STEP BY STEP INSTALLATION PROCEDURE FOR EPOXY CHOCKS – TECHNICAL GUIDE #694

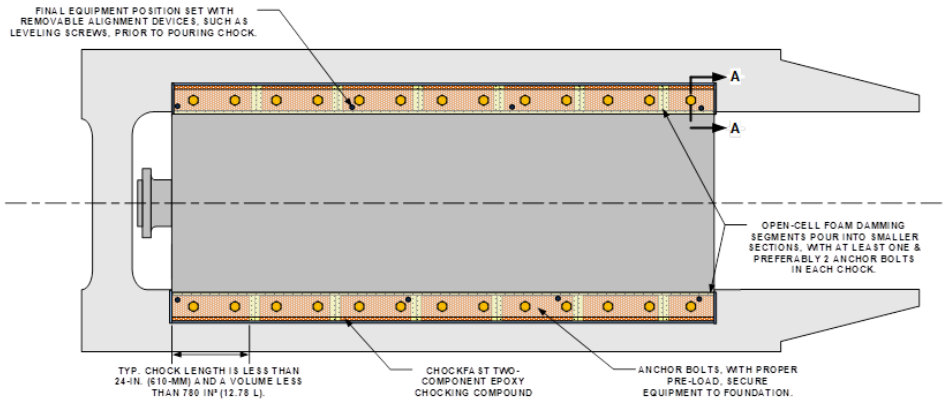
REVISED: 04/2023

VERSION: A

DESCRIPTION

This document describes the standard and typical installation procedure for the effective installation of Chockfast two-component epoxy chocking compounds, including Chockfast Orange, Chockfast Black, and Chockfast Gray. While this document is intended to guide the overall installation process, it should not be considered as a substitute for experienced and trained installers who can fully consider the unique aspects of each specific installation. Please consult your local representative of our Worldwide Distributor Network for application specific guidance and recommendations.

STEP-BY-STEP CHOCKING PROCEDURE



1. Configure the Chockfast pour with properly sized chocks.

   Individual chocks should not exceed 12.8 L (780 in^3) in volume or lengths of 610 mm (24”). It is recommended that each chock contain at least one anchor bolt, preferably two.

   Please refer to Technical Guide 692 for additional guidance on sizing chocks based on maximum static load.

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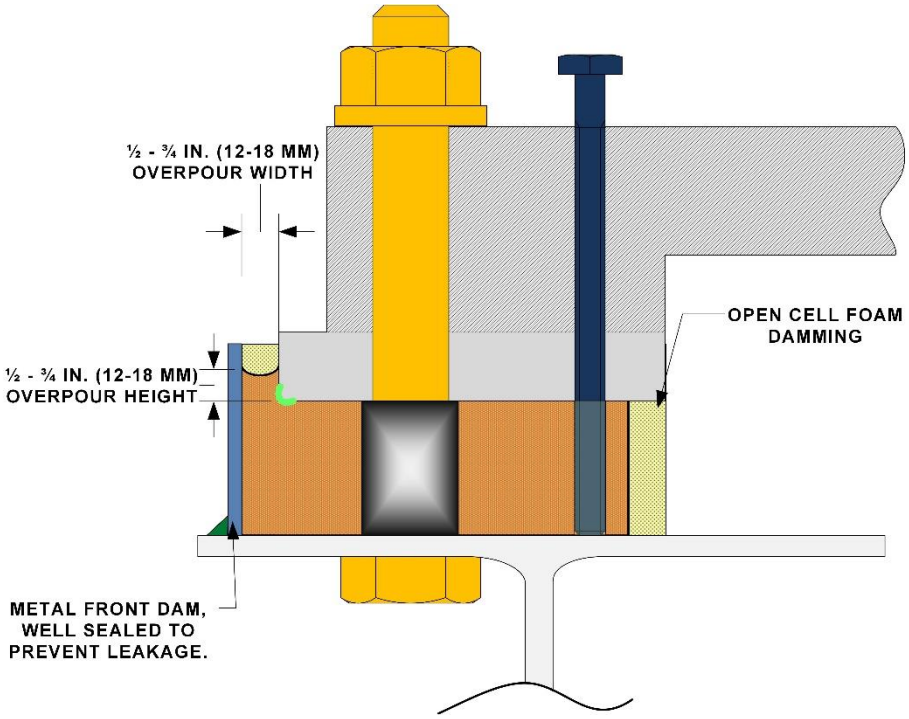
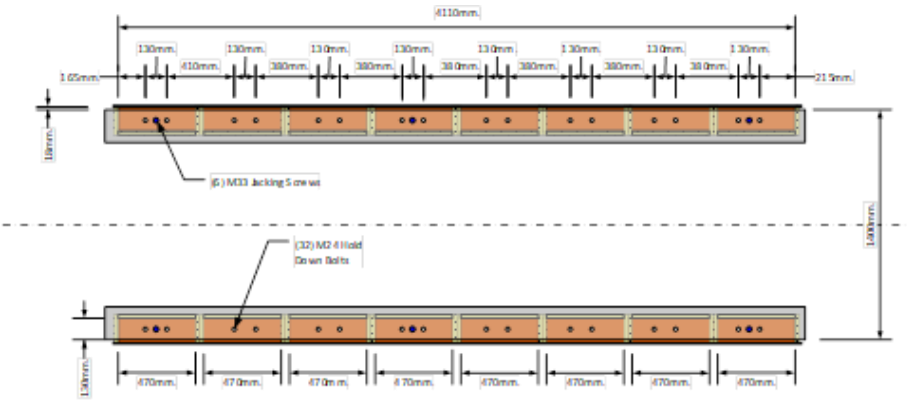


2. Plan and locate overpours.

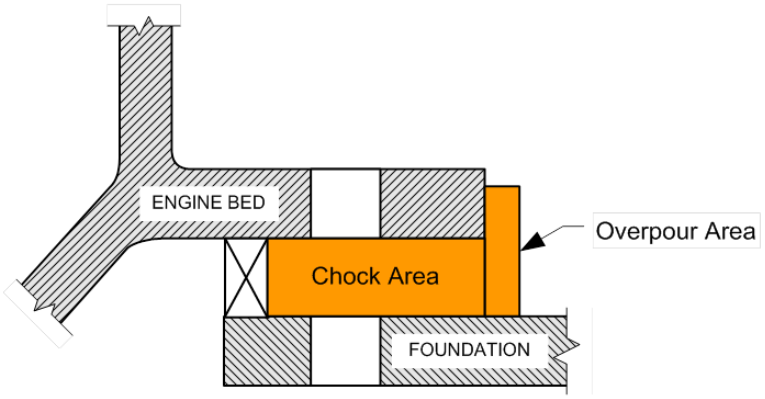
   Overpours should be located on a single side only, or two parallel sides. Typically, overpours should be located parallel to the line of thrust.

   While metal or foam may be used for constructing the side and back dams, it is recommended to only use metal for the front dam. Further, it is recommended to avoid the usage of wood as a damming material.



3. Estimate the required amount of Chockfast, including the overpour areas, using a chocking plan.

   For ease, the Chockfast Volume Calculator is always available at [www.itwpp.com/chockfast.](www.itwpp.com/chockfast)



3a. Order at least 10-20% extra in case of spills, leaks, etc.

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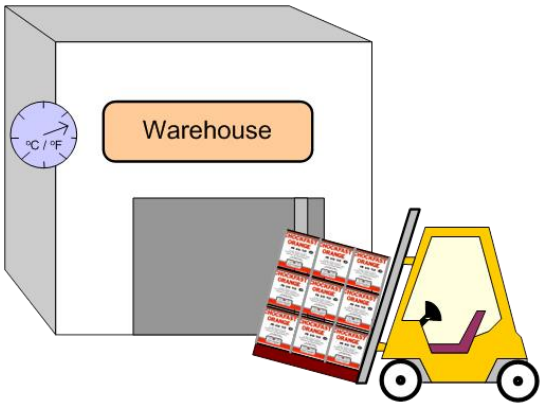
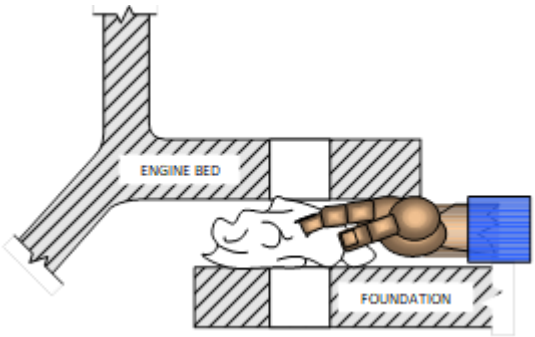
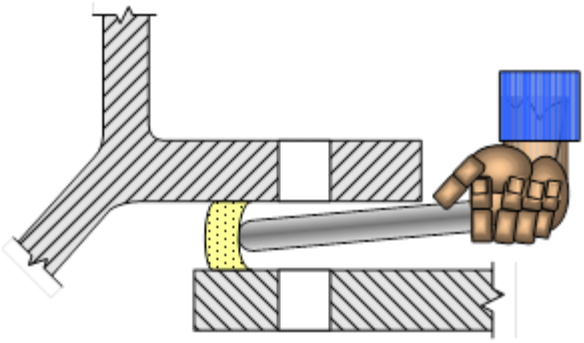
– Chockfast – Open Cell Foam Damming – ITW Release Agent – Strip Caulking / Putty – IXT-59 (or equivalent) Solvent – IR / Non Contact Thermometer – Foam Backed Tape – 1/2” Variable Speed Drill Motor – Jiffy Mixing Blades – Thick Metal Dams – Non Melt Grease – Safety Glasses – Disposable Vinyl Gloves – Contact Cement –	4. Gather all necessary materials.
	5. Pre-condition the Chockfast Resin and Hardener, as well as the application area. It is recommended to condition everything at an ideal and uniform temperature of 20°C to 27°C (68°F to 80°F). All material components should be conditioned to the recommended temperature **at least 24 hours before use** to promote the best mixing and installation.
	6. Clean all surfaces of oil, grease, mill scale, paint, and rust so that Chockfast makes firm contact with the foundation and bedplate. It is also very important to remove all burrs and welding slag.
	7. Insert flexible damming along the back and on either side of the chock. For open cell foam damming, a compression of approximately ¼” (6 mm) works effectively to stay in place during the pouring while also permitting air to escape.

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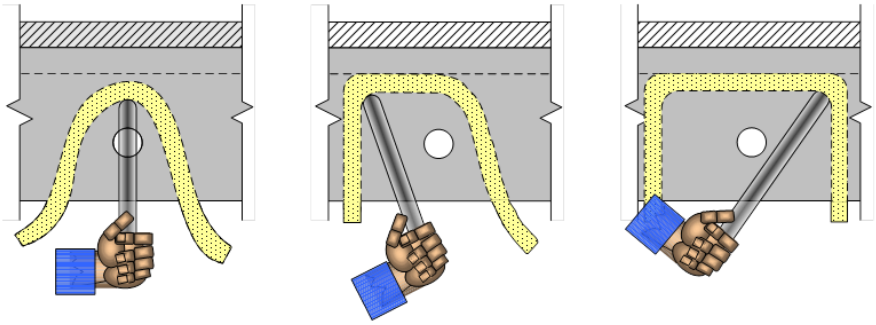
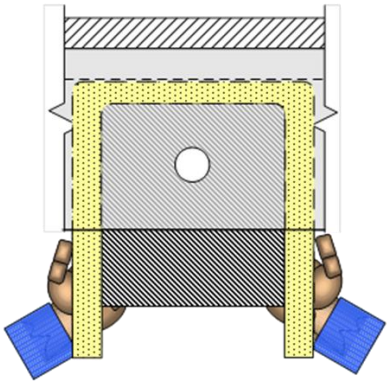
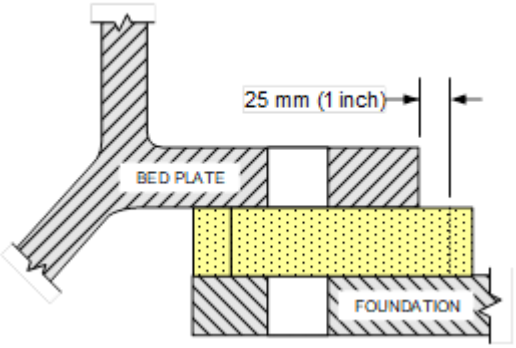


7a. Use a stick to place the foam.

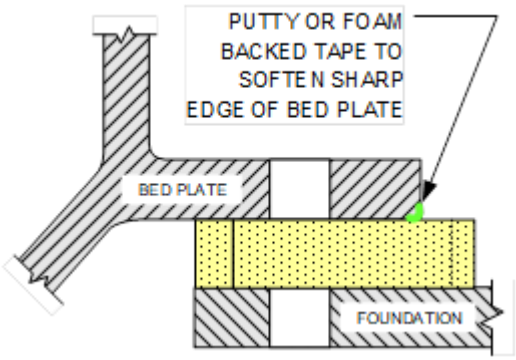
As feasible, the stick should be sized close to the depth of the chock to minimize potential folding of the foam over the stick.



7b. A plywood template may also be used to place the foam dam



8. Check that the damming is not twisted and is firmly in place. Cut off the protruding ends approximately 25 mm (1 inch) from the bed plate.



8a. (Optional) If significant lateral movement is expected, or placing overpours on two parallel sides, it is recommended to soften the sharp corner on the bed plate using a non melt sealing putty, foam backed tape, or similiar.

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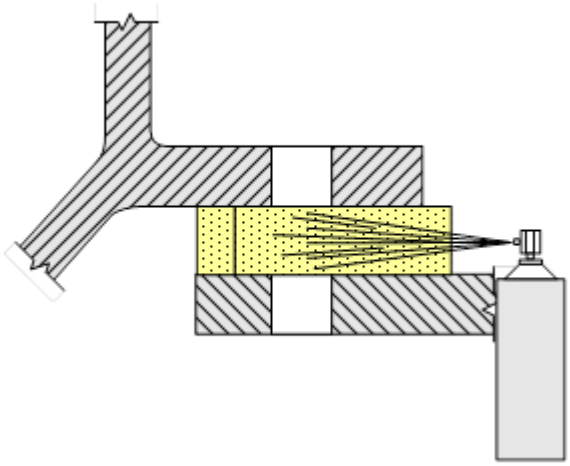
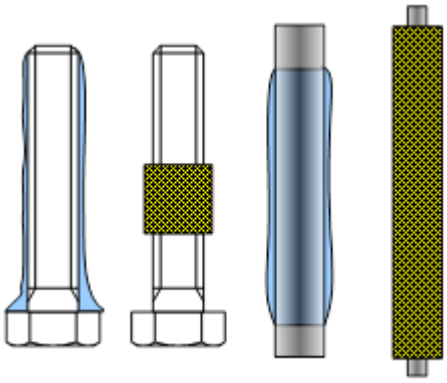


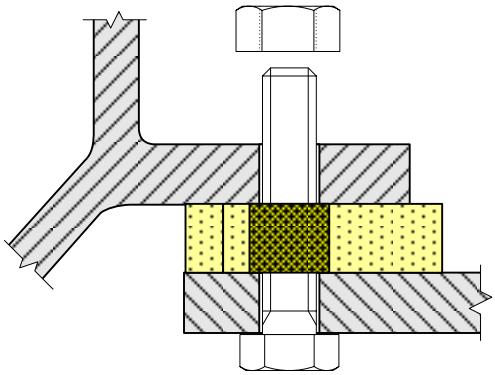
9. Spray with ITW Release Agent.



10. Prepare to plug the bolt holes with greased bolt, Armaflex tubing covered bolt, greased wooden plug, or foam tubing with a wooden dowel for stiffness.

    Clearance bolts should be wrapped or otherwise isolated from bonding to the poured chocks to allow for free stretch of the bolt when tensioned.

    Fitted bolts should be covered with Release Agent.



11. Insert bolt or plug. Install nut hand-tight only.

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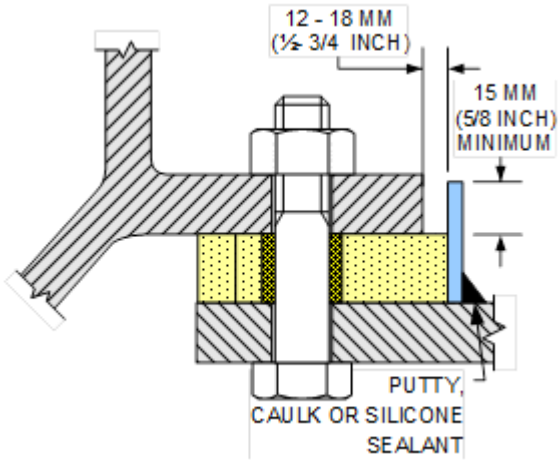
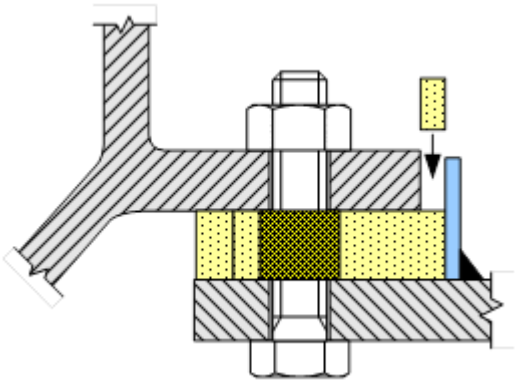
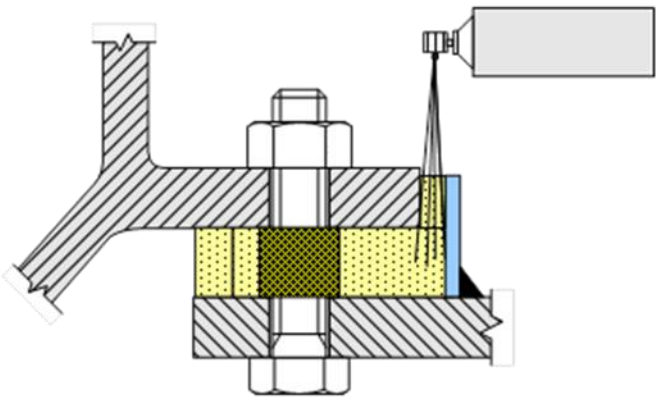


12. Create a front overpour using a metal dam by tack welding a 4 - 6 mm (1/8” – ¼”) thick flat bar or angle iron, 12 to 18 mm (1/2” – 3/4”) from the bedplate. Seal the flat bar with putty or caulking. The flat bar must be high enough to allow the Chockfast to be filled a minimum of 15 mm (5/8”) higher than the bottom of the bedplate.



13. Using contact cement, glue in a piece of foam damming material at the front corners to prevent the Chockfast from overflowing.



14. Spray Release Agent on the front metal dam and around the overall pour area.

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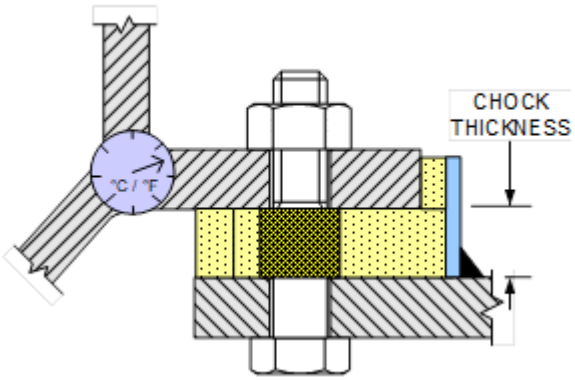
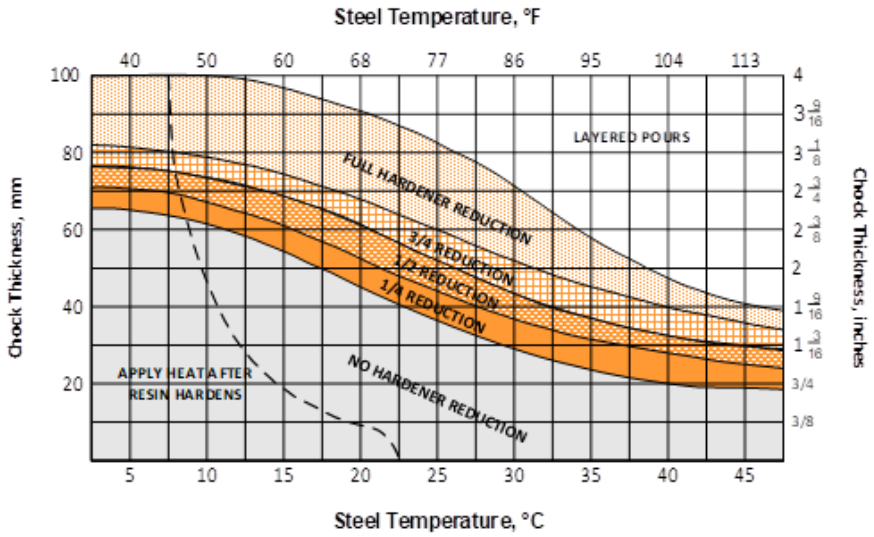


15. Measure the temperature of the steel and the thickness of the chocks. If the steel temperature is below 13°C (55°F), use heaters to raise the temperature of the steel above at least 15°C (60°F), and preferably close to 21°C (70°F).



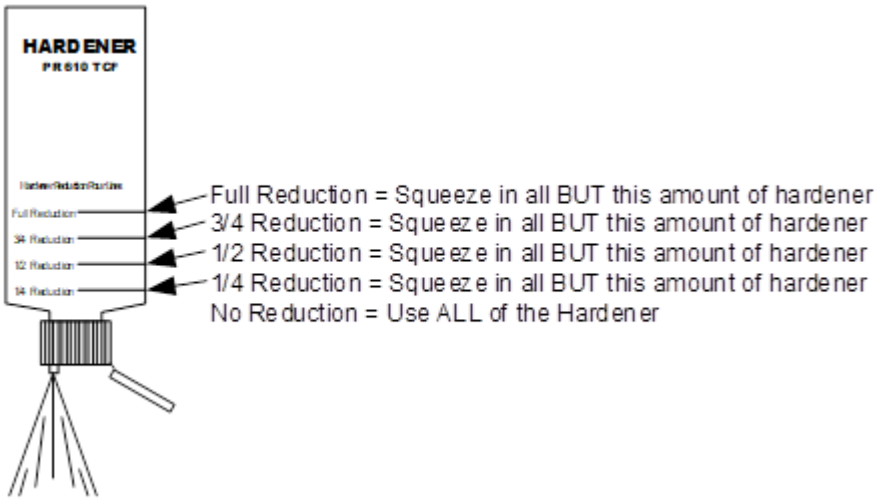
16. **For Chockfast Orange Only -** Using the Hardener Ratio Guide determine the correct amount of hardener to add to the resin.

    Please refer to Technical Bulletin 665 for Chocks Between Concrete & Steel.

    Please refer to Technical Bulletin 693 for Chocks between Steel & Steel.

17. Premix the Part A / Resin Component for 30-60 seconds using a Jiffy Mixing Blade or Equivalent. Hold the can of Chockfast securely between your feet. Place the mixing blade into the Chockfast before turning it on. Keep the blade submerged and traverse the can. Make sure to mix material from the bottom and sides of the can.

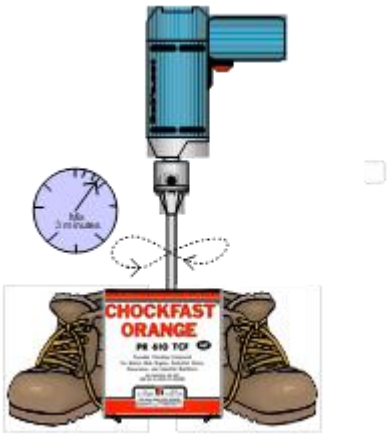
    Gradually increase the speed of the mixing blade but do not exceed 250-300 RPM.



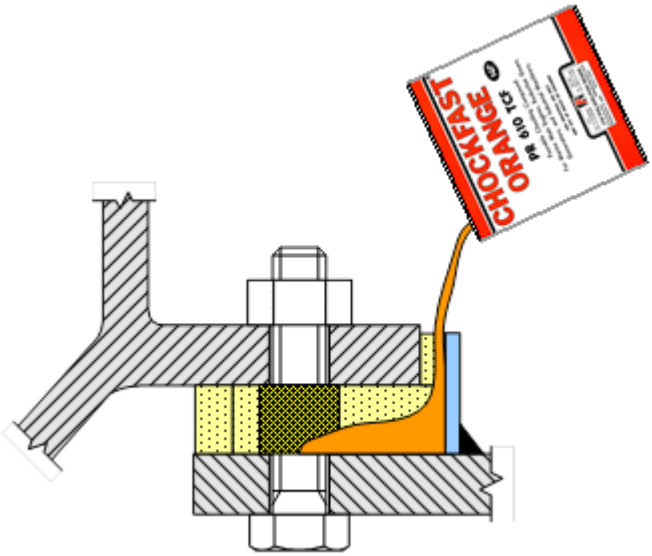
18. Put on rubber gloves and eye protection. Puncture the paper seal under the cap on the hardener. Turn the bottle of Hardener upside down and squeeze in the proper amount of hardener.

    For Chockfast Orange, refer to the Hardener Ratio Guide.

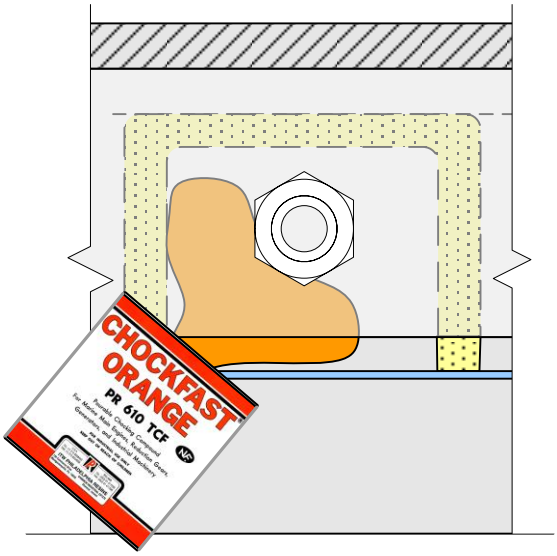
    For Chockfast Black and Gray, use all of the provided hardner.



19. Attach a Jiffy Mixing blade or similar type mixing blade to a variable speed drill motor. Hold the can of Chockfast securely between your feet. Place the mixing blade into the Chockfast. Start mixing very slowly. Keep the blade submerged and traverse the can. Make sure the bottom of the can is scoured. Gradually increase the speed of the mixing blade but do not exceed 300 RPM. Mix for 3 minutes.

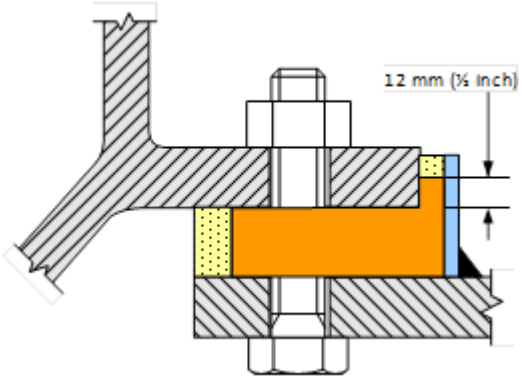


20. Pour Chockfast slowly in a thin stream from a height, ideally about 300 mm (12 inches) into the overpour. A thin stream of Chockfast will force the air bubbles out of the mixture.



21. Pour the Chockfast into the lowest corner of the overpour area. Continue to pour the Chockfast into the chock area slowly and steadily.

    DO NOT scrape residue from the bottom or sides of the can.



22. Fill the overpour area until the top of the Chockfast is at least 12 mm (½ inch) above the bottom of the bed plate.

    Continually check for leaks. Do not leave until the chocks are hard.

CHOCKFAST ORANGE RECOMMENDED INITIAL CURE TIME		
13 – 18°C	55 – 68°F	48 hrs
19 – 21°F	66 – 70°F	24 hrs
ABOVE 21°C	ABOVE 70°F	18 hrs

23. Allow the Chockfast to complete the initial cure. The included Cure Time Recommendations are for Chockfast Orange. Please Refer to the specific Product Data Sheet, as found at www.itwpp.com/chockfast, for recommended cure time based on temperature for Chockfast Gray and Chockfast Black.

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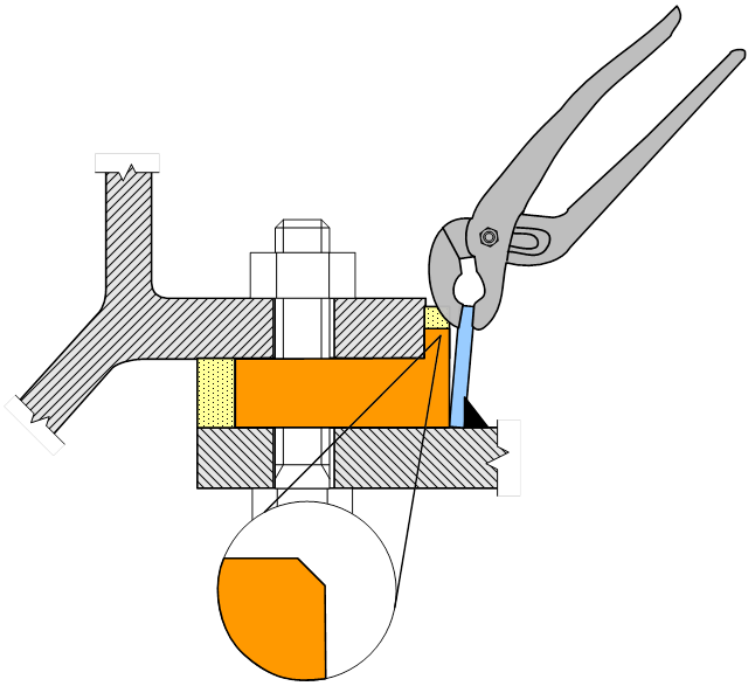
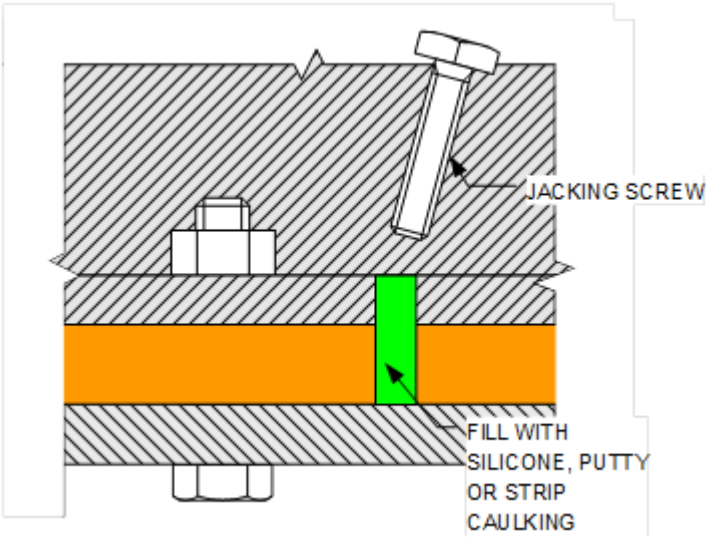


24. Remove the metal front dams and bevel the top edge of the Chockfast in the overpour area.

    It is not required to remove the front overpour dams.

    Additionally, the Chockfast front overpour may also be removed if desired.



25. Release the jacking screws or other alignment devices.

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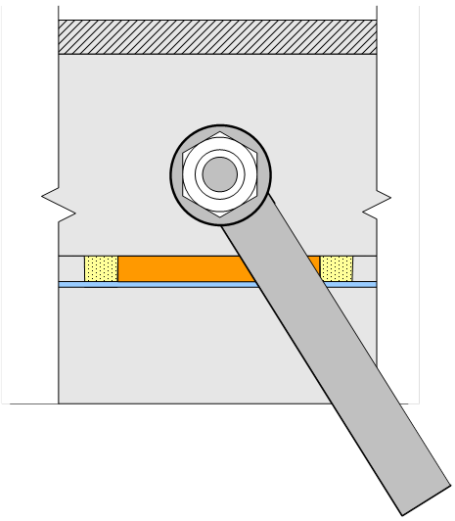

26. Tension the mounting bolts to the specified torque or tension per the machinery manufacturer's specifications.

    If assistance is needed, please contact ITW for calculating recommended bolt loading.

ADDITIONAL RESOURCES

In addition to the recommendations provided in this Technical Guide, please also refer to the following documents available at www.itwpp.com/chockfast.

- Technical Guide 692 - General Guidelines for Marine Chock Designers with Chockfast® Orange & Gray
- General Arrangement Drawing for Epoxy Chock Installations

REFERENCE

For any additional information or recommendations beyond the typical ones listed in this document, please contact your local representative of our Worldwide Distributor Network or ITW Performance Polymers for further support.

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