

## **Urea formaldehyde powder resin**

### **E<sub>1</sub>**

E<sub>1</sub> is a powder urea formaldehyde resin soluble in water, suitable for any kind of wood gluing when used with hardener. E<sub>1</sub> is characterized by a high degree of purity and a very low dispersion of free formaldehyde during pressing.

## **Physical and chemical specifications**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>
Appearance	White free flowing powder	
pH (1:1) at 20 °C	8.0 – 9.0	pH units
Humidity	1 max	%
Free formaldehyde	< 0.5	%
Gel time (1:1) at 100 <sup>0</sup> C Using 3 % NH <sub>4</sub> CL (20%)	140 max	sec
Viscosity (2:1) at 20 <sup>0</sup> C	< 1000	cps

## Glue formulations

Type	Quantity
E <sub>1</sub>	100 Parts by weight.
Water	100 Parts by weight.
Flour	25 Parts by weight.
* Hardener	0.25 Parts by weight.

### Dissolving the resin:-

- 1) Take all water\*\* in the mixer\*\*\*.
- 2) Add required amount of E<sub>1</sub> and mix until a homogenous solution is obtained.
- 3) Other additives and hardener are added.

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\* The hardener quantity depends on pressing conditions like temperature, timing, pressure and thickness.

\*\* Water temperature should be 20 – 30 °C because with lower temperature mixing is more time consuming.

\*\*\* A mechanical stirrer may be used for this purpose.

With high speed mixer all the water may be placed first and then resin may be added, while mixer is running.

With low speed mixer, it is better to make a homogenous mix of the resin with about 2/3 of water, and rest of the water may be added later.

## **Major application areas**

- Very good adhesives for wooden materials.
- Wide variety of end uses such as wood-based panels, furniture, load – bearing constructions and wooden building products.

## **Packing ,Handling & storage**

**Packing** : • 25 Kgs.nett laminated polyethylene bags.

**Handling** : Like any formaldehyde product, E<sub>1</sub> contains free formaldehyde. This may cause dermatitis, when it comes into contact with skin of sensitive persons. Skin contact with powder should be avoided. Hands should be thoroughly washed with soap and hot water at the end of the working day and before meals. A dust mask should be worn, while emptying the bags.

**Storage** : The powder should be stored in the original bags in a cool place protected from heat. Care should be taken that powder doesn't absorb moisture and water. The bags which have been opened should be carefully closed before storage. When stored in original bags at 20<sup>0</sup>C, shelf life would not be less than one year.

