

MELAMINE UREA FORMALDEHYDE IM-300

1. STANDARD:

USA C -35-36 Types technical and type I
GERMAN DIN 68705 type AW 100, A 100
JAPANESE JPIC types I
UK BS 1455 type BR

2. SPECIFICATIONS:

Appearance	:	semi opaque viscous liquid
Viscosity, 30°C	:	40 – 50 cPs
Specific gravity , 30°C	:	1.200 – 1.220 g/cm ³
pH , 30°C	:	8.0 – 9.0
Gelation time , 30°C	:	160 – 200 minutes
Free formaldehyde	:	0.4 – 1.0 %
Solid content	:	(53.5 ± 0.5)%
Storage life , 30°C	:	1.5 month

3. FILLER AND HARDENER:

It is recommended to use wheat flour 17 – 25 % weight percent of the resin. We recommended IMH- 200, special hardener suitable to be used for IM- 300, amounting 0.3 – 1.0 weight percent.

4. RECOMMENDED FORMULATION:

A. MUF IM-300	:	100	Pbw
B. Wheat flour	:	17 – 25	Pbw
C. Hardener IMH-200	:	0.2 – 0.4	Pbw
D. water	:	0 - 4	Pbw

5. MIXING PROCEDURE:

First charge (A), then (B) while mixing. If viscosity is too high, a small amount of water can be added. Finally charge (C), mix until a homogeneous glue mix of desired viscosity is obtained.

6. POT LIFE OF RECOMMENDED GLUE MIX:

Temperature	:	20°C	25°C	30°C	35°C
Pot life (hours)	:	11	8	5	3

7. HOT PRESS TIME:

Temperature	:	110°C	115°C	120°C	125°C
Basic time (hours)	:	1.90	1.80	1.40	1.00

The basic hot press time is calculated by temperature as show by above table. Additional press time is required according to the farthest glue line as thicker the panel, the longer press time it requires.

Distance to the farthest glue line		Temperature of press plate			
	:	110°C	115°C	120°C	125°C
Below 5 mm	:	1.2	1.1	1.0	0.9
5 – 10 mm	:	1.4	1.3	1.2	1.1
Above	:	1.6	1.5	1.4	1.3

Ex. 4 mm For 3 ply panel with 1.0 mm face/ back veneers and 2 mm core, has a farthest glue line of 1.0 mm.

The required press time at 120°C is as follows :

$$\begin{array}{rcl} \text{Heat transfer time} & = & 1.0 \times 1.0 \text{ mm} = 1.0 \text{ min} \\ \text{Basic setting time} & & = 1.4 \text{ min} + \\ \hline \text{Total pressing time} & & = 2.4 \text{ min} \end{array}$$

The hot press time has to be adjusted by experience according to the factory working condition.

8. PREPARATION OF VENEER :

- a. Veneers and cores must have a clean and smooth surface, free of dust, glue stains etc.
- b. Avoid use of hardwoods since IM-300 is applied to plywood that must have a very high standard bonding strength.
- c. Moisture contents of face/back veneers and cores must be controlled at below 12 %

9. GLUE SPREAD:

Double glue line for thin cores is 30 – 32 g/SF and for thick cores 35 – 40 g/SF.

10. ASSEMBLY TIME:

The assembly time must be as short as possible. If the process is retarded by factory condition, the use of hardener must be adjusted (decreased a little)

11. PRE-PRESSURE:

The normal pressure is 9 – 10 kg/cm² and the cold press time about 15 – 30 minutes according to factory condition.

12. HOT PRESS PRESSURE:

The optimum pressure is around 9 – 10 kg/cm².

13. CLEANING AND HANDLING:

MUF IM-300 resin is easy to handle and can be washed with warm water. The smell of formaldehyde is relatively less than that of UF glue. Reactivity of MUF IM-300 is higher, therefore it shall be stored at a cold place.