

# **CWC 646 MACHINE CHOCK**

## **SPECIFICATIONS FOR INSTALLATION**

Technical Bulletin No. 1116A

### 1.0 SCOPE:

- 1.1 These specifications are to provide the product and procedural information necessary for the proper installation of CWC 646 Machine Chock.
- 1.2 CWC 646 Machine Chock shall be installed in accordance with these specifications and the recommendations of the CWC Industrial Products division of ITW Philadelphia Resins.
- 1.3 These specifications cover the use of CWC 646 Machine Chock when mixed in full unit amounts. No CWC 646 Machine Chock shall be installed when mixed in less than full unit amounts.
- 1.4 The words “machine chock”, “epoxy chock”, “chocking compound”, and “chock” shall herein refer to CWC 646 Machine Chock.
- 1.5 The information presented in these specifications covers the preparation and installation procedures of CWC 646 Machine Chock as accurately as possible. However, should on-site conditions and applications deviate from these guidelines please consult CWC Industrial Products for recommendations.

### 2.0 APPLICATION:

- 2.1 CWC 646 Machine Chock is designed to provide:
  - 2.1.1 Vertical and lateral support of heavy machinery required to maintain critical alignment.
  - 2.1.2 Transfer of static and dynamic loads to steel rails, soleplates or directly onto an epoxy grout or concrete base.
  - 2.1.3 Free flow of air underneath hot-running machinery reducing the risk of “thermal humping”.
  - 2.1.4 Maximum effective load-bearing area by conforming to irregular, machined or fretted machine bed plates.
  - 2.1.5 High modulus and compressive strength at elevated operating temperatures.

### 3.0 PRODUCT CHARACTERISTICS:

- 3.1 CWC 646 Machine Chock is a two-component, 100% solids, epoxy resin compound possessing the following advantages: POUR-IN-PLACE INSTALLATION, EXCELLENT RESISTANCE TO WATER, OILS, SALTS, NON-OXIDIZING ACIDS AND MOST SOLVENTS, HIGH FLOWABILITY AND NON-SHRINK.

### 4.0 MATERIAL:

- 4.1 CWC 646 Machine Chock shall be placed when the ambient temperatures coincide with the design temperature range stated in Section 9.4 - Chock Working and Curing Table.
- 4.2 If weather conditions (i.e. temperature, sunlight, moisture, wind) warrant it, the area shall be artificially conditioned or installation hours changed to meet the requirements stated in these specifications for the placement and cure of CWC 646 Machine Chock.
- 4.3 CWC 646 Machine Chock is for use where machine operating temperatures will not exceed 140°F (60°C), and pour depths will be between 1” - 2” (2.5 - 5.0 cm).
- 4.4 One unit of CWC 646 Machine Chock includes Resin (Part A) in a one gallon (3.79 liter) container and Hardener (Part B) in an 8 oz (0.24 liter) bottle. The shipping weight of one unit of CWC 646 Machine Chock is 8.5 lbs. (3.86 kg); one unit will yield 150 cu.in. (2,459 cm<sup>3</sup>) of mixed material.

## 5.0 STORAGE AND HANDLING:

5.1 CWC 646 Machine Chock shall be kept dry and protected from extreme temperatures. Both the epoxy resin and hardener liquids, and the aggregate shall be stored in a dry shelter at an ambient temperature no less than 60°F (16°C) and no greater than 75°F (24°C) for a period of at least 24 hours prior to mixing

5.2 Components A and B are packed in pre-measured amounts. Use care when handling or transporting containers to prevent accidental puncture. Do not attempt to use a unit if one or both containers have been punctured.

## 6.0 SURFACE PREPARATION:

### 6.1 Concrete Surfaces

6.1.1 Prepare concrete surfaces for epoxy chocks by chipping, sandblasting or similar methods. Remove all laitance, dirt, dust, and oil-soaked or damaged concrete.

### 6.2 Epoxy Grout Surfaces

6.2.1 A base surface of epoxy grout should have adequate time to cure before epoxy chocks are poured.

6.2.2 The epoxy grout surface shall be thoroughly cleaned of any oil, paint, grease, dirt, or other foreign matter with Impax IXT - 59 Solvent.

### 6.3 Steel Surfaces

6.3.1 Metal surfaces such as soleplates, rails, skid flanges or machinery bed plates shall be cleaned of any oil, paint, grease, dirt, or other foreign material by sandblasting to white metal then wiping surfaces with Impax IXT - 59 Solvent.

6.4 Philadelphia Resins Mold Release should be applied to epoxy grout or steel surfaces if bonding with the epoxy chock is not required.

## 7.0 DAMMING:

7.1 Material most commonly used for forms is open-cell urethane foam available from CWC Industrial Products. When fitted between the supporting surface and the machine base, the foam is held in place by compression. A single strip is recommended to be used to form the sides and back of the chock.

7.2 A front overpour dam shall be constructed of metal positioned to form a shoulder  $\frac{3}{4}$  inch above the top surface of the chock and  $\frac{1}{2}$  inch away from the front of the machine base. This will provide a head to improve flowability of the material.

7.3 Damming shall be adequately supported and joints sealed to provide a strong, liquid tight form.

7.4 The front dam shall be coated with paste wax for trouble-free removal after cure.

7.5 Adhesive-backed foam along the vertical edge of the machine base toe or skid flange will provide a spacer for thermal expansion of the machinery.

7.6 Anchor bolts, jacking screws, shims, sleeves, or other items which must be kept free of grout shall be protected with duct tape, foam, or non-melt grease.

## 8.0 GROUT MIXING PROCEDURES:

8.1 All material and equipment for mixing, placing, and cleanup should be on hand before any mixing is started. All mixing and placing equipment shall be checked to ensure proper working order.

8.2 Chocking material should be brought into the work area from the storage area just prior to the start of the installation. All containers should be checked for leaks. The ambient temperature of the area should be within the range stated in Section 9.4 otherwise it should be conditioned to meet the temperature guidelines prior to installation

8.3 To mix a unit of CWC 646 Machine Chock, pour the Hardener (Part B) into the can containing the Resin (Part A). Mix the two components thoroughly for three minutes with a slow speed (200-300 RPM) drill with a 2  $\frac{1}{2}$  inch *Jiffy Mixer* attachment. Properly mixed CWC 646 will be uniform in color without streaks of unmixed components. Care should be taken to scrape the sides of the can to ensure all material is mixed.

- 8.4 Pour contents into damming immediately after mixing. Do not allow contents to sit in the container.
- 8.5 Do not add solvent, water, or foreign matter during mixing nor until solidification of the epoxy chock has occurred.

9.0 WORKING TIME AND CURING TIME:

- 9.1 “Working time” (or “pot life”) indicates the time interval between the point of mixing an epoxy chock and the point when hardening begins. The length of the “working time” is affected by the temperature of the components at the time of mixing, the ambient temperature of the work area, the temperature of any surface in contact with the epoxy chock, and by the volume of the epoxy chock poured into the formwork. (See Section 9.4 - Grout Working and Curing Time Table.)
- 9.2 Curing time indicates the average time in hours required for the epoxy chock to acquire adequate physical properties for design loads.
- 9.3 Mixing and placing chocking compounds when their temperatures are below or at the low end of the indicated range adversely affects proper mixing and inhibits the flowability of the material but will lengthen the working and curing times. On the other hand, mixing materials at the high end of the indicated range will shorten the working and curing times.
- 9.4

AVERAGE WORKING AND CURING TIME							
Ambient Temperature	°F	60	65	70	75	80	90
	°C	16	18	21	24	27	32
Working Time (in minutes)		38	35	32	30	25	20
Curing Time (in hours)		48	36	28	24	20	18

10.0 Chock PLACEMENT AND FINISHING:

- 10.1 Surfaces to be grouted shall be prepared as outlined in Section 6.
- 10.2 Begin filling in the overpour area and maintain level grade as chocking compound progresses to the back of the form. Always pour the chocking compound from the same point to minimize air entrapment. The chocking compound shall progressively fill the dams in a *One-Direction* flow. The chocking compound will flow and seek its own level under normal conditions.
- 10.3 During pouring and cure, at least ¾ inch head shall be maintained in the overpour area to provide material for filling any remaining voids.
- 10.4 Check dams frequently during the pour. Seal any leaks immediately.
- 10.5 Dams shall be left in place until epoxy chocks have solidified completely.
- 10.6 After the chock has been completely filled, the overpour area can be removed if desired. While the chocking compound is curing, but before it hardens completely, place a piece of 1/8 inch thick polyethylene stock (or other suitable material) 3 inches high and the length of the chock, down along the front vertical edge of the machine base. Upon full cure, the overpour can then be removed. In this case Section 7.5 is not necessary and may be omitted.
- 10.7 Once the epoxy chocks have attained initial cure the jacking bolts or other devices used for support shall be relieved of all stresses.

11.0 CLEANUP:

- 11.1 Clean all tools and equipment with Impax IXT-59 Solvent.

## 12.0 HEALTH PRECAUTIONS:

- 12.1 Epoxy systems may produce allergic reactions such as skin irritations or dermatitis in some persons. Persons handling CWC 646 Machine Chock should avoid skin contact. Do not take internally. The use of rubber gloves, safety glasses or goggles, and other protective equipment and clothing is recommended. Contaminated areas of the body should be immediately scrubbed with soap and water. In case of contact with eyes, flush with water and see a physician immediately. Remove and wash contaminated clothing before reuse. Use in well-ventilated areas and avoid breathing fumes. Do not use or mix near other chemicals.