

### 1. CHARACTERISTICS

**NORESTER® 85** is a polyester resin, white, thixotropic, filled, pre-accelerated with a low viscosity, reduced flammability resin.

**NORESTER® 85** is an opaque resin and gives laminates, which answer to this following classification:

- **M1 : certificate n° 007/68/160 A dated 05/07/2016 with gel coat GC 185. (according to arrêté of 21/11/2002)**
- **F2 : certificate n° 007/68/160 A dated 05/07/2016 with gel coat GC 185. (according to NF F 16-101 and NF F 16-102).**
- **Mahre = 51.6 kW/m<sup>2</sup> with GC185: report RE 56-1-007/27/278B dated 27/10/09 following ISO 5660-1.**
- **Classed S4SR2ST2 according to the German norm DIN 5510 part 2 with gel coat GC 185: certificate P60-12-0787 dated 22/10/2012.**
- **FED Index <1 with gel coat GC185 according to the German norm DIN 5510 part 2 and ISO5659-2 : certificate P60-12-3357 dated 24/10/2012.**
- **V0 according to UL 94 (6/03/2003). Certificate 02CA08680.**
- **Class 1 following BS476part 7 with GC185: certificate n° 283390 dated 12/12/2012.**
- **Classed B2D2T2 following the norms GOST 12.1.044-89 and 30402-96.**
- **Classed BS3D0 with the GC 885 following the building norm NF EN 13501-1: 2007 + A1:2009. Tests realised following the norms EN ISO 11925-2: 2010 and EN 13823: 2010. Certificates 2014-Efectis –R000849, 000850, 000851, n° 2014328 dated November 2014.**

### 2. PROPERTIES OF THE LIQUID RESIN

Brookfield viscosity (ISO 2555 - 23°C - sp4)	5 rpm: 5500 - 6500 cP 50 rpm : 1450 - 1750 cP 100 rpm: 1075 -1325 cP
Specific gravity (ICON 012)	1.60 - 1.64 g/cm <sup>3</sup>
Gel time (ICON 002) (23°C - 1% MEKP on 100 g)	11 - 19 minutes
Non volatile content (ICON 003)	77 - 79%

### 3. MECHANICALS PROPERTIES OF THE CURED CAST RESIN

Temperature of deflection under load* (HDT) (ISO 75-3)	77.9°C
Glass transition temperature* Tg (NF F 01-281 / ISO 11357)	82°C
Tensile strength* (ISO 527)	22.21 MPa
Tensile modulus (ISO 527)	3.414 GPa
Flexural strength* (ISO 178)	45.25 MPa

#### 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® 85**, 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.*

Flexural modulus* (ISO 178)	6.972 GPa
Elongation at break* (ISO 527)	1.07%
Barcol hardness* (ASTM D2583)	50

\*Mechanical tests realized on cast resin.

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

#### 4. MECHANICALS PROPERTIES OF THE CURED RESIN ON LAMINATE

Tensile strength* (ISO 527)	107.1 MPa
Tensile modulus (ISO 527)	2.138 GPa
Flexural strength* (ISO 178)	199.4 MPa
Flexural modulus* (ISO 178)	10.30 GPa
Elongation at break* (ISO 527)	5.63 %
Glass content	26.2 %
Barcol hardness* (ASTM D2583)	50

\*Mechanical tests realized on a laminate with 4 layers of 450 g/m<sup>2</sup> glass fiber.

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

#### 5. VERSIONS

**NORESTER® 85** is available in:

- Non pre-accelerated version, **R085NPA** with a gel time of 9 - 15 minutes (23°C - **0.15% Co12%** - 3% MEKP on 100g). This version is stable for **4 months** from date of production.
- Long gel time version, **R085PALGT** with a gel time of 30 - 38 minutes (23°C - 1% MEKP on 100 g).
- Promoted with internal release agent version, **R085PRAD** with a gel time of 6 - 10 minutes (23°C - 2% MEKP on 100 g).

#### 6. RECOMMENDATIONS BEFORE USE

- **NORESTER® 85** is a filled resin, stir the product each time before use to give a homogeneous product.
- Before use, check that the temperature of the product, of the mould and the room is between 18°C and 25°C.
- We recommend to catalyst at 1% of MEKP. Mix very well the peroxide, never catalyst under 1% or over 2% to avoid under polymerisation problem or too short gel times.
- We retain the attention on the fact that this resin is classified according to the certificates mentioned here above and according to the application made in our laboratory. The customer is responsible to be sure that the moulding made by him is well classified.
- **For the non pre-accelerated version, be careful not to mix the accelerator and the peroxide together. Add accelerator and the peroxide separately in the resin and well mix.**

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### **7. POST CURING**

To obtain optimum properties of the **NORESTER® 85**, it is necessary to cure the laminate (GC and resin). The laminate stays at ambient temperature during 24 hours, then, we advise to do a post-curing of 16 hours at 40°C. This post-curing must be done immediately after the 24 hours.

### **8. PACKAGING**

Available in kegs of 25 kg or in drums of 250 kg.

### **9. STORAGE CONDITIONS AND HANDLING**

Storage life: Resin **NORESTER® 85** 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.

The resin is subject to the Highly Flammable Liquids Regulations.

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