



## **CASCOPHEN® AG-5600Q with CASCOSET® LQ-100**

### Description

Cascophen® AG-5600Q is a liquid phenol resorcinol formaldehyde resin for use in gluing structural wood members, particularly for "I" beam applications where fast setting cure times are desirable. Cascoset® LQ-100 is a ready-made, liquid, para-formaldehyde hardener for use with phenol resorcinol and resorcinol resins. AG-5600Q with LQ-100 exceeds the adhesive durability requirements of ASTM D-2559 and CSA O112.9, and is designated an HRA adhesive by both ALSC and CLSAB.

### Storage, Mixing and Wood Preparation Procedures

Cascophen® AG-5600Q has a storage life of 16 months when stored in a closed container at 21°C. Cascoset® LQ-100 has a storage life of 9 months in a closed container at 21°C. Agitation of LQ-100 is recommended before use. Since aging causes slow changes in both materials, rotate stock so that old inventory is used first.

### Limits of Working Life, Assembly Times, Spread Rates

The time-to-set, or gel time, of AG-5600Q is limited when using LQ-100. The usable working life, or pot life, will be less than the actual gel time. Retention times in meter mix equipment should not exceed 10 minutes, assuming ambient conditions of 70°F. Lower temperatures will lengthen the times, and higher temperatures shorten both gel time and pot life. AG-5600Q/LQ-100 has no minimum assembly time, maximum assembly times should not exceed 5 minutes open or 10 minutes closed. Spread rates vary according to the specifics of a particular "I" beam operation but generally range between 1 – 2 grams per surface per lineal foot, equivalent to 200-300 grams per meter squared.

### Minimum Cure Time, Bondline Temperature, Pressure

AG-5600/LQ-100 may be used to bond wood with temperatures as low as 45°F if the glued beam is heated sufficiently to facilitate curing. Generally, if the beam is warmed to 65-70°F for one hour, the bond should be of sufficient strength to allow handling of the assembly as long as care is taken to prevent undue shock to the glued joint. Heating to higher temperatures reduces the time needed to attain complete cure. Clamping pressure must exceed 75psi.

## Maximum and Minimum allowable Wood MC

The AG-5600/LQ-100 resin system creates permanent durable bonds when substrate Moisture Content is controlled between 3 and 16%. Gluing of water saturated or excessively wet stock is not recommended.

Typical Physical Properties (at time of manufacture):

PROPERTY	SPECIFICATION	TEST METHOD
<b>AG-5600Q</b>		
Viscosity	2,100 – 2,900 cPs	Brookfield RV #3 spindle/20 rpm/25°C @ 1 min
Specific Gravity	1.17 ± 0.01	Hydrometer
Solids	55 – 57%	Convection Oven, 125°C (248°F), 105 minutes
Flash Point Temperature	65°C (149°F)	Pensky–Martens closed-cup, ASTM D93-A
Storage Life	16 months	21°C (70°F)
Screening	40 mesh	American National Standard ASTM
<b>LQ-100</b>		
Viscosity	400 – 4000 cPs	Brookfield RV #5 spindle/20 rpm/21°C @ 5 min
Specific Gravity	1.09 ± 0.01	
Flash Point Temperature	> 100°C (212°F)	Pensky–Martens closed-cup, ASTM D93-A
Storage Life	9 months	21°C (70°F)
Screening	40 mesh	American National Standard ASTM
<b>MIXED ADHESIVE</b>		
Mix Ratio	2.2 – 2.6 to 1.0	Resin to Hardener, by weight
Mix Viscosity	4,000 – 9,000 cPs	Brookfield RV #5 spindle/20 rpm/21°C @ 5 min
Gel Time	100 – 130 minutes	Temperature Controlled (see note 1 below)

1. A 50 gram sample of fresh adhesive is placed in a re-circulating water bath and controlled to 21°C. A thermometer and gel stick are inserted into the sample to monitor temperature and distribute exotherm through occasional stirring. The gel is called when the glue mass breaks like toffee as the stick is pulled slowly out of the gel can.

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