Lyckeby INDUSTRIAL

TECHNICAL INFORMATION
Pliobond Glue.

January 2009

Assembly glue – particularly for heat exchangers.

Product description: **Pliobond** glue is a range of adhesives having the same chemical composition, but differing solids content and viscosities, according to grade can be sprayed, roller coated, brushed or spread.

Field of application: **Pliobond** is used primarily for small area bonding of metal, wood and plastics, but can also be used for bonding fabrics, paper, leather, ceramics and a wide range of other materials. Once bond is complete and thoroughly dry, it is resistant to moisture, dilute acids and alkalis, oils and petroleum derivatives, and alcohols. It is also permanently flexible even when exposed to low temperatures.
A special use for **Pliobond** is gluing of rubber-gasket (NBR or EPDM) on metal in Plate-Heat-Exchangers.

Technical data: Liquid glue.

Type:	**Pliobond 20**	**Pliobond 25**	**Pliobond 30**
Total solid content:	20-24 %	25-29 %	30-34 %
Viscosity: (mPa.s)	400-500	1500-2000	3000-4500
Specific gravity:	0,86	0,89	0,91
Application of glue:	Brush, roller or nozzle.	Brush, roller or nozzle.	Brush or roller.

Common characteristic:

Colour: Pale yellow.

Flash point: Below -4°C.

Thinner/cleaner: Acetone or Methyl-Ethyl-Ketone.

Application amount: The quantity of glue will depend on the nature of the materials as well of the method of application, but the amount is normally 115 - 280 g wet glue per m^2.

Storage and shelf life: Pliobond have a shelf life of minimum 12 months when stored in original sealed containers, under cover and in a dry area, between 5°C and 25°C.

Health and safety regulations: For further information please consult the product hazard information sheet.

Finished glue joint.

Colour: Pale yellow.

Resistance: **Pliobond** is after hardening/ curing, resistant to moisture and water; dilute acids and alkalis; oils; petroleum derivatives and alcohols.

Cleanings: Acetone or Methyl-Ethyl-Ketone.

The statements made in this data sheet are the experience of Lyckeby Industrial in the field and the result of very careful laboratory evaluations by trained and qualified staff employing Standard and similar test methods.
No guarantee can be made, however, as regards specific applications and substrates etc are different for each individual case.
Full production trials and end-use testing should be undertaken to properly evaluate any adhesive under specific conditions.

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Food contact: The components of **Pliobond** satisfy the requirement in the FDA Administration for use in food packaging in *"Code of Federal Regulations"*, title 21 under section 175.105: *Adhesives.*
(Above mentioned will be effective after the glue is complete dry and cured).

Method of applications.

IMPORTANT: **WHEN APPLYING ADHESIVES, THE SURFACES MUST ALWAYS BE CLEAN AND DRY!**

THE GLUE MUST BE STIRRED VERY CAREFULLY BEFORE USE.

There are 3 different methods for gluing.
In all method the application temperature must be between 8-25°C

1: Contact method: Apply the adhesive to both surfaces to be joined - allow 2-5 minutes for solvent to evaporate to tacky stage, and then 5-7 minutes (open time) are available for surfaces to be brought together under as much pressure as possible, to give quite good immediate bond.
Maximum bond strength will be reached when all solvent has evaporated.
If possible use heating to speed up this process. (See Reactivating)

2: Reactivating: Apply the adhesive to both surfaces, and dry out completely.
Put coated surfaces together and place in press:
at 105°C and 50 -100 psi for 15 minutes in the glue line – or
at 150°C and 50 -100 psi for 5 minutes in the glue line – or
at 180°C and 50 -100 psi for 2 minutes in the glue line.
(To the above mentioned time you have to add the time to heat up the material).
The bond will develop full strength after cooling.

3: Wet gluing. Apply the adhesive to one surface and place the other part directly in the adhesive while it is wet and place it in press until all solvent has evaporated.
The press time depend of on the nature of the materials; the quantity of glue and the temperature. If possible use heating to speed up this process.
This method is best with porous materials or very small area of on porous materials.

Hardening/ Curing: All new/ fresh Pliobond gluing are thermoplastics but will through ordinary age over years make a crosslinking in the glue molecules at which the chemical and heat resistant increase considerably.
The same effects reach by an extra heat treatment at minimum 150°C in 30 min. or at 180°C in 15 min.
After 24 hours cooling, the curing process is completed.

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