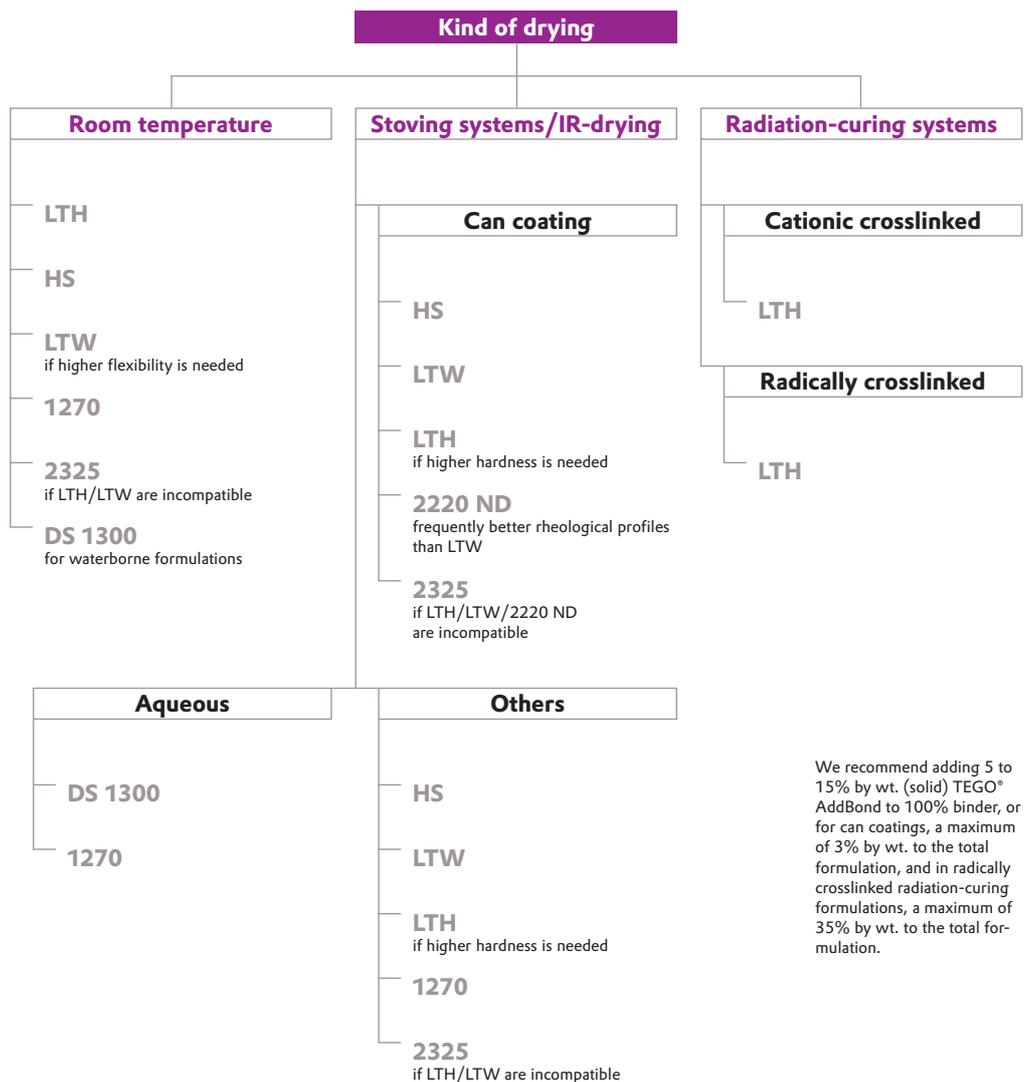
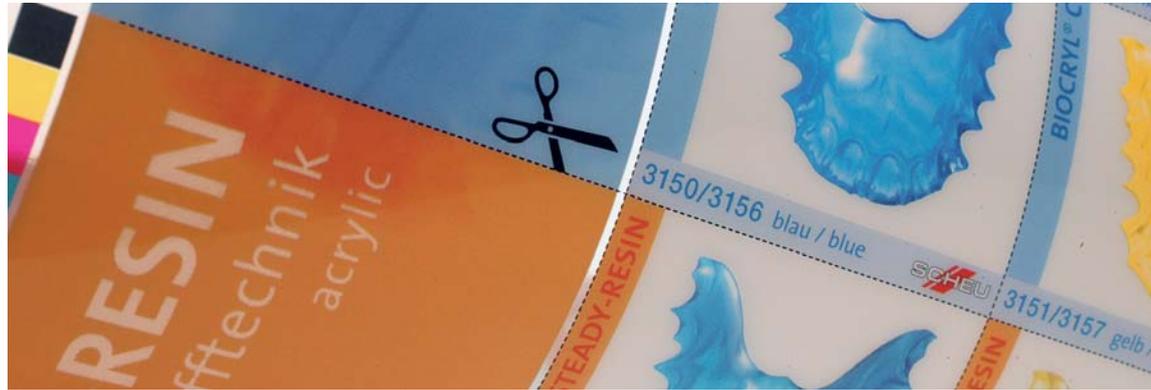
TEGO® AddBond 1270

TEGO® AddBond leads to a significant increase of adhesion and corrosion resistance of paints. After neutralizing with amines, it is water reducible and can be used in water-dilutable paints.

TEGO® AddBond DS 1300

TEGO® AddBond DS 1300 is used in waterborne air-drying and thermosetting coatings.

How to use TEGO® AddBond



Typical properties

Product	Non-volatile matter % by wt.	Viscosity, 23 °C mPa·s	Acid number mg KOH/g	Melting point °C	pH-value
	DIN EN ISO 3251	DIN EN ISO 3219	DIN EN ISO 2114	DIN 53181	DIN ISO 976
TEGO® AddBond HS	74 - 76 ²	1500 - 2500 ²	20 - 30 ¹	–	–
TEGO® AddBond LTH	–	600 - 1500 ⁴	12 - 20	90 - 102	–
TEGO® AddBond LTW	59 - 61 ²	350 - 650 ²	20 - 30 ¹	–	–
TEGO® AddBond LTW-B	59 - 61 ²	350 - 650 ²	20 - 30 ¹	–	–
TEGO® AddBond 2220 ND	59 - 61 ²	1500 - 2700 ²	18 - 22 ¹	–	–
TEGO® AddBond 2325	58 - 62 ²	300 - 700 ²	15 - 25 ¹	–	–
TEGO® AddBond 1270	68 - 72 ²	4000 - 9000 ²	56 - 65 ¹	–	–
TEGO® AddBond DS 1300 ³	43 - 47 ²	–	–	–	6.0 - 8.0

¹Solid resin ²Supply form ³Experimental products ⁴60 % by wt. in xylene

Product	Tg °C	OH number mg KOH/g	Color number Gardner	Melting point °C
	DIN 53 765	DIN EN ISO 4629	DIN ISO 4630	DIN 53 181
TEGO® AddBond HS	approx. 5 ¹	approx. 100 ¹	approx. 2 ²	Soft resin
TEGO® AddBond LTH	approx. 70	approx. 25	approx. 2 ⁴	Specification see above
TEGO® AddBond LTW	approx. 20 ¹	approx. 30 ¹	approx. 2 ²	Soft resin
TEGO® AddBond LTW-B	approx. 20 ¹	approx. 30 ¹	approx. 2 ²	Soft resin
TEGO® AddBond 2220 ND	approx. 20 ¹	approx. 30 ¹	approx. 2 ²	Soft resin
TEGO® AddBond 2325	approx. 30 ¹	approx. 16 ¹	approx. 2 ²	approx. 60 ¹
TEGO® AddBond 1270	approx. 2 ¹	approx. 25 ¹	approx. 2 ²	Soft resin
TEGO® AddBond DS 1300 ³	approx. 30 ¹	approx. 60 ¹	– (milky white)	approx. 55 ¹

¹Solid resin ²Supply form ³Experimental products ⁴60 % by wt. in xylene

Areas of application

	HS	LTH	LTW/LTW-B	2220 ND	2325	1270	DS 1300
Can/Coil Coating	•		•	•	•		
Container paints	•		•		•		
Dispersion paints						•	•
Floor paints		•					
Metal paints	•	•	•	•	•	•	•
Paints for food packaging*	•	•	•	•		•	•
Paints for plastics	•		•	•		•	•
Paints for galvanized steel	•	•	•		•	•	•
Primer (air drying)		•			•		•
Primer (stoving)	•		•	•	•	•	•
Printing inks		•					
Roadmarking paints	•	•	•	•	•		
Radiation-curing systems		•					
Water-thinnable stoving paints						•	•

* Information can be supplied upon request concerning the status of product in each instance under national and international regulations

Solubility

Solvent	HS	LTH	LTW/LTW-B 2220 ND	2325	1270
Aliphatic hydrocarbons	-	-	-	-	-
Aromatics	+	+	+	+	+
Alcohols	-	-	-	-	o
Ketones	+	o	+	+	+
Esters	+	+	+	+	+
Glycol ethers	o	o	o	+	+
Ethers	o	o	o	o	+

+ soluble o limited soluble - insoluble

Solubility was determined up to 50% by wt.

This solubility table was prepared with a selection of different solvents. Thus the findings listed therein are not generally applicable. Prior to using a TEGO® AddBond product, its solubility should be tested.

Compatibility

Binder	HS	LTH	LTW/LTW-B 2220 ND	2325	1270
Acrylic resins					
Methacrylic	o	o	o	+	o
Acrylic copolymers	-	-	-	+	+
OH-acrylic	o	o	o	+	+
Aldehyde resins	+	+	+	+	+
Alkyd resins					
short oily	+	+	+	+	+
medium oily	+	o	+	+	+
long oily	o	-	o	+	+
styrenated alkyds	o	+	o	o	+
Calcium resins	+	+	+	+	+
Carbamide resins	+	-	+	+	+
Cellulose esters	-	-	-	o	o
Cyclized rubber	o	-	o	-	+
Epoxy resins					
low molecular	+	+	+	+	+
medium molecular	+	+	+	+	o
Glycerine ester resins	+	+	+	+	+
Urea resins	o	+	o	+	+
Ketone resins	+	+	+	+	+
Rosin-modified resins	+	+	+	+	+
Rosin-modified phenolic resins	+	+	+	+	+
Hydrocarbon resins	o	-	o	o	o
Maleic resins	+	+	+	+	+
Melamine resins	+	+	+	+	+
Nitrocellulose	+	+	+	+	+
Phthalic resins	-	+	-	-	+
Polyamide resins	o	-	o	+	+
Polyester resins	o	+	o	o	+
Resols, non-plasticized	+	+	+	+	o
VC-copolymers	+	+	+	+	+
Zinc-resins	+	+	+	o	+

+ compatible o limited compatible - incompatible

Compatibility was determined up to 20% by wt. Solid resin to total binder.

This compatibility table was prepared with a selection of different binders. Thus the findings listed therein are not generally applicable. Prior to using a TEGO® AddBond product, its compatibility should be tested.

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