Field Handling Techniques

	Epoxy-Coated Rebar	Hot-Dip Galvanized Rebar
Material Receipt & Inspection	• Check for secure tie-downs on transport. • Check for proper padding and bar separation. • Visually inspect the epoxy-coated bars for damage. • Check coating on sheared ends. • Patch uncoated or partially coated sheared ends. • Patch any other observed damage. • Always use an approved patching system.	• Visually inspect for damage. • Check for secure tie-downs on transport.
Truck Unloading & Job Site Handling	• Do not slide or skid bundles from truck bed to ground. • Use power lift equipment. • Use protective nylon slings or padded wire rope slings. • Lift bundles at multiple pick-up points or • Use a spreaderbar with additional nylon straps to prevent sags and bar-to-bar abrasion in longer bundles. • Do not drag or drop bundles or individual bars.	• No special handling or care necessary. • Lift bundles at multiple pick-up points or • Use a spreader bar with additional nylon straps to prevent sags and bar-to-bar abrasion in longer bundles.
Storage	• Schedule delivery to minimize long-term storage at job site. • Store close to the area where they will be placed to keep handling operations to a minimum. • If storage is expected, use opaque plastic sheeting to protect the epoxy-coated rebar from damage by ultraviolet rays. • Store bundles above ground on timbers or other cribbing. • Space support cribbing close enough together to prevent excessive sagging of the bundles. • If protective sheeting is used, allow for adequate air circulation around the bars to minimize condensation.	• Block material and store on a slant to allow for water drainage and air flow.
Placement	• Handle carefully to prevent damage to coating. • Use nylon slings or other padded material to lift bundles. • Lift and set coated bar into place. • Do not drag across the ground or deck. • Minimize walking on epoxy-coated bars. • Do not drop tools on the bars while placing. • Visually inspect bars for damage after placement. • Properly repair any damage. • Protect bars tied in place from long exposure or severe environmental conditions.	• No special care necessary.
Bar Supports & Tie Wire	• Metal bar supports must be coated with a non-corrosive, non-conductive material, i.e. epoxy, nylon or PVC. • Support steel; i.e. spacers used with epoxy-coated bars must also be coated with a non-conductive material such as epoxy, nylon or PVC. • Reinforcing bars used as bar supports must also be epoxy-coated. • Epoxy-coated tie wire, 16.5 gauge+, must be used with epoxy-coated rebar.	• Bar supports, spacers and rebar supports should all be hot-dip galvanized. • 16.5 gauge or heavier galvanized tie wire should be used. • Other acceptable materials for these parts are plastic or non-conductive coated steel.
Splicing & Coupling Devices	• Install coupling devices per manufacturer's requirements. • Couplers should be precoated with fusion-bonded epoxy. • Repair any coating damage on the couplers as needed. • For welded splices, all welds and weld splice members must be coated with the same patching material used for other coated bar repairs on the project. • When welding, coating damage to bars near the welded splices must be repaired. • When welding epoxy-coated bars, appropriate protective mask must be worn, safety equipment used and suitable ventilation provided.	• A bar-lock coupler is recommended, either galvanized or stainless. • For welded splices, all welds and weld splice members must be touched up as recommended in ASTM A 780. • Use appropriate protective masks and suitable ventilation when welding.
Field Cutting	• Field-cutting should be avoided and only permitted with specifier/owner approval. • Repair of cut ends should utilize the same material that is used for repair of damaged epoxy-coated rebar. • Saw-cutting is recommended to reduce coating damage. • Use hydraulically powered cutters or friction cutting tools to minimize damage. • Avoid flame-cutting, wear protective mask, repair promptly.	• Field-cutting should be avoided. • Repair of cut ends shall be done using touch-up procedures from ASTM A 780.
Final Inspection & Repair	• After epoxy-coated rebar is placed, make a final inspection to locate all damage. • All visible damage must be repaired before the concrete is placed. • Use approved epoxy repair material designed for specific climatic conditions. • There is a timely four-step, two-part liquid repair; for more information refer to the Concrete Reinforcing Steel Institute's *Field Handling Techniques for Epoxy-Coated Rebar,* 1996.	• Touch-up of cut and burned ends should be done following procedures recommended in ASTM A 780.
Concrete Pour	• Use caution when walking on the rebar, do not drop any handtools or construction materials. • Set-up runways for concrete buggies and pumping hoses, etc., and properly support them. Maneuver carefully to minimize damage to the coating and to prevent shifting of placed bars. • Use rubber or non-metallic vibrator heads when compacting concrete to minimize damage on placed epoxy-coated bars. Metal heads can damage the epoxy coating on bars within poured concrete.	• No special handling or care necessary.
	Source: Concrete Reinforcing Steel Institute	**Source: American Galvanizers Association**