

Advanced Materials**RenLam[®] CY 219 / Ren[®] HY 5160 or HY 5161
or HY 5162**

LAMINATING SYSTEM
LOW VISCOSITY EPOXY SYSTEMS IN A RANGE OF REACTIVITIES

**KEY
PROPERTIES**

- High mechanical strength at room temperature
- Tack-free at room temperature
- Highly compatible with glass fabrics and fillers
- Tack –free with choice of pot life and curing rate according to hardener
- Can be filled with mineral or metal materials

APPLICATIONS

- Construction of jigs, foundry patterns and tooling aids
- General tool building
- Wet lay-up tools using glass ply
- Backing structures

PRODUCT DATA

| Property | Unit | RenLam [®] CY 219 | Ren [®] HY 5160 | Ren [®] HY 5161 | Ren [®] HY 5162 |
|----------------------|-------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|
| Appearance Colour | visual | Clear liquid Amber | Clear liquid Pale yellow | Clear liquid Pale yellow | Clear liquid Pale yellow |
| Viscosity at 25°C | mPas | 10'000-12'000** | 30 - 50** | 35 - 55** | 30 - 70** |
| Density | g/cm ³ | 1.1 | 1.0 | 1.0 | 1.0 |

** Specified data are on a regular basis analysed. Data which is described in this document as 'typical' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.

TYPICAL SYSTEM DATAS**PROCESSING**

| Mix ratio | Parts by weight | | |
|----------------------------|-----------------|-----|-----|
| RenLam [®] CY 219 | 100 | 100 | 100 |
| Ren [®] HY 5160 | 50 | - | - |
| Ren [®] HY 5161 | - | 50 | - |
| Ren [®] HY 5162 | - | - | 50 |

Mix the two components thoroughly in the ratio indicated, then impregnate each layer of cloth as it is laid up to construct the laminate.
Post-curing will improve final properties.

PROPERTIES OF NEAT FORMULATION

| Resin/Hardener mix: | Volume | Unit | CY 219 HY 5160 | CY 219 HY 5161 | CY 219 HY 5162 |
|---------------------|--------|--------|-------------------|-------------------|-------------------|
| Appearance | | | Yellowish | Yellowish | Yellowish |
| Viscosity at 25°C | | m Pa s | 900-1000 | 1000-1200 | 1000-1100 |
| Pot life at 25°C | 500 ml | min | 80 | 40 | 20 |
| Demoulding time | | h | 16 | 12 | 12 |

After cure: 7 days at RT or 14 hours at 40°C

| | | | | | |
|------------------------|----------|-------------------|-------|-------|-------|
| Density | ISO 1183 | g/cm ³ | 1.1 | 1.1 | 1.1 |
| Deflection temperature | ISO 75 | °C | 45-50 | 50-55 | 55-60 |

STORAGE

Provided that RenLam[®] CY 219, Ren[®] HY 5160, HY 5161 and HY 5162 are stored in a dry place in their original, properly closed containers at the storage temperatures mentioned in the MSDS they will have the shelf lives indicated on the labels. Partly emptied containers should be closed immediately after use.

**WORKING
CONDITIONS**

The product should be used when in the temperature range 18-25°C.

PACKAGING

| System | CY 219 | HY 5160 | HY 5161 | HY 5162 |
|---------------------|--------|----------|----------|----------|
| Quantity and Weight | 25 kg | 20 kg | 20 kg | 20 kg |
| Quantity and Weight | 225 kg | 4 x 2 kg | 4 x 2 kg | 4 x 2 kg |

**HANDLING
PRECAUTIONS****Caution**

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.

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