

## Technical Datasheet

# INEOS Composites

## ENGUARD™ BP 2001 AF Marine Bonding Paste

ENGUARD BP 2001 AF is a pre-accelerated bonding paste based on unsaturated polyester resin containing glass fibres.

ENGUARD BP 2001 AF bonding paste has low shrinkage and good mechanical properties. Because of thixotropic behaviour ENGUARD BP 2001 AF is easy to apply.

### Typical properties of bonding paste

Property at 23 °C	Value	Unit	Method
Density	1,25	kg/dm <sup>3</sup>	ISO 2811
Geltime, 1% MEKP-50	33	min	D 006
Hardening time, 2% MEKP-50	4	hours	QC 36
Complete hardening	72	hours	
Shrinkage, linear	< 0,5	%	ASTMD2566-7

### Typical properties of cured bonding paste

Property	Value	Unit	Method
Tensile strength	8,3	MPa	ASTM C297
Shear strength	20	MPa	R028
Compression strength (5mm joint), linear breakage	94	MPa	R029
Hardness	30	Barcol	ASTM D2583

### Application and use

ENGUARD BP 2001 AF bonding paste is suitable for joining different types of FRP laminates together and laminates to bond polyester laminates with balsa, PVC or PUR foam in sandwich structures. ENGUARD BP 2001 AF bonding paste is suitable for use in the marine and similar industries.

Recommended thickness of bonding paste is 3-5 mm and bonding paste must not start gelling before parts are attached together. Mechanical forces on bonded parts must not be used within three days from application.

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### ENGUARD™ BP 2001 AF Marine Bonding Paste

Certificates and approvals	The manufacturing, quality control and distribution of products, by INEOS Composites, are complying with one or more of the following programs or standards: ISO 9001, ISO 14001 and OHSAS 18001.
Handling and storage	<p>It is highly recommended that all materials and tools are stored at stable temperature under 25 C preferably indoors and away from direct sunlight. Surfaces to be bonded must be cleaned eg. with acetone or by grinding. A high quality methyl ethyl ketone peroxide (MEKP) should be used between 1-2%. The bonding paste with catalyst must be stirred well before taken in use.</p> <p>The material should be used within 5 months from the date of manufacture. Prolonged storage or storage outside of recommended conditions can influence liquid bonding paste properties like viscosity and gel time and it is recommended to test these properties before starting application</p>
Notice	<p>All information presented herein is believed to be accurate and reliable, and is solely for the user's consideration, investigation and verification. The information is not to be taken as an express or implied representation or warranty for which INEOS Composites assumes legal responsibility. Any warranties, including warranties of merchantability, fitness for use or non-infringement of intellectual property rights of third parties, are herewith expressly excluded.</p> <p>Since the user's product formulations, specific use applications and conditions of use are beyond the control of INEOS Composites, INEOS Composites makes no warranty or representation regarding the results which may be obtained by the user. It shall be the sole responsibility of the user to determine the suitability of any of the products mentioned for the user's specific application.</p> <p>INEOS Composites requests that the user reads, understands and complies with the information contained herein and the current Material Safety Data Sheet.</p>