

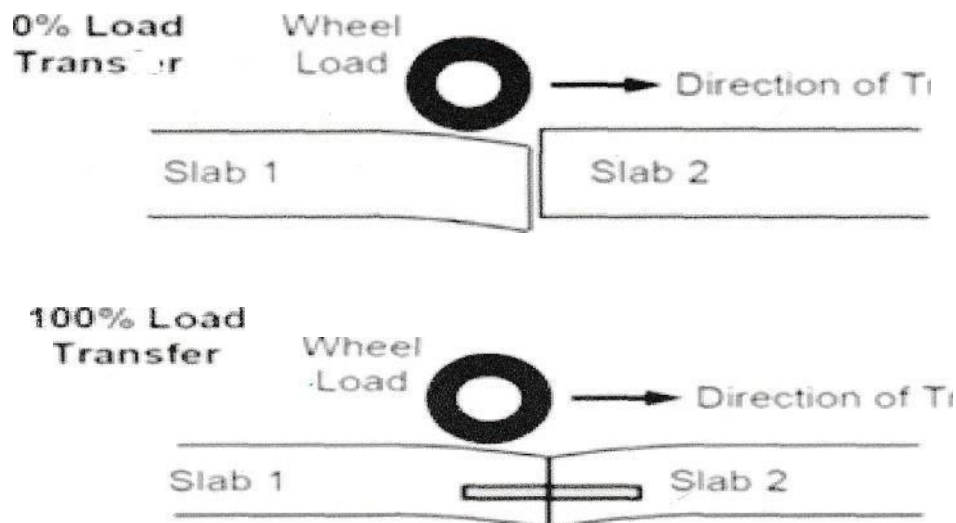
HARIOM STEEL DOWEL BARS AND EPOXY – COATED DOWEL BARS:

ABSTRACT:

Hariom Steel Dowel and Epoxy Coated Dowel Bars, it is ensured that a moving vehicle's weight is shared with other concrete blocks, preventing different deformations between blocks. Hariom Steel Dowel Epoxy – coated dowel bars are commonly utilized to protect structures against corrosion-induced deterioration. Dowel bars are particularly used in the construction of runways, aircraft marshaling areas and high strength concrete roads and areas. Dowel bars are produced to diameters and length determined according to customer demands and in accordance with the terms of technical specifications and standards. Epoxy – Coated Dowel has been used since 1973 and during the last 36 years has been used in over 60,000 bridges in the US along with countless parking garages, marinas and roadways.

INTRODUCTION:

All phases of the production process are controlled through a quality control system, and control result reports are delivered to customers along with the product. In order to prevent corrosion and abrasion, dowel bars are coated with epoxy paint. Dowel bars can be used at the construction stage and also in areas that have already been built for the purpose of strengthening.



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HARIOM COATINGS PVT. LTD., Manufacturing Unit - Mumbai -Wada, Maharashtra.

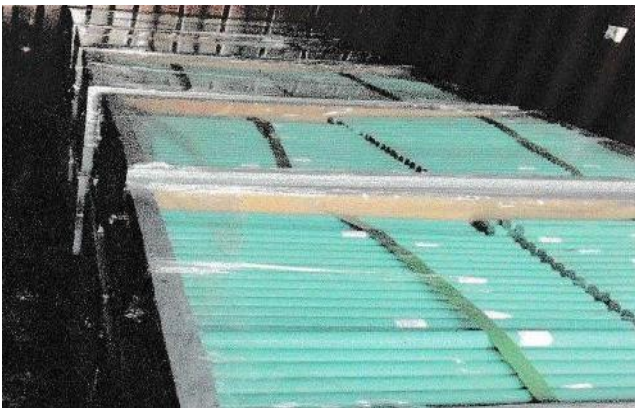
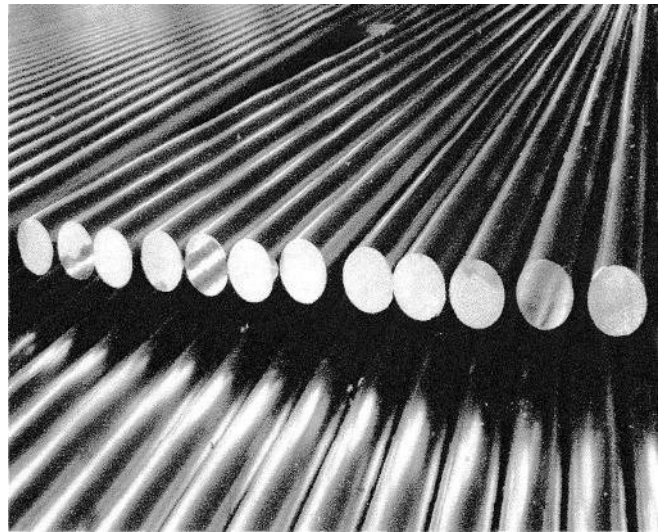
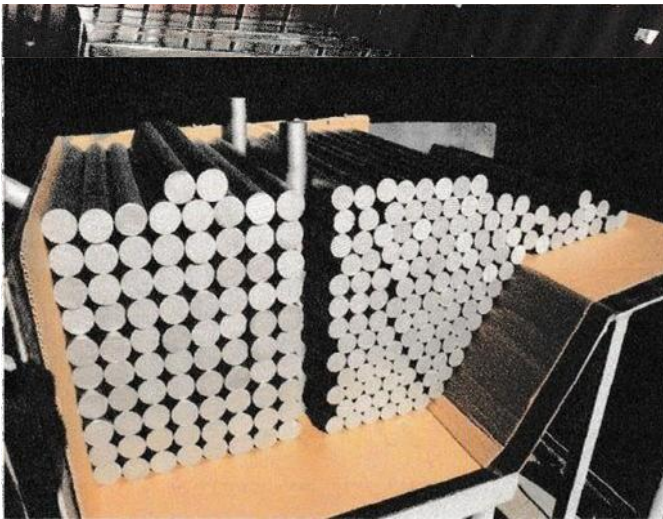
Contact : +91 8109990000, E-mail - hariomepoxyshield@gmail.com, Website: www.hariomepoxyshield.com

RAW MATERIAL PROPERTIES :

Production is made at ASTM A615/A615M standards or in line with the demanded tension and breakage values.

REQUIREMENTS FULL FILLED AS PER EN 13877-3:

Hariom – Epoxy coated Dowel having at least a tensile strength of 250 MPa when tested in accordance with EN ISO 15630-1 . The minimum diameter shall be 16 mm. The tolerances in length shall be ± 10 mm. Dowels shall be straight, free of burrs and other irregularities and the sliding ends sawn with no protrusions outside the normal diameter of the bar.



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TECHNICAL DATA SHEET:-

✓ **STANDARD SPECIFICATION FOR STEEL DOWEL BARS GRADE 40,60 AND 75 (ASTM A615/A615M):**

Qualit y Grade (Mpa)	Yield Strength		Elongation Limit (%)	
	(Psi) Min.	(Mpa) Min.	8 in. or (200 mm)	Phosphorus max %
40(280)	40000	280	12	0.06 0
60(420)	60000	420	9	0.06 0
75(520)	75000	520	7	0.06 0

✓ **STANDARD SPECIFICATION FOR STEEL DOWEL BARS GRADE 40,50 AND 60 (ASTM A996/A996M):**

Qualit y Grade (Mpa)	Yield Strength		Elongation Limit (%)
	(Psi) Min.	(Mpa) Min.	8 in. or (200 mm)
40(280)	40000	280	12
50(350)	50000	350	7
60(420)	60000	420	8

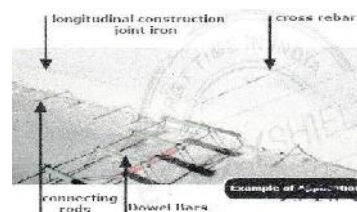
✓ **STANDARD SPECIFICATION FOR EPOXY COATED DOWEL BARS ASTM A1078/A1078M) – A775/A775M :**

Several specifications are generally utilized for the specification for epoxy-coated bars. The most Commonly used specifications are ASTM A1078/A1078M – A775/A775M.

Hariom Epoxy-Coated Dowel Bar can be produced to various quality specifications in line with the demanded environment and in accordance with the ASTM A775/A775M standard and ASTM 1078/A 1078M.

STANDARD DIAMETER PRODUCTION:

Products produced to 16,20,25,30,32,36,40,50,60,70 and 75mm diameters vary according to project needs. Production can also be made to special diameters determined again according to project needs.



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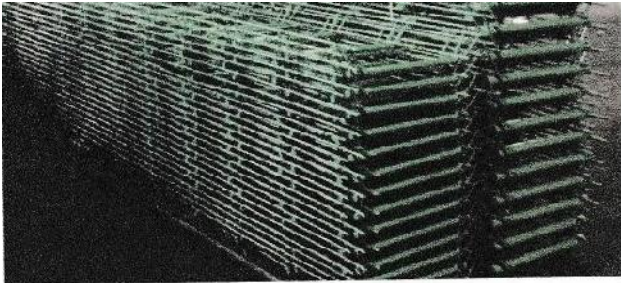
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PHYSICAL REQUIREMENTS:

1. The free ends of the dowels shall be saw cut and free of burrs and projections.
2. Dowel coatings shall be free from contamination, perforations, cracks, and holidays (pinholes not visually discernible). Checking for holidays shall be performed by the electric-resistance process.
 A 67.5-volt holiday detector shall be used, as recommended by the manufacturer of the test equipment, for the determination of holidays.
3. Any damage that results from welding or mechanical fixation to achieve a fixed-end condition shall not extend more than 25.4 mm (1 in.) in from the weld or point of fixation.
4. Coating thickness shall be determined according to ASTM G 12, maintaining the standard of 175 to 300 microns (7 to 12 mils) or as per client's requirements if needed.



PRODUCTION PLANT:

We manufacture our products in our plant in Central India.

Our monthly production capacity is 5,50,000 pcs and we are able to increase our production capacity to 6,50,000 pcs in the event of order intensity. Due to our production planning, product delivery starts between 15-30 days following the date of order.

MANUFACTURING AND QC PROCESS :

In our coating plants, Dowel bars is coated in straight lengths and then fabricated (i.e, cut to length) following ASTM A775. Regardless of the facility's configuration the four basic steps Manufacturing steps are required.

1. **SURFACE PREPARATION:** Dowel bars are blast cleaned to a near white metal finish using abrasive grit. This cleans the steel of contaminants, mill scale and rust. It also roughens the surface to give it a textured anchor profile.
2. **HEATING:** Bars are heated to approximately 230°C (450°F).
3. **POWDER APPLICATION:** The heated steel is passed 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 – steel surface providing even coating coverage.
4. **CURE:** Following powder application, the coating is allowed to cure for a short period during which time it hardens to as solid.



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DESIGN AND APPLICATION USING ASTM STANDARDS:

Dowel and joint bars significantly increase the efficiency of street surfacing and prolong their life, provided that they are designed and applied correctly.

In the U.S.A, Europe, Middle east Countries and India, the use of Dowel bars at airports and on roads – Produced to ASTM Standards ---appears in specifications as standard.

FIELD HANDLING:

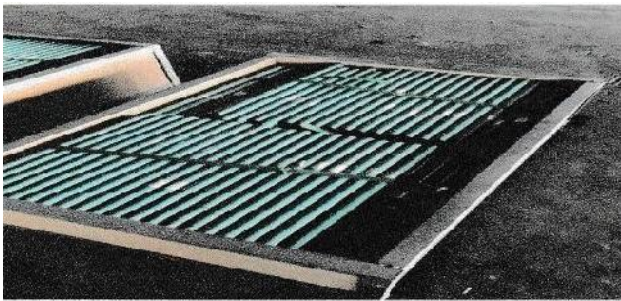
Just like any material used on a jobsite, appropriate handling of epoxy-coated Dowel steel is required. These steps are aimed at reducing damage to the Dowel bars that would reduce the effectiveness of the coating perform and provide long term protection.

Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Dowel Bars.

Jobsite handling is also covered in the Appendix X1 of ASTM A775.

PACKAGING & LOGISTICS:

Before they are dispatched, in general dowel bars are packaged in special wooden crates and covered with PVC lids in accordance with international articulated lorry, vessel and container shipment.



PROJECT:

Packaging can be made in any desired form, according to project features. In this way, time and cost Calculations are targeted with Hariom – Epoxy Coated Dowel Bars.

DECLARATION:

Self declaration of HARIOM – STEEL DOWEL BARS GRADE 40, 60 AND 75 AS PER STANDARD (ASTM A615/A615M), STEEL DOWEL BARS GRADE 40, 50 AND 60 (ASTM A996/A996M) AND EPOXY COATED DOWEL BARS IS AS PER THE STANDARD – ASTM A 1078/A1078M ASTM A775 / A775M.

For, HARIOM INGOTS & POWER PVT LTD.

Authorized Signatory



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