

## **AN35 Estimating Installation Time**

The installation of our BoltHold line of asphalt anchors involves the following steps:

- Drill a hole in the asphalt. The hole needs to be as deep as the length of the anchor, and the diameter is usually %" or 1" depending on the model of the anchor.
- 2. Clean the hole and the area immediately next to it.
- 3. Mix the EPX2 grout with water to achieve a syrup like consistency.
- 4. Pour the ground to fill the hole to the top.
- 5. Push the anchor into the hole until it is flush with the asphalt.
- 6. Clean any excess grout from the area around the anchor.
- 7. Allow 15 minutes for the grout to partially cure, then remove the bolt and washer from the anchor.
- 8. Attach the structure to the anchors using bolts and washers.

This application note attempts to provide an estimate of the time and material expense for installing a large number (20 or more) of anchors at a time. The times are estimated based on setting up a "production line" where one person drills, another mixes the grout, a third pours the gout and inserts the anchors and wipes the excess. The grout cures quickly — working time is about 5 minutes, and that dictates the work flow.

If you need to reduce the manpower to 2, the holes can all be drilled in advance and the grout/ insert can be done afterwards rather than at the same time.

## Time Budget - 3 minutes per anchor

- Drilling 60 seconds per hole
- Grout mixing with water in 5 lb. pails (enough for 5 anchors) - 3-4 minutes
- Pour, insert anchor and wipe -- 1 minute per anchor
- Cure time is in two steps -- 15 minutes for the cement to cure so that you can remove the bolts and mount the benches to it.
- if you intend to torque the bolts close to the limit, you need to allow 2 more hours. Please observe the torque limit per spec sheet.

## **Drill Bits Durability**

A report we got from a large fence job in California shows that after 350 holes the drill bits we supplied were still useable. We recommend that you budget 150 holes per drill bit.

## **About Curing and Temperature**

The EPX2 cement cures well in hot and moderate weather. Once you go below 40F you need to take special precautions, such as using heated water for the mixing, and storing the anchors above 50F until you are ready to insert them.

Rain water has no effect on the cured cement, but it will dilute the mixture while it is being poured into a water-filled hole. The hole must be cleared of standing water.

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