

# MILLER CONSTRUCTION, INC.

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## TRANSMITTAL

TO: Jennifer Fitch, PE Project Manager Vermont Agency of Transportation	DATE	PROJECT NO.
	8/11/2014	Brookfield BRF FLBR (2)

XX WE ENCLOSE THE FOLLOWING: \_\_\_\_\_ UNDER SEPARATE COVER WE ARE SENDING THE FOLLOWING

COPIES	NUMBER	DESCRIPTION	CODE
1		FRP Fabrication NCR 5 - Top Plate 2-9 Wrinkles	H

- CODE:
- A FOR INITIAL APPROVAL
  - B FOR FINAL APPROVAL
  - C APPROVED AS NOTED-RESUBMISSION REQUIRED
  - D APPROVED AS NOTED-RESUBMISSION NOT REQUIRED
  - E DISAPPROVED-RESUBMIT
  - F QUOTATION REQUESTED
  - G APPROVED
  - H FOR APPROVAL
  - I AS REQUESTED OR REQUIRED
  - J FOR USE IN ERECTION
  - K LETTER FOLLOWS
  - L FOR FIELD CHECK
  - M FOR YOUR USE

BY: Paul A. Allmy



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August 11, 2014

Mr. Paul Holloway  
Miller Construction, Inc  
PO Box 86  
Windsor, VT 05089

**Brookfield BRF FLBR (2)**

Dear Mr. Holloway:

Nonconformance

After de-molding the Top Plate (Part 2-9a) from the mold, Kenway noticed three wrinkles on the part. The mold surface has resin rich lines and the bag side of the part displays wrinkles that protrude less than 1/4 in. above the surface, less than 3/4 in. wide, and extend parallel to the short dimension of the part about from 12 in. to 38 in. in length. The wrinkles do not conform to: ASTM D2563, Table 1, Allowable Defects – Level II.



Root Cause

The wrinkles were likely caused by working on top of the part while adding sequential layers of material. Movement of feet and knees on the un-infused layers during part layup may have caused slight wrinkling of the initial layers and may have been exaggerated when the part was put under vacuum. The wrinkles were not identified during the pre-infusion inspection.

Resolution

Kenway recommends the following procedure to repair the nonconforming area:

1. Grind down the proud areas on the bag surface to satisfy flatness requirements.
2. Grind out the resin rich areas on the mold surface at a 4:1 taper.

3. Replace ground out material with glass specified for the project with each ply tapered to fit the cavity.
4. Vacuum infuse the area with resin specified for the project and allow to cure.
5. Remove infusion consumables from the area and inspect for proper wet out.

Future Top Plate construction will include the use of spray adhesive on all areas that require a person to work on top of the material during layup. Included in the corrective action plan will be a “hold” for final inspection by the Quality Assurance Manager prior to infusion.

Please forward this nonconformance and the corrective action for review and approval.

Sincerely,

A handwritten signature in black ink that reads "Jacob Marquis". The signature is written in a cursive, flowing style.

Jacob Marquis, P.E.  
Senior Project Engineer