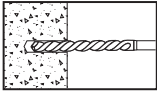


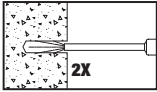
INSTALLATION INSTRUCTIONS (SOLID BASE MATERIALS)

DRILLING

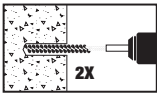


- 1- Drill a hole into the base material with a rotary hammer drill tool to the size and embedment required by the selected steel anchor element (reference installation specifications for threaded rod and reinforcing bar). The tolerances of the carbide drill bit must meet ANSI Standard B212.15.
 - Precaution: Use suitable eye and skin protection. Avoid inhalation of dust during drilling and/or removal.
 - **Note!** In case of standing water in the drilled hole (flooded hole condition), all the water has to be removed from the hole (e.g. vacuum, compressed air, etc.) prior to cleaning.

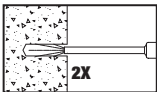
HOLE CLEANING DRY OR WET/WATER-SATURATED HOLES (BLOW 2X, BRUSH 2X, BLOW 2X)



- 2a- Starting from the bottom or back of the drilled anchor hole, blow the hole clean (free of noticeable dust) a minimum of two times (2x).
 - Use a compressed air nozzle (min. 90 psi) for all sizes of anchor rod and reinforcing bar (rebar).



- 2b- Determine wire brush diameter (see installation specifications) for the drilled hole and attach the brush with adaptor to a rotary drill tool or battery screw gun. Brush the hole with the selected wire brush a minimum of two times (2x). A brush extension (supplied by Powers Fasteners) must be used for holes drilled deeper than the listed brush length.
 - The wire brush diameter must be checked periodically during use. The brush should resist insertion into the drilled hole, if it does not come into contact with the sides of the drilled hole, the brush is too small and must be replaced.

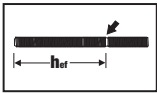


- 2c- Repeat Step 2a- again by blowing the hole clean a minimum of two times (2x).
 - When finished the hole should be clean and free of dust, debris, ice, grease, oil or other foreign material.

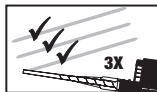
PREPARING



- 3- Check adhesive expiration date on cartridge label. Do not use expired product. Review Safety Data Sheet (SDS) before use. Cartridge temperature must be between 50°F - 104°F (10°C - 40°C) when in use; for overhead applications cartridge temperature must be between 50°F - 90°F (10°C - 30°C). Review published working and cure times. Consideration should be given to the reduced gel (working) time of the adhesive in warm temperatures. For permitted range of the base material temperature, see published gel and curing times.
 - Attach a supplied mixing nozzle to the cartridge. Do not modify the mixer in any way and make sure the mixing element is inside the nozzle. Load the cartridge into the correct dispensing tool.
 - Note: Always use a new mixing nozzle with new cartridge of adhesive and also for all work interruptions exceeding the published gel (working) time of the adhesive.

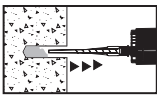


- 4- Prior to inserting the anchor rod or rebar into the filled bore hole, the position of the embedment depth has to be marked on the anchor. Verify anchor element is straight and free of surface damage.

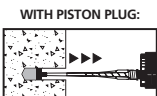


- 5- Adhesives must be properly mixed to achieve published properties. Prior to dispensing adhesive into the drilled hole, separately dispense at least three full strokes of adhesive through the mixing nozzle until the adhesive is a consistent **GRAY** color.
 - Review and note the published working and cure times (reference gel time and curing time table) prior to injection of the mixed adhesive into the cleaned anchor hole.

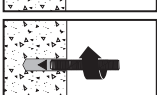
INSTALLATION



- 6- Fill the cleaned hole approximately two-thirds full with mixed adhesive starting from the bottom or back of the anchor hole. Slowly withdraw the mixing nozzle as the hole fills to avoid creating air pockets or voids. For embedment depth greater than 8 inches an extension nozzle must be used with the mixing nozzle.
 - Piston plugs (see adhesive piston plug table) must be used with and attached to the mixing nozzle and extension tube for horizontal installations where embedment is greater than 8 inches and overhead installations in concrete with anchor rod from 1/2" to 1-1/4" diameter and rebar sizes #4 to #10. Insert piston plug to the back of the drilled hole and inject as described in the method above. During installation the piston plug will be naturally extruded from the drilled hole by the adhesive pressure.



- **Attention!** Do not install anchors overhead without proper training and installation hardware provided by the Powers Fasteners. Contact Powers for details prior to use.

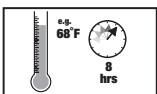


- 7- The anchor should be free of dirt, grease, oil or other foreign material. Push clean threaded rod or reinforcing bar into the anchor hole while turning slightly to ensure positive distribution of the adhesive until the embedment depth is reached. Observe the gel (working) time.



- 8- Ensure that the anchor element is installed to the specific embedment depth. Adhesive must completely fill the annular gap at the concrete surface. Following installation of the anchor element, remove excess adhesive. Protect the anchor element threads from fouling with adhesive. For all installations the anchor element must be fully restrained from movement throughout the specified curing period, where necessary through the use of temporary wedges, external supports, or other methods. Minor adjustment to the position of the anchor element may be performed during the gel time only.

CURING AND LOADING



- 9- Allow the adhesive anchor to cure to the specified full curing time prior to applying any load (reference gel time and curing time table).
 - Do not disturb, torque or load the anchor until it is fully cured.



- 10- After full curing of the adhesive anchor, a fixture can be installed to the anchor and tightened up to the maximum torque (reference gel time and curing time table) by using a calibrated torque wrench.
 - Take care not to exceed the maximum torque for the selected anchor.