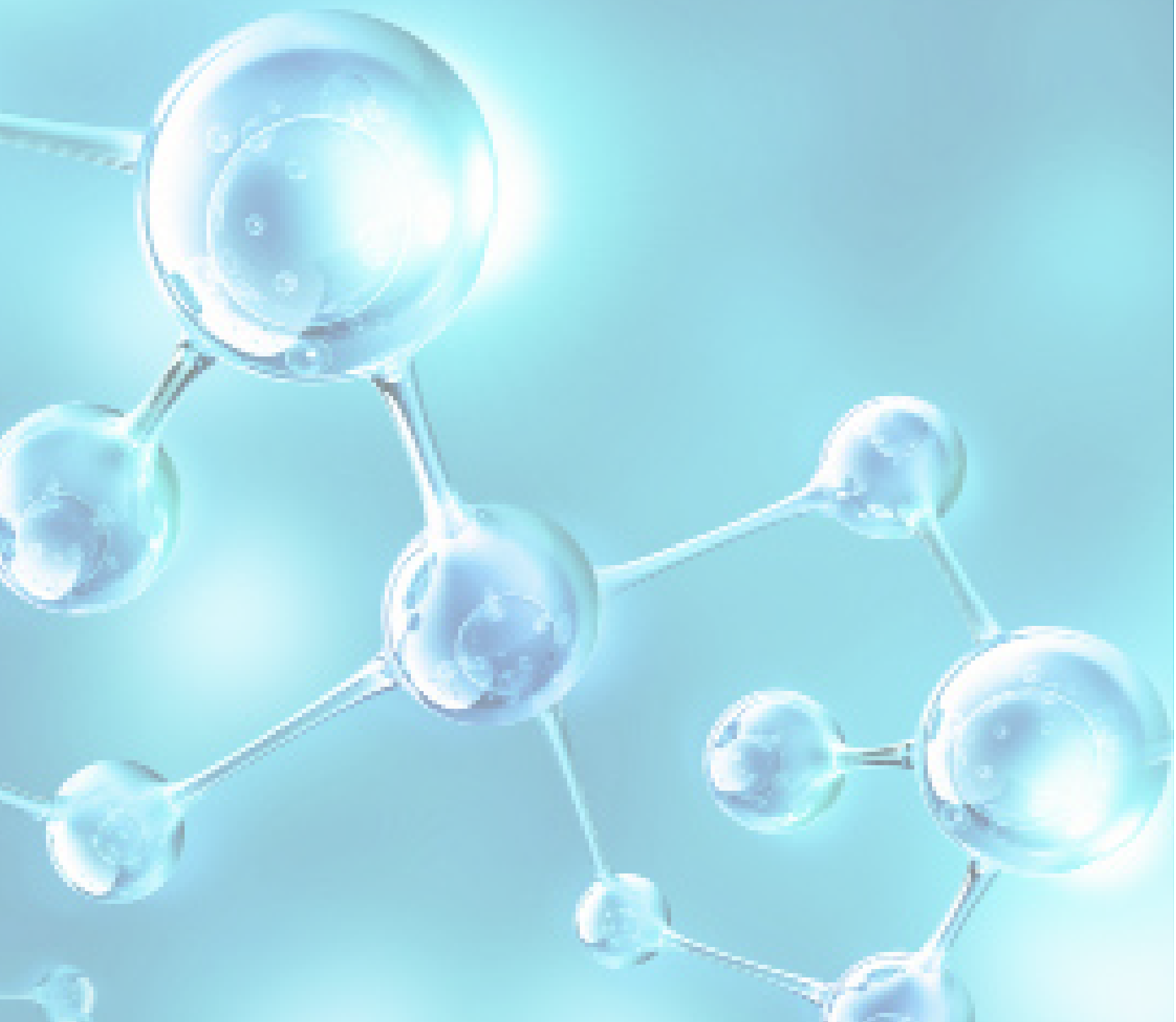




Bonding Pastes

Asia Pacific





GRAVICOL® AND NORPOL®
The globally recognised names in Bonding Pastes



The Gravicol® and Norpol® Bonding Paste ranges are based on our Unsaturated Polyester Resin and Urethane Acrylate Resin systems to give the best possible end use characteristics.

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Production Sites



ASIA PACIFIC

Polynt Composites Korea Co., Ltd.

Reichhold Polymer (Tianjin) Ltd.

Reichhold India Pvt Ltd.

Polynt Reichhold Group

After the merger on May 2017 the new Polynt-Reichhold Group is a global Company in the Intermediates, Coating and Composite Resins, Thermoset Compounds, Gel-coats and niche Specialties.

This combination enhances the Group's leading position as a global vertically integrated specialty chemicals player, with significant global presence in Europe, North America and Asia, a strategy initiated by Polynt with the successful integration of PCCR and CCP in the last years and now further reinforced by Reichhold's global scale, extensive product portfolio and R&D competencies.

Polynt-Reichhold Group is known for its superior quality and impressive range of products and with its excellent distribution network it can provide first-class service to customers whatever their market. Customer Service and Technical Service teams are renowned for their customer focus, offering the best service even after products have left manufacturing.

The Group strives to keep customers satisfied, assisting them in producing premium quality products every time they use its products.

Product innovation is important for the Group's business and it's the reason for which it constantly works with customers to find solutions to problems.

Introducing new or improved products ensures that Polynt-Reichhold Group continue not only to deliver what the market wants and needs, but also when it is wanted and needed.

Bonding Pastes

Bonding Pastes are specifically formulated for bonding GRP / Fibreglass components, imbedding of inserts into laminates and bonding wood to Fibreglass structures. They are designed for assembly and bonding of two composite components, inserting panels, core materials, cavity filling as an aid to lamination, and they are available with a range of properties to suit various applications.

A good bond is characterised by adequate adhesion and physical properties to accept stresses placed upon the final composite component. The best indicator that bonding paste has achieved a strong bond is when failure is seen within the laminate and not within the bonding paste: GRAVICOL® is capable of withstanding such stress.

GRAVICOL®

GRAVICOL® is our premium range of Bonding Pastes, and it can be formulated with and without glass fibres. Bonding pastes to suit various applications are available with a range of properties, including low shrink, semi-flexible and flexible properties and gap filling capabilities to 25 mm.

The low shrink properties of GRAVICOL® means that there will be no “print-through” on the surface of the bonded parts.

The bonds formed with GRAVICOL® paste also provide a water and airtight seal.

GRAVICOL® is available in a range of gel/cure times, designed to cure with a low peak exotherm, ensuring no deformation of the parts being bonded.

When compared to a mechanical assembly or an over-laminating process, GRAVICOL® offers a higher diffusion of stress and lower print-through leading to a better surface aspect.

Urethane acrylate modified grade provides good performance for the bonding of metal to polyester resin.

Main benefits of GRAVICOL® include:

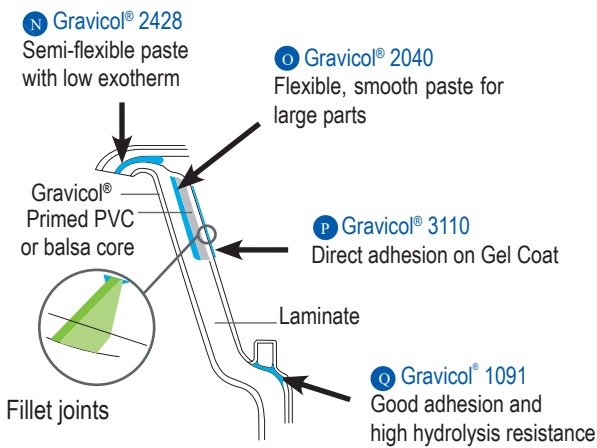
- Weight reduction thanks to low density grades
- Short processing time
- Good fatigue strength of the bonded parts
- Efficient adhesion on varied materials

PRODUCT FAMILY NAME	APPLICATIONS
GRAVICOL®	Industrial applications, transport (automotive and truck parts), marine and wind energy (wind turbine)

For further information please contact us

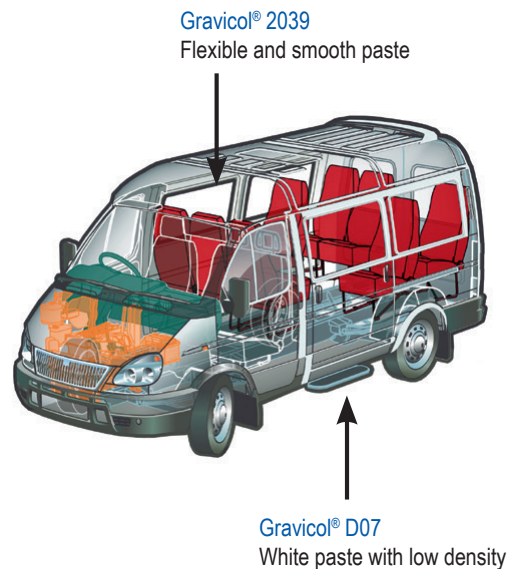


Marine





Transport



NORPOL®

Norpol FI- Series and Norpol PF have been specially developed for the composite industry. These material systems allow designers to turn novel ideas into real-life parts.

Multi-Purpose Bonding Pastes

A wide group of bonding pastes primarily developed to obtain optimum adhesion to GRP laminates. The products have a variation of strength properties, tensile elongation, temperature tolerances and curing characteristics.

High tensile elongation, sandwich constructions obtain good fatigue properties. This reduces the risk of curing cracks in the bond so shear cracks in the core material will then unlikely occur. Low weight is an important parameter in the choice of adhesives for sandwich constructions.

Materials for Extreme Conditions Windmills

Rotor blade bonding is an especially demanding area where bonding paste from the Norpol FI- Series is tested thoroughly. The rotor blades' light constructions are typically moulded in a vacuum infusion process as two individual shells and then bonded together. The rotor blades, often more than 50 metres long, are subjected to extreme loads and tremendous dynamic stress. Norpol bonding pastes comply with all quality standards and are used in all joints.



On the left

Two halves of rotor blade bonded together with bonding paste.

On the right

Two individual halves of rotor blade.



Bonding GRP Laminates in Marine

In the construction of boats and vessels, decks and hulls have to be bonded together, as well as single components to the hull or deck. Reichhold offers a range of bonding pastes that allow for reliable bonding of GRP laminates.

Bonding paste General purpose

Norpol bonding paste offers use in general purpose application such as joining pipes, securing sleeves, bonding laminates or bonding single GRP details.



On the left
Surface filler for levelling uneven surface.



On the right
General purpose bonding laminate or bonding single GRP details.

PRODUCT FAMILY NAME	APPLICATIONS
NORPOL PF-3354	Wind mills
NORPOL FI-186	In the construction of boats and vessels, decks and hulls have to be bonded together, as well as single components to the hull or deck
NORPOL FI-169	General multi-purpose bonding paste based on Isophthalic polyester. Recommended thicknesses in the joint is 2- 9 mm .Joining pipes, securing sleeves, bonding laminates or bonding single GRP details in auto, marine application.

For further information please contact us



COMPANY ADDRESSES

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This brochure is intended to provide a comprehensive list of the products and services available from all business sectors in which are active the companies and/or corporations controlled, directly or indirectly, by Specialty Chemicals International Ltd (hereinafter referred to as «Polynt Group»). The information, recommendations, answers and/or opinions contained herein (which must be intended only for explanatory purposes) are aimed to assist customers on the basis of our technical and scientific knowledge as of today, taking into account that our products are intended for sale to industrial and commercial customers. However we require customers to inspect and test our products before use and to satisfy themselves as to contents and suitability for their applications: nothing herein shall constitute or shall be deemed to be any other warranty or a representation, express or implied, including merchantability or fitness for a particular purpose or results to be obtained from the use of such information, nor shall be taken or construed as infringing of any existing patents. Product names in capital letters are registered trademarks of the relevant member of Polynt Reichhold Group. © Polynt S.p.A. - May 2019



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