

Using the NORPOL/NORPP Chemical Resistance Guide

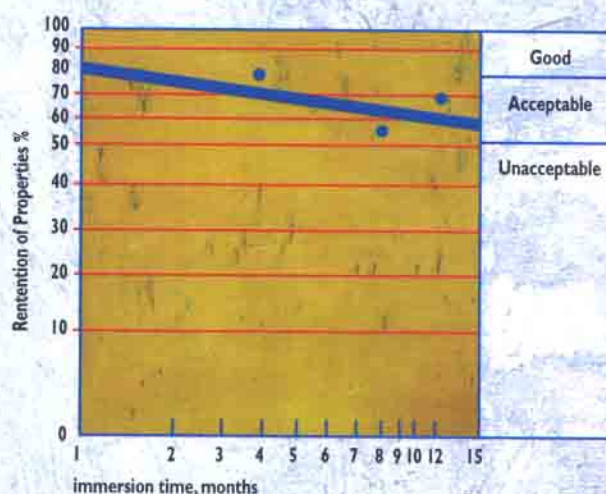
The chemical resistant performance of NORPOL Polyesters and NORPOL DION epoxy vinyl esters and bisphenol resins has been demonstrated over the past 30-40 years through successful use in a variety of composite products in hundreds of different chemical environments. Practical experience has been supplemented by systematic evaluation of composites exposed to large number of corrosive environments under controlled laboratory conditions.

ASTM C 581 has been developed to assist in determining if there is deterioration of a thermoset resin when a laminate is immersed in a corrosive medium. Long term exposure and experience gained from industry, support the data that has been obtained from laboratory tests carried out in accordance with ASTM C 581.

The rate at which the mechanical properties are reduced decreases over time, approximating to an almost logarithmic function. Once the first retention data have been plotted, a straight line may be drawn to predict the retention of the mechanical properties over time.

How loss of Properties over a One-Year Period Predicts the Long Term Resistance.

Fig. 2



All of the listed maximum service temperatures assume that laminates and resin rich liners are fully cured and fabricated to industrial quality standards. In many service conditions, occasional temperature excursions above the listed recommended maximum temperatures may be acceptable, depending on the nature of the chemical environment. When designing for exposure to hot, relatively non-aggressive vapours, such as in ducting, hoods or stack linings, temperature extremes above those recommended may be feasible. However, extensive testing is strongly urged whenever recommended temperatures are exceeded. Factors such as laminate thickness; thermal conductivity, structural design performance and the effect of condensation must be taken into account when designing composite products for extreme temperature performance.

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Changes

This chemical resistance guide is subjected to change without notice in an effort to provide the most up-to-date data. Changes may affect suggested temperature or concentration limitations.

Material Safety and Technical Product Data Sheets

Material safety data and technical product data sheets are available for all the NORPOL and NORPOL DION products listed in this brochure. Please request the appropriate data sheets before handling, storing or using any product.

How to Read the Following Data

The data shown in the following Chemical Resistance Guide are based on results for the base and diluted resin systems. Each of these resins, however, can be delivered diluted, thixotropic, preaccelerated and in LSE modifications, depending on the application process used to manufacture the GRP fabrications.

Warranty

The content of this Chemical Resistance Guide are general guidelines intended to assist customers in determining whether NORPOL or NORPOL DION resins are suitable for their applications.

All Reichhold products are intended for sale to sophisticated industrial and commercial customers. We require customers to inspect and test our products before use and satisfy themselves as to the suitability for their specific end-use.

These general guidelines are not intended to be a substitute for customer testing.

Reichhold warrants that its products will meet its standard written specifications.

Nothing contained in these guidelines shall substitute any other warranty, express or implied, including any warranty of merchantability or fitness for a particular purpose, nor is any protection from any law or patent to be inferred. All patent rights are reserved.

The exclusive remedy for all proven claims is limited to replacement of our materials and in no event shall Reichhold be liable for any incidental or consequential damages.