

UFP 1001 RESIN

USE FOR PARTICLE BOARD / CHIPBOARD/MDF

Typical Properties of UFP 1001

PH (50 % solution)	7.5 – 8.5 cps
Viscosity (50 % solution)	100 – 200 cps

Preparation of Glue Mix *

Glue mix components	Part by weight
UFP 1001	100
Water	80
Ammonium Chloride (20% solution)	6
Urea	15
Total	201

- The lower the glue mix cost and free formaldehyde emission, up to 10 parts of urea can be added to the above mentioned glue mix.

Viscosity at room temperature	150 ± 25 pcs
pH	6.0 – 7.0
Boiling water jell	100 + 20 sec
Specific Gravity at room temp	1220 + 0.002
Pot life at room temperature	>4 hours

Mixing Procedure

1. Pour about 2/3 of the required water in the mixer and start mixing.
2. Add all the resin and mix until lumps smooth out
3. Slowly add the hardener and the balance of the required water and mix for another 3 to 5 minutes. The mixture is ready for spraying.

Wax Emulsion

A suitable wax emulsion may be used to improve the water resistance and dimensional stability of the chipboard. This emulsion should be able to tolerate the mildly acidic nature of the resin and it is usually employed at a level of about 0.5 to 1 % wax solid to dry chip weight and may be sprayed separately or mixed with the resin.

Glue Application

The resin mix is sprayed on to the chips either by batch or continuous running and the normal resin level varies from 6 – 10 % resin solids or dry chips. In sandwich boards, the resin content in the face chips will be towards the higher figure and that of the core chips at the lower end of these limits.

The located chips should not be held too long before forming and pressing, especially at high ambient temperature. To prevent boards from pre curing, warm caulks should be avoided.

Pressing is affected at temperature ranging from 140 – 200°C. The former in multiple daylight presses, the latter in single daylight presses where shorter pressing times are required. The speed with which the press is brought to its stops largely controls the properties of the produced board. After reaching the stops, the pressure on the press has to be reduced to allow some of the steam to escape after pressing, the board must be cooled to below 100°C, or stacked in packs (of not more than 50 cm thickness) to avoid discoloration and deterioration of the bond by over – curing. To achieve better moisture distribution, the boards should be kept in stack for 2 or 3 days before further handling.

Pressing Times

The minimum curing time can only be determined by practical trials. It depends upon the pH of the chips, the hardener used, the platen temperature and thickness and density of the finished board. As a rough guide, the time may range from 10 minutes at 140°C to less than 5 minutes at above 180°C for an 18 mm board of.

TECHNICAL DATA FOR PARTICLES BOARD PRODUCTION

1.) Recommended Glue Formulation

A.	UFP 1001 (Resin Powder)	:	100	Pbw
B.	Water	:	80	Pbw
C.	Hardener	:	6	Pbw

2.) Preparation of Glue Mix

1. Pour 1/3 of the required water for the total glue mix into the mixer.
2. Start the mixer, add the resin powder in small portions and mix until all lumps are dissolved.
3. Add the water repellent emulsion.
4. Add the rest of the water and hardener, and mix until the glue mix is homogeneous

3.) Moisture content of Particles

The raw material is normally dried to a moisture content of 3 – 5 %. Particles with a higher moisture content required longer pressing time. A moisture content of more than 8 % should be avoided unless expressly required.

4.) Coating of particles

Amounts of resin required (calculated on dry weight of particles).

One layer boards	Approx 8 % solid resin
Three layer boards	
Outer layers	11 – 13 % solid resin
Core	8 – 9 % solid resin

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|-------------------|---|-------------------------|
| 5.) Pressure | : | 10 – 30 kg/cm |
| 6.) Pressing | : | temperature 140 – 220°C |
| 7.) Pressing time | : | 18 – 30 sec/min |

* The minimum pressing time should be determined by trials in each individual case.

8.) Formaldehyde fumes (based on JAS.) below 5 ppm

9.) Storage (important)

In the original containers at 30oC UFP 1001 resin has a storage life of approximate 12 month. The maximum storage life is attained when UFP 1001 Resin is stored under dry and cool conditions. The product should always be protected from high temperature and high atmospheric humidity. Direct sunlight renders UFP 1001 resin rapidly unusable. It should, therefore, not to be stored in the open. Once a container has been opened, the contents should be used up as soon as possible.

PACKAGING AND SHIPPING INFORMATION

25 kg	Packed in woven polypropylene bags (WWP bag) or paper bag with double inner polyethylene liner heat seal.
18 MT	20 FT Container.