

EPOXY COATED STEEL REINFORCING BARS

1. General:

BRC produces Epoxy Coated Rebars complying with ASTM A 775/A 775/M of diameter sizes ranging between 8 mm and 40 mm.

Black reinforcing steel used by BRC for coating is from Hadeed (SABIK) as per ASTM A 615 GR60, "Epoxy Material". Black steel of other specifications could also be used as per customers requirement.

2. Manufacturing Process:

The application of Fusion-Bonded Epoxy coating to steel reinforcing bars is highly controlled meticulous process. When performed by a certified epoxy coating plant, the highest standards of product quality are met as follows:

Surface Preparation:

The reinforcing bar is blasted to near white metal which assures maximum adhesion between the steel and the coating.

This removes contaminants, mill scale and rust. It also roughens the surface to give it a textured anchor profile (i.e, microscopic peaks and the valleys on the surface). The surface roughness "keys" the coating to the steel and provide anchorage.

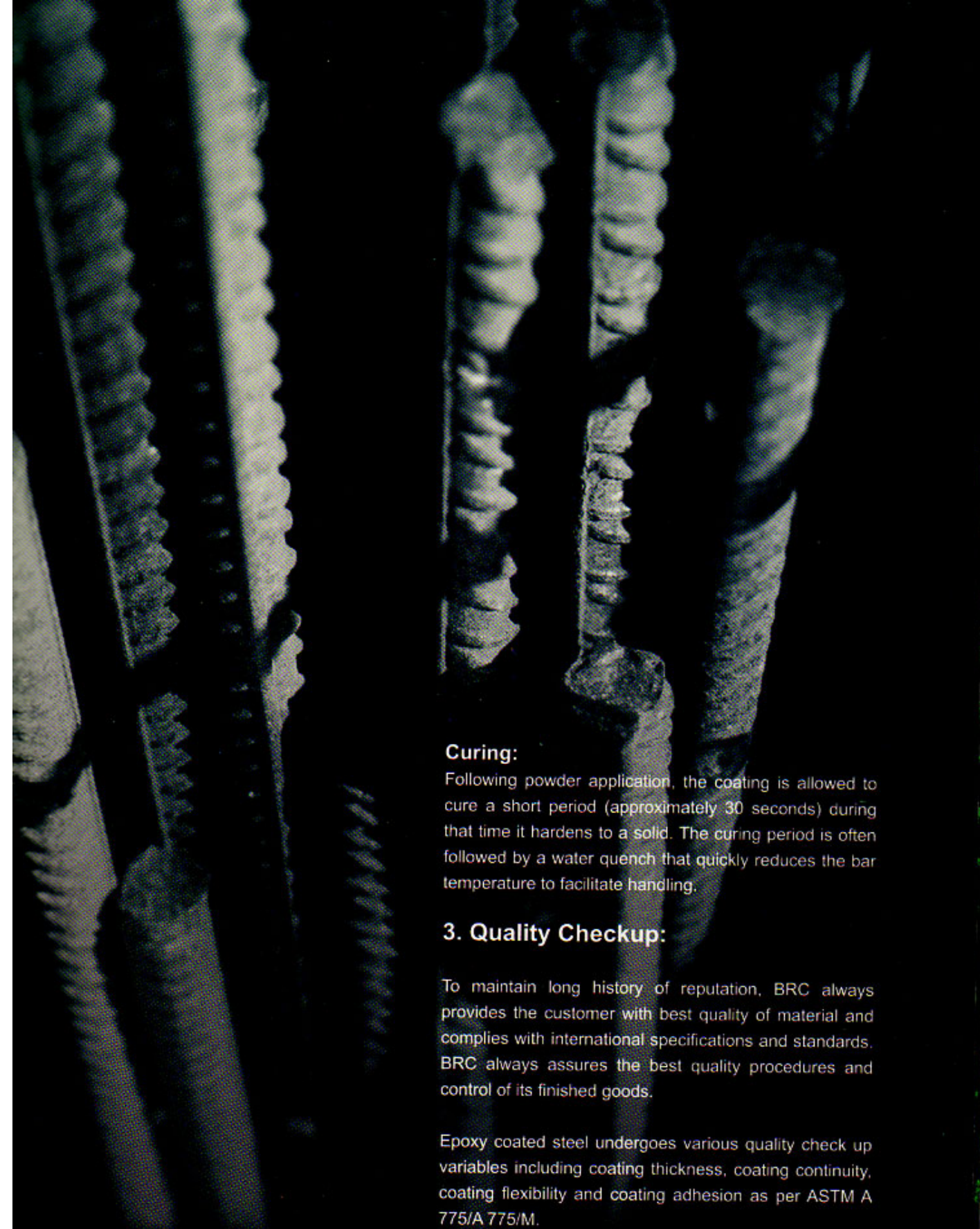
Coating:

After reinforcing bars are blast-cleaned & preheated, they pass through a powder spray booth where the dry epoxy powder is emitted from a number of spray nozzles.

As the powder leaves the spray gun, an electrical charge is imparted to the particles. These electrically charged particles are attracted to the grounded bar.

When the dry powder hits the hot bar, it melts and flows into the anchor profile and conforms to the ribs and deformations. The heat also initiates a chemical reaction that causes the powder molecules to form complex cross-linked polymers.





Curing:

Following powder application, the coating is allowed to cure a short period (approximately 30 seconds) during that time it hardens to a solid. The curing period is often followed by a water quench that quickly reduces the bar temperature to facilitate handling.

3. Quality Checkup:

To maintain long history of reputation, BRC always provides the customer with best quality of material and complies with international specifications and standards. BRC always assures the best quality procedures and control of its finished goods.

Epoxy coated steel undergoes various quality check up variables including coating thickness, coating continuity, coating flexibility and coating adhesion as per ASTM A 775/A 775/M.

EPOXY COATED WELDED WIRE FABRIC

BRC produces Epoxy Coated Welded Wire Fabric complying with ASTM A 884/A 885/M of various sizes including:

- a) Wire sizes range between: 4 mm and 12 mm
- b) Length of welded wire fabric: Maximum 8 meters
- c) Width of welded wire fabric: Maximum 3.3 meters
- d) Pitch of welded wire fabric : Multiples of 50mm

1. Manufacturing Process:

Surface Preparation:

The welded wire fabric is cleaned by abrasive blast cleaning to near white metal in accordance with SSPC-SP10. Afterwards the steel is preheated to a temperature of 235°C by preheating ovens.

Coating:

After the welded fabrics are blast-cleaned and preheated, they pass through a powder spray booth where the dry epoxy powder is emitted from a number of spray nozzles.

As the powder leaves the spray gun, an electrical charge is imparted to the particles. These electrically charged particles are attracted to the grounded bar.

When the dry powder hits the hot bar, it melts and flows into the anchor profile and conforms to the ribs and deformations. The heat also initiates a chemical reaction that causes the powder molecules to form complex cross-linked polymers.



Curing:

Following the coating, the Fabric is cured through lengthy ovens at a temperature exceeding 250° C.

2. Quality Checkup:

Required quality parameters for coated welded wire fabric comply with ASTM A884/A 884/M including coating thickness, coating continuity and bend test.

All the above tests are carried out at BRC premises prior to the dispatch.

