

## 1 CHARACTERISTICS

The resin **NORESTER® 976** is a fire retardant resin formulated from polyester orthophthalic resin. It is thixotropic, filled, halogen free and antimony oxide free.

- Application hand lay-up and spray-up
- Polymerise at room temperature with addition of MEKP.
- Good wetting out of reinforcements.
- Low styrene emission in application.

**NORESTER® 976** is an opaque resin and gives laminates, which answer to this following classification:

- **Class 2 according to the norm BS476 part 7 (Certificate N°280792 dated on 02/10/12).**

## 2 PROPERTIES OF THE LIQUID RESIN

Aspect	White liquid
Brookfield viscosity (ISO 2555 - 20°C – sp3)	50 rpm : 1000 - 1200 cP
Specific gravity (ICON 012)	1.33 - 1.37 g/cm <sup>3</sup>
Gel time Not pre-accelerated version (NPA) (ICON 002) (20°C - 0.1% CO6%, 2% MEKP on 100 g)	18 - 22 minutes
Gel time Pre-accelerated version (PA) (ICON 002) (20°C - 2% MEKP on 100 g)	11 - 15 minutes
Non volatile content (ICON 003)	65 - 69%

## 3 MECHANICAL PROPERTIES OF THE CURED RESIN ON LAMINATE

Flexural strength * (ISO 178)	187.2 MPa
Flexural modulus * (ISO 178)	8.025 GPa
Tensile strength * (ISO 527)	113.7 MPa
Tensile modulus * (ISO 527)	2.127 GPa
Glass content	33.88%
Barcol hardness * (ASTM 2583)	50

\* Mechanical tests realised on a laminate made with 4 layers 450 g/m<sup>2</sup>, pre accelerated resin with 0.1% Co6% and catalyzed at 2% of MEKP.

Post cure: > 24 hours at room temperature and 3 hours at 80°C.

### IMPORTANT

All of the results obtained according to trials in our laboratory. However, we don't be responsible of manufactured parts with the resin **NORESTER® 976**, if the application conditions specified are not respected.

It is imperative that the user must also ensure that his application and his process are appropriate for this product to be used. We hereby the conformity of our products with the above specifications. We cannot be responsible for any damage caused by misuse of this product or use of the product for an application not covered in the design.

#### 4 MECHANICALS PROPERTIES OF CURED CAST RESIN

Flexural strength * (ISO 178)	49.54 MPa
Flexural modulus * (ISO 178)	4.835 GPa
Tensile strength * (ISO 527)	27.06 MPa
Tensile Modulus* (ISO 527)	3.024 GPa
Elongation at break * (ISO 527)	1.50%
Temperature of deflection under load * (HDT) (ISO 75-3)	57.4°C
Barcol hardness * (ASTM 2583)	45 - 50

\*mechanicals tests realized on cast resin pre accelerated with 0.1% Co6% and catalyzed at 2% of MEKP  
 Post-cure : > 24 hours at room temperature and 3 hours at 80°C.

#### 5 VERSIONS

Available in white version reference **NORESTER® 976 PA White** with a gel time of 11 -15 min (20°C - 2% MEKP on 100 g).

#### 6 RECOMMENDATIONS BEFORE USE

- During storage, a settling low of the charge may appear. Mix the product thoroughly before use so as to have a homogeneous mixture.
- Before use, check that the temperature of the product, the mould and the room is between 18°C and 25°C.
- For NPA version, take care not to mix the accelerator and the peroxide together but add them separately in the resin.
- Mix the peroxide well, never put under 1% or over 2%
- We recommend to add 2% of MEKP peroxide in the resin.
- We retain the attention on the fact that the **NORESTER® 976** is classified according to the certificates named above and tested on applications produced in our laboratory. It is the responsibility of the customer to assure that the parts he produces are well classified.

#### 7 POST CURING

To obtain optimum resistance properties, the laminate with the **NORESTER® 976** must be post-curing. In order to accelerate the hardening, the laminate stays at ambient temperature (16 to 20 °C) during 24 hours followed a post-curing of 16 hours at 40°C. We advise to do a post-curing immediately after ripening period to obtain optimum results.

#### 8 PACKAGING

Available in cans of 25 Kg and drums of 250 Kg.

#### **IMPORTANT**

*All of the results obtained according to trials in our laboratory. However, we don't be responsible of manufactured parts with the resin **NORESTER® 976**, if the application conditions specified are not respected.*

*It is imperative that the user must also ensure that his application and his process are appropriate for this product to be used. We hereby the conformity of our products with the above specifications. We cannot be responsible for any damage caused by misuse of this product or use of the product for an application not covered in the design.*

## **9 STORAGE CONDITIONS AND HANDLING**

Storage life: **NORESTER® 976** resin is stable for 3 months from date of production. The product must be stored in original closed packaging at a temperature between 15°C and 25°C, away from direct sunlight.

It is the responsibility of the customer to assure that the product is used in good conditions overall before the date limitation mentioned on the keg.

This resin is subject to the Highly Flammable Liquids Regulations.

### **IMPORTANT**

*All of the results obtained according to trials in our laboratory. However, we don't be responsible of manufactured parts with the resin **NORESTER® 976**, if the application conditions specified are not respected.*

*It is imperative that the user must also ensure that his application and his process are appropriate for this product to be used. We hereby the conformity of our products with the above specifications. We cannot be responsible for any damage caused by misuse of this product or use of the product for an application not covered in the design.*