
UTAH DEPARTMENT OF TRANSPORTATION

TECHNICAL BULLETIN MT-05.01A

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Epoxy Coated Reinforcing Steel

To maximize corrosion protection in completed reinforced concrete structures, strict practices for field handling, inspection and repair of epoxy-coated reinforcing steel in the yard and on the job site is necessary.



Pre-Qualification:

Epoxy coated steel used on UDOT projects is required to be from pre-qualified suppliers. Suppliers are qualified through the Reinforcing Steel Epoxy Coating Quality Management Plan (QMP) 503. The steel used by epoxy coaters must be from a pre-qualified steel supplier as described in the Reinforcing Steel QMP 504. These plans are managed and maintained by the UDOT Central Materials Lab. A list of qualified suppliers can be found at: http://www.udot.utah.gov/mtl/qualified_suppliers.asp

Acceptance Procedures:

Before each shipment to a UDOT project, an epoxy-coating supplier enters heat numbers as well as mill test reports for each heat number included in the shipment into the UDOT Materials database. UDOT Central Materials Lab will randomly select and test samples from the heats entered into the database. The UDOT verification testing will be uploaded and included with the test report documentation.

Once the material is on site a visual inspection is required by specification. To avoid damage care should be taken while unloading along with job site handling. Do not allow bundles to slide or skid from the truck bed to the ground. Ensure that power lift equipment is used and protected nylon slings or padded wire rope slings are used when lifting or moving bundles. Bundles should be lifted at multiple pickup points or a spreader bar used with additional nylon straps to prevent sags and bar-to-bar abrasion in longer bundles. Ensure bundles are stored above the ground on timbers or other suitable protective cribbing, and that the spacing of support cribbing is close enough to prevent excessive sagging. Do not allow coated bars to be dragged across the ground or deck and minimize walking on epoxy-coated bars. Inspect bars after placement for damage and properly repair all damaged bars.

All damage (cut ends, cracks and abrasions) should be patched. Use a two-part epoxy repair material, approved by the coating manufacturer. When placing concrete, avoid traffic and concrete hoses on placed epoxy-coated steel reinforcing bars. Consider a runway if necessary. Use protective heads on vibrators to consolidate concrete.

FURTHER INFORMATION

UDOT Concrete/Steel Engineer, 801-965-3814
Concrete Reinforcing Steel Institute, www.crsi.org
