

Technical Data Sheet

BONDONE® CLEARLAM PREMIUM (Ambient Curing Moisture free Epoxy Coating/Casting System)

Product Description

BONDONE® CLEARLAM PREMIUM is two components modified low viscous epoxy coating/casting system. Optically clear casting can be achieved when used for casting of small articles. When both components are mixed properly and cured at room temperature, a clear casting/Coating can be achieved.

Features

- Excellent hardness, High gloss & clarity
- Moisture Free Coating & Casting
- Good chemical resistant
- Thermally stable and suitable to perform in humid conditions
- Epoxy pigment paste & dye solution can be used to get desired shade of color

Applications

- Coaster & Mantra frame Coating
- Wall clock Top Coating, Tabletop Top coating
- Casting of small coasters.
- Tray casting, Wall frame Casting, Wall clock casting.
- Different type of Gift & Art casting.

Product Specifications

Properties	Units	Reference standard	Value	
			Resin	Hardener
Appearance	Visual	HTP-1	Clear liquid	Clear liquid
Color	APHA	ASTM D1209	Max 30	Max 40
Viscosity at 25°C	mPas	ASTM D2196-5	700-1300	300-600

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Product Performance Data

Properties	Units	Reference standard	Value
Mixing Ratio (R:H)	Pbw	NA	100:50
Mix viscosity at 25°C	mPas	ASTM D2196-5	850-1050
Pot life 100g at 25°C	Minutes	ASTM D2471	50-70
Curing characteristic of Coating			
Surface dry at 35°C	Minutes	ASTM D5895	160-190
Touch dry at 35°C	Minutes	ASTM D5895	360-390
Hard dry at 35°C	Minutes	ASTM D5895	720-750
Curing Characteristic of Casting			
Hardness@ 35°C 24hr	Shore-D	ASTM D 2240	75 Min
Water Absorption, 24 hours at 25°C	%	HTP-53	0.5 Max

HTP: HSCL Testing Procedure

NA: Not Applicable

Curing behavior of different casting

SR NO	MOULD SIZE	THICKNESS	TEMPERATURE	TIME	HARDNESS SHORE- D
1	8 INCH ROUND	5 TO 6 MM	25°C	19 HR	70
				24 HR	74
				48 HR	76
2	8 INCH ROUND	9 TO 10 MM	25°C	19 HR	74
				24 HR	76
				48 HR	76
3	8 INCH ROUND	5 TO 6 MM	35°C	19 HR	75
				24 HR	78
				48 HR	78
4	8 INCH ROUND	9 TO 10 MM	35°C	19 HR	78
				24 HR	78
				48 HR	78
5	4 INCH ROUND	4 MM	25°C	19 HR	70
				24 HR	72
				48 HR	76
6	4 INCH ROUND	4 MM	35°C	19 HR	70
				24 HR	76
				48 HR	76
7	9X12 INCH SQUARE	5 TO 6 MM	25°C	19 HR	70
				24 HR	72
				48 HR	76

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8	9X12 INCH SQUARE	9 TO 10 MM	25°C	19 HR	72
				24 HR	76
				48 HR	78
9	9X12 INCH SQUARE	5 TO 6 MM	35°C	19 HR	75
				24 HR	77
				48 HR	77
10	9X12 INCH SQUARE	9 TO 10 MM	35°C	19 HR	78
				24 HR	78
				48 HR	78

REMARKS:-	1) Generally casting is not bend when hardness is achieved 70 shore D value.
	2) Bending of casting also depend on length of casting and thickness of casting.
	3) For a best performance of casting temperature should be 25°C to 30°C.

DO AND DON'TS FOR CASTING

Do's

- Use a flat wood or plastic spatula for mixing of resin & hardener, and it should be dry and clean.
- Optimum temperature recommended for casting between 25°C to 30°C to avoid shrinkage effects, yellowing, and bubbles on the surface caused by exotherm.
- After pouring, use hot air gun / Flame torch frequently to remove air bubbles from the top surface of coating & casting.

Don'ts

- Don't use mixed system if the viscosity is thicker due to exotherm.
- Mixed material should be poured in mould & apply on the surface within 5 minutes after mixing.
- Do not stir resin & hardener mixture rigorously or for long time.
- Do not allow a pouring material to come in contact with skin.
- Mixture should not be poured from height as it can cause excessive bubble formation. And should be poured with nominal speed from the corner of the mould.
- Do not expose poured casting any localized heat sources such as direct sunlight or any other heat sources to avoid fast curing of system which will cause a yellowing or cracks in the casting.

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- If material is poured below 20°C hardness time will be extended by few hours.

DO AND DON'TS FOR COATING APPLICATION

Do's

- Use a flat wood or plastic spatula, and it should be dry and clean.
- Prior to Clearlam premium system coating of any substrate surface should be free from dust, oil, wax and grease.
- The material should be applied by Brush, Hand lay or by Roller depending on the type and size of the substrate with uniform thickness.
- After coating use hot air gun/ flame torch to remove air bubbles from top surface of coating.
- After coating substrate should be keep in dustproof atmosphere otherwise crater, pinhole & dust particle appear on the top surface.
- Maintain room temperature between 25°C to 35°C.

Don'ts

- Don't used the mixed mass if viscosity getting thicker.
- Don't used spray technique for the application.
- Do not coat on oily surface of substrate otherwise coating defect appear.
- Do not coating without proper surface cleaning of any substrate

Packaging

Bondone® Clearlam Premium resin is available in 1 kg bottle and 5 kg jerry can and Bondone® Clearlam Premium hardener is available in 500 gm, 2.5 Kg bottles.

Application

Mixing: Take resin and hardener in desired ratios and thoroughly mixed to completely remove any hazyness or streaks.

Applications:

After proper mixing of resin & hardener either transfer into desire mould for casting or Apply coating on desire your substrate. It is advisable to apply the vacuum to remove air from the mixture just prior to pouring into the mould. It is important to mix small quantity at a time as epoxy systems tend to give exotherm when kept in a mass. Excessive humidity (above ~65%) and low temperature (less than 20°C) may retard the cure.

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	Bondone clearlam premium system work effectively in the monsoon season.
Curing	Once Part A and Part B is mixed, Curing behavior of mixed mass depend on temperature, if temperature is lower 25°C retard curing compare to cured mass 30 to 35°C. Part A and B should be mixed gently otherwise proper curing not achieved.
Safety	Wear personal protective equipment (PPE). Avoid contact with the eyes and skin. In case of direct contact, it should be washed off immediately with warm water. Avoid breathing vapours, mist or gas. Please refer to the Safety Data Sheet.
Storage Conditions	Part A & B should be stored away from light & heat, the temperature should be between 15°C and 40°C. Partly empty containers should be tightly closed immediately after use to avoid exposure to light. For information on waste disposal and hazardous products of decomposition in the event of a fire, refer to the Material Safety Data Sheets (MSDS) for these particular products.
Shelf Life	The shelf life for both products Resin and Hardener is 12 months from date of manufacturing.

Disclaimer	All recommendations for use of our products, whether given by us in writing, verbally or to be implied from results of tests carried out by us are based on the current state of our knowledge. Notwithstanding any such recommendations the Buyer shall remain responsible for satisfying himself that the products as supplied by us are suitable for his intended process or purpose. Since we cannot control the application, use or processing of the products, we cannot accept responsibility. Therefore, the Buyer shall ensure that the intended use of the products will not infringe any third party's intellectual property rights. We warrant that our products are free from defects in accordance with and subject to our general conditions of supply.
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