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PHENAFORM – 402 P

APPLICATION: Phenafom 402P is a Phenol Formaldehyde Resin Powder; specially developed for plywood, chipboard and flush door manufacturing.

PF 402P mixed with Hardener ADX – 60 P provides Boiling Water Proof adhesive for manufacturing of plywood Conforming to various specifications like IS:848, BS:6566: Part 8:1985, BS:1088, BS:1455, DIN:68705, type AW100, French Standard CTB – X, Exterior.

SPECIFICATION:

Appearance -	Brown Free Flowing Powder.
Bulk Density -	0.55 – 0.65 gm/cc.
Viscosity [1:1 - Soln at 25°C]	200 – 300 cps.
Solubility: -	Highly soluble in cold water.
pH [1:1 soln at 25°C] -	12.8 – 13.0

PACKING & STORAGE: PF 402P packed in poly-woven sacks with inner polythene liner, each containing 25kg net.

PF 402P bags should be stored in a cool and dry place. Its Storage life is 6 months at 30°C. Storage life may increase at lower temperature. It is a heat sensitive resin – viscosity increases with temperature, hence the storage life depends on the temperature at which the resin is stored.

HARDENER ADX – 60P The hardener ADX – 60P is a brownish colour powder with a storage life of more than one year when stored in a cool and dry place, under air tight condition.

Hardener ADX – 60P is packed in polyethylene bags with polythene inner lining, each containing 25kg net.

PREPARATION OF THE GLUE.

<u>Recipe:</u>	
PF 402P	100 parts.
Water	90-100 parts.
ADX – 60P.	30-40 parts.

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First half of the water is taken into the mixer, then the whole resin powder is charged under stirring condition. After uniform mixing - the rest of the water is added under stirring condition. **Finally ADX – 60P is added under stirring and well mixed.**

With the above recipe, glue viscosity will be 2000 – 3000 cps. For lower viscosity up to 20 parts by weight, extra water may be added to the above recipe.

Below 40°C, the pot life of the glue mix will be more than 20 hours.

VENEERS FOR BONDING

Surface of the veneers should be smooth, clean & free from dust. The veneer should be flat and of uniform thickness. Moisture content of the veneer should be around 6 – 8%. Higher moisture content increases the risk of starved joints & bleed – through. When pre – pressing is used, moisture content should not be below 6%.

SPREAD

Spread of glue should be 250 – 400 gms/sq.M, DGL basis, depending on the quality of veneer surface. Thick veneers and rough veneers take more spread. To prevent thickening of the glue mix on the roller due to evaporation, the roller should be constantly supplied with fresh glue mix during operation.

ASSEMBLY

Open Assembly Time (OAT) should be maintained as short as possible, particularly under Hot & Dry conditions. Over dried glued veneer results in poor wetting of the opposite veneer, which results in weak bonding.

Our technical service dept. will assist the customer in tailoring the glue mix to suit local conditions.

PRE – PRESSING

Cold pressing is recommended. It improves the bond quality. It also shortens the Hot-pressing cycle. The pressure in Pre-pressing should be lower than those used in hot pressing. The pressure should 8 – 12 kg/sq.cm and the time may vary from 5 – 20 mins. according to the operating conditions. In hot & dry climate, pre – pressing time should be less.

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The pressure should be 12 – 16 kg/sq.cm in case of high-density wood.

PRESSURE IN THE HOT PRESS

The optimum pressure depends on the density of the veneers woods species.

Pressure.

Wood density below 550 kg/cu.M	12 kg/sq.cm.
Wood density above 550 kg/cu.M	16 kg/sq.cm.

PRESSING TIME

Pressing time is influenced by the glue spread and moisture content of the veneers. Pressing time can consequently be determined only by trials under actual factory conditions. The general thumb rule is as under.

Total Hot Press Time = Basic Setting Time + Heat Transfer time to the furthest glue line.

The basic setting of PF 402P at different temp. are as under:-

Press time (in deg. C) -	110	120	130	140
Basic setting (in mins)	7	4.5	3.5	2.5

<u>Distance to the Furthest glue line.</u>	<u>Press platen temp. at</u>			
	110°C	120°C	130°C	140°C
Under 5mm.	1.2 min/mm	1.0 min/mm	0.8 min/mm	0.6 min/mm
5 – 10 mm.	1.5 "	1.3 "	1.1 "	0.75 "
Over 10 mm.	1.8 "	1.5 "	1.3 "	1.0 "

CLEANING

Mixing & spreading equipment must be cleaned before the Glue has set. Use of warm water facilitates cleaning. Once the glue becomes insoluble, it must be scrapped off.