



CASCOPHEN® RS-254D with CASCOSET® FM-316MB

For Structural Radio Frequency Finger Jointing

Traditionally, melamine or melamine-urea adhesives have been used in the laminated beam industry for finger jointing structural lumber to be laminated into larger beams. These adhesives have been favored for radio frequency curing primarily because they are less expensive, faster curing, and less prone to arcing in RF machines than resorcinol or phenol-resorcinol adhesives. They are also sometimes preferred because they produce a lighter colored glue line.

Recently there has been an increasing demand for resorcinol or phenol-resorcinol adhesives that can be rapidly cured without arcing. These adhesives are generally believed to have superior waterproof durability when compared to melamines. They are also more readily washed up with water than are the melamines. Gluelam products scheduled for the export market are often restricted by foreign standards that require the use of resorcinol or phenol-resorcinol, only, in the finger joints used in structural glued laminated timber. For those laminators who choose to retain traditional batch mixing for their finger joint process, we offer Cascophen® RS-254D with Cascoset® FM-316MB.

Glue Temperature	50°F	60°F	70°F	80°F	90°F
Usable Life	4-4.5 hr	2.5-3 hr	1.5 hr	1 hr	0.5 hr

Product Description

Cascophen RS-254D is a liquid resorcinol-formaldehyde timber laminating resin formulated for structural radio frequency finger jointing application. The setting of this resin is obtained through reaction with a definite proportion of a dry, powdered hardener, Cascoset FM-316MB. Neither resin nor hardener contains proteinaceous or amylaceous materials. Cascophen RS-254D with Cascoset FM-316MB will produce a brown colored glue line when first cured. The color will darken with age.

Tests in Hexion™ Specialty Chemicals, Inc. laboratories indicate that representative lots of RS-254D and FM-316MB meet both ASTM-D-2559-84 and ANSI/AITC A 190.1-1983 specifications for wet use or dry use exposure when gluing West Coast softwoods.

Mixing Directions

A supplemental page is attached which summarizes proper mixing proportions and general directions for use. Please post in gluing area.

Mixing Proportions (by weight)	
Cascophen RS-254D	100 parts
Cascoset FM-316MB	20 parts

The hardener powder is slowly added to the resin and stirred for 5-10 minutes until thoroughly dispersed.

Storage Life

Cascophen RS-254D will remain in usable condition for about two years at 70°F. Cascoset FM-316MB should be stored under dry conditions, and has a usable life of about one year at 70°F. Container or shipping papers are marked to indicate the end of the usable life of these materials, and outdated materials should be retested before use. Since aging causes slow changes in both materials, rotate stock so that old inventory is used first.

Usable Life of Mixed Adhesive

The usable life, or pot life, of RS-254D with FM-316MB is shown in the table above.

These times are valid when using RS-254D with FM-316MB in the proper mix ratio, with 50 grams of the adhesive tested while temperature is held constant. The higher temperatures are shown to illustrate the increased reactivity of this adhesive mix at elevated temperatures. The longer usable life at 50-60°F is attained by chilling the resin before mixing and holding the mixture at the low temperature. This can be accomplished by adding a chiller and simple agitator to the glue pot.

Before using any Hexion™ Specialty Chemicals, Inc. product, please be sure to read the Material Safety Data Sheet which was included with the shipment.

For more information contact your local Hexion Sales Representative or Customer Service Center +1 800 441 9637.

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Mixing Directions for CASCOPHEN® RS-254D Resin with CASCOSET® FM-316MB Hardener

- 1) For longer usable life, cool RS-254D to 50-60°F before mixing.
- 2) Charge to mixer:

Cascophen RS-254D	40 lbs	30 lbs.	20 lbs.	10 lbs
Cascoset FM-316MB	8 lbs.	6 lbs.	4 lbs.	2 lbs

Adhesive mix ratio is 100:20, by weight.

- 3) The FM-316MB Hardener is slowly added to RS-254D and stirred until thoroughly dispersed. The mixing time should be from five to ten minutes. Where good mixing equipment is not available, the hardener is added to about two-thirds of the resin charge and mixed until free of lumps. The remainder of the resin is then added, followed by a short stir, or until the mix appears smooth.
- 4) Usable life of mixed adhesive:

Glue Temperature	Usable Life (hours)
50°F	4-4.5 hours
60°F	2.5-3 hours
70°F	1.5 hours
80°F	1 hour
90°F	0.5 hour

- 5) Cleanup: The mixed adhesive may be cleaned with warm or cold water. Hot water is not desirable, as it tends to set the adhesive.