

Latex Modified Concrete Prepour Checklist

Discussed

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Repair of Bridge Decks & Approaches

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Does the Contractor have the required equipment meeting the requirements of the Special Provisions?

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- Saws, Power Operated Scarifying Equipment, Sandblasters, Power Driven Hand Tools
 - Pneumatic Hammers must weigh a nominal 35 lb or less
 - Pneumatic Hammer Chisel-type bits must not exceed the diameter of the shaft

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Have the locations of the various surface preparations been identified? Was "Chain Drag" used?

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- Class I Surface Preparation
 - Scarify & Remove the entire concrete Surface to a depth of 1/2"
 - If reinforcing steel is located within 1/2", use another method

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- Class II Surface Preparation (Partial Depth)
 - Chip all loose, unsound deck concrete to an average depth of 1/2 the deck thickness
 - No less than 3/4" below the top mat of steel
 - Clean, repair, or replace rusted or loose reinforcing steel, and clean thoroughly
 - Refill with AA concrete (Section 420 of specs), and provide raked finish
 - Refilling of Class II repair with Latex Modified Concrete is allowed if:
 - Reinforcing steel cover is 1.5" or less
 - The area being repaired is less than 1 yd²
 - The Engineer directs the fill

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- Class III Surface Preparation (Full Depth)
 - Same procedures as Class II except full depth
 - Must submit for approval detailed plans for Class III Surface Preparation.
 - Submittal Reviewed?

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- Crack Repair
 - Remove all concrete within 2" each side of crack by chipping to a minimum depth of 3/4"
 - If reinforcing steel exposed, chip to a minimum of 3/4" below top mat of steel
 - Repair in accordance with methods of Class II repair

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- General
 - Clean all reinforcing steel by sandblasting
 - Remove bars that have lost 25% of original section and weld new, same-size bars
 - Maintain 1.5" cover of Class AA concrete over reinforcing steel
 - Provide 90 degree corners and vertical sides

Materials/Testing

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Requirements of Article 1000-8 shall be adhered to.

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Have admixtures been sampled?

- Test admixture samples to verify compliance with the specification requirements before use.
- Allow 7 days for sampling & testing after delivery to the project.
- For latex emulsion that has been in storage, use a transfer pump and lines to recirculate before using.

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Has the latex modified concrete mix design been submitted and approved?

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Have mixers been calibrated?

- Prior to placing latex modified concrete, perform calibration and yield tests under the Engineer's supervision.
 - Copies of these written instructions are available from M&T
- Recalibrate the mixer after any major maintenance on the mixer, if material source changes, or as directed.
- It is not uncommon to experience high air content in LMC. Air content testing should be done during calibration of the mixers in order to address any problems with high air before the production of the overlay starts.

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Perform the following tests on EVERY truck during pour:

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|------------------------------|-----------|--|
| - Slump (Inches) | 3 - 6 | * Measure slump 4 to 5 minutes after discharge from mixer. |
| - Air Content (%) | 3.5 - 6.5 | |
| - Temperature (F) | 45 - 85 | |
| - Compressive Strength (PSI) | 3000 | |
| - Yield Test | ---- | * 1st Load and every 3rd Load |

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How many sets of early breaks does the Contractor want?

Concrete Placement

<input type="checkbox"/>	Have the screed rails been set in position to ensure finishing the new surface to the required profile?	
<input type="checkbox"/>	Has all equipment for deck preparation, mixing, placing, finishing and curing LMC been approved?	
<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;"> Has a dry run been performed? </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> <ul style="list-style-type: none"> - Provide a minimum overlay thickness of 1.25" and a final surface that is approximately 3/4 inch higher than original - Prior to placing the overlay, attach a 1.25" filler block to bottom of screed and pass it over the area to be repaired to check the thickness. Remove all concrete that the block does not clear. - If there is a crown and a skew does the contractor have a skew bar kit in place? - Does the superelevation vary making crown adjustment necessary during the pour? - If so, has the rail been marked at the proper increments for this gradual adjustment? - Is the screed finishing in the proper direction? - Are the drums turning in the proper direction? - Does the contractor have materials available for an emergency header? - Does the contractor have 2 workbridges on site? </div>	
<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;"> Has the proper surface preparation been performed? </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> <ul style="list-style-type: none"> - Completely clean all surfaces within 48 hours prior to placing overlay. - Thoroughly soak the clean surface for at least 2 hours immediately prior to placing latex modified concrete. - After soaking, cover with a layer of white opaque polyethylene film at least 4 mils thick. - Remove standing water immediately prior to placing latex modified concrete </div>	
<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;"> Placing and Finishing </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> <ul style="list-style-type: none"> - Install bulkhead of easily compressible material at expansion joints to required grade and profile - Do not treat screed rails with parting compound to facilitate their removal - Separate screed rails and/or construction dams from newly placed material by passing a pointing trowel along face. - When brushing the latex cement mixture onto the wetted, prepared surface, ensure that all vertical and horizontal surfaces are thoroughly and evenly coated. Coarse aggregate shall be broomed off and removed. - Do not let the brushed material dry before being covered with latex overlay. If drying occurs, brush additional latex. - Do not allow more than 15' of exposed latex concrete behind the screed. Cover with single layer of wet burlap - In the event of a delay of 10 minutes or more, temporarily cover all exposed latex concrete with wet burlap & white opaque polyethylene - Burlap must be saturated prior to beginning pour. Drain excess water from burlap before placement - Within 1 hour of covering with wet burlap, place 4 mil white opaque polyethylene. <ul style="list-style-type: none"> - Cure for 48 hours - Remove covers and air cure for additional 96 hours - As soon as practicle, test surface with rolling straightedge - Sounding the deck with a 1/2" rod or drag chain shall also be performed at this time to check for delaminations - Unless otherwise indicated on plans, groove bridge floor in accordance with Article 420-14(B) - The purpose of fogging is to lower the temperature and raise the relative humidity in the vicinity of the work. It shall not be used to add water to the concrete other than to replace moisture lost by evaporation. - Footprints must be vibrated out. Vibrator operators should walk backwards to avoid walking in vibrated mix. </div>	
<input type="checkbox"/>	Does the contractor have 2 vibrators, generators, and misting devices?	
<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;"> Will the contractor have a 10' straightedge available? </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> The deck should be straightedged at the frequency recommended in Article 420-14(B) of the spec book? </div>	
<input type="checkbox"/>	How many people will the Contractor have at the pour?	
<input type="checkbox"/>	How many people will the Contractor have dedicated to curing and covering?	
<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;"> Where are locations of Construction Joints? </div> <div style="border: 1px solid black; padding: 2px; margin-top: 2px;"> <ul style="list-style-type: none"> - Construction joints other than those shown on the plans are not permitted without the approval of the Engineer. </div>	

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Limitations of Operations	
- The mixer trucks are not allowed on the bridge deck unless otherwise approved	
Has approval been granted?	
- No traffic is permitted on the finished latex modified concrete surface until fully cured and full strength is reached	
Weather Limitations	
- Do not place latex modified concrete if any of the following occur:	
- The temperature of the concrete surface on which the overlay is to be placed is below 40 degrees or above 85 degrees. Measure the temperature under the insulation against the surface.	
- The ambient air temperature is below 45 degrees or above 85 degrees, or if the wind velocity is in excess of 10 mph.	
- The temperature of the latex modified concrete is below 45 degrees or above 85 degrees	
- The National Weather Service predicts the air temperature at the site to be below 35 degrees during the next 72 hours. If the predicted temperature is above 35 but below 50, then use insulation to protect the latex modified concrete for at least 48 hours.	
- When using insulation during the wet curing period, do not remove insulation until the ambient air temperature is at least 40 degrees & rising. Insulation shall meet the requirements of Subarticle 429-9C and, if required, shall be placed on the LMC as soon as initial set permits.	
- Stop placing latex during periods of precipitation. Keep protective coverings at the worksite.	

Safety

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Do all trucks have operating backup alarms?	
Will flagmen be necessary for trucks entering the road?	
Review required personal protective equipment.	
Will lighting be needed?	
Where should vehicles be parked?	

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Schedule

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Deck Preparation Dates:	
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Calibration Testing Dates:	
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Pour Dates:	
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