

# Standard Specifications for Installation of OMNIROC® for Floors

## SECTION 06100

### 1. GENERAL

#### 1.01 SUMMARY OF WORK

- A. Materials shall be OMNIROC® cement board panel, as manufactured by Omniroc, Inc., and supplied by an authorized distributor.
- B. All OMNIROC® panels shall be selected from the manufacturer's load tables to carry the project live load design over a maximum of 24" on center support spacing while limiting deflection to a maximum of L/240 as determined by project architect & engineer.
- C. OMNIROC® panel to be of minimum 3/4" (19mm) thickness and 4' x 8' (1220mm x 2440mm) dimension. Product will be factory sealed on all sides and fabricated with tongue & groove edges on the long 8' dimensions of panels for structural, load bearing applications. Tongue & grooved edges are optional for non-load bearing applications.
- D. Comply with applicable building codes for wind, seismic, snow, uniformly distributed live-loads and other loading requirements as determined by the project architect and engineer.
- E. OMNIROC® panel shall have the following minimum mechanical properties:
  - 1. Density: ±89.6 lbs/ft<sup>3</sup>
  - 2. Modulus of Elasticity: > 1,509,400 psi
  - 3. Shear Strength: > 5,375 psi
  - 4. Tensile Strength (parallel to surface): > 1,067 psi
  - 5. Compressive Strength: > 4,770 psi

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 05200, Metal Joists
- B. Section 05400, Cold-Formed Metal Framing
- C. Section 06100, Rough Carpentry
- D. Section 09100, Metal Support Assemblies
- E. Section 09300, Tile Underlayment
- F. Section 09600, Flooring

#### 1.03 DESCRIPTION OF OMNIROC PANEL

- A. OMNIROC® panel is a structural cement board that is mechanically fastened to the top of floor framing members as a sub-floor.
- B. OMNIROC® panel is load-bearing and shall have a finished floor applied over it.

## **1.04 PERFORMANCE REQUIREMENTS**

- A. Surface burning characteristics: OMNIROC® panels shall be Class A in accordance with ASTM E84 / UL 723 having achieved 0 flame spread and 0 smoke development indices in laboratory test samples.
- B. OMNIROC® panel must have passed the ASTM E136 test for minimum duration of ten minutes.

## **1.05 SUBMITTALS**

- A. Submit to the project architect or design professional a copy of OMNIROC® panel product and installation specifications and one product sample measuring 3" x 5" minimum.

## **1.06 QUALITY ASSURANCE**

- A. Contractor shall have successfully installed floor sheathing products of a similar type as this project. These past projects shall have resulted in construction with a record of successful in-service performance.
- B. At frequent intervals during construction, the job site will be visited by the owner's representative, general contractor or construction manager to confirm that OMNIROC® panels are being installed per this specification.

## **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. OMNIROC® panels are supplied by authorized distributors of Omniroc, Inc. and normally delivered to site on factory pallets bound with plastic sheet protection, and edge protection, to facilitate forklift handling.
- B. OMNIROC® panel shall be stored indoors on level surfaces with supports not to exceed 32" on centers. If temporarily stored outdoors, boards must be elevated above ground and protected from the weather with waterproof covering. Stacking of pallets should always be on a solid, stable base and never be stacked higher than 5 pallets high.
- C. Acclimatize OMNIROC® panels by storing on site not less than three days prior to installation.
- D. All materials supplied by others shall be delivered and stored according to their instructions.
- E. Deliver, store and handle materials to prevent breakage, warping or stain damage caused by moisture.
- F. When transporting loose OMNIROC® panels by truck, they must be laid flat and fully protected against edge damage and protected from weather with waterproof covering.
- G. When hand carrying single OMNIROC® panels, they must be carried on edge with the short side held vertically.
- H. Damaged or deteriorated materials shall be removed from the premises.
- I. Material Safety Data Sheets shall be available for all materials.

## **1.08 PROJECT CONDITIONS**

- A. Framing to receive OMNIROC® panels shall be structurally sound, free from bows, twists or other malformations and in general compliance with local building code requirements. Damaged framing shall be replaced before installation of OMNIROC® panels.
- B. During installation of OMNIROC® panels, the temperature shall be at least 0° F during installation if mechanically fastened. If adhesive is being used temperature shall be at least 40° F and remain at this temperature or higher for at least 24 hours after installation, unless the adhesive manufacturer will permit the use of its product at a lower temperature. Prior to the application of finished flooring OMNIROC® panel must be conditioned at the same temperature as required for the finished flooring for at least 48 hours. Finished flooring shall not be applied over OMNIROC® panel that is wet, frozen, or contains frost.

## **1.09 SEQUENCE AND SCHEDULING**

- A. Sequence the installation of OMNIROC® panel with related work specified in other sections to ensure that the floor assemblies are protected against damage or abuse during and after construction.
- B. Provide sufficient labor and equipment to properly install all materials.

## **1.010 PRODUCT WARRANTY**

- A. OMNIROC® panel is warranted by the manufacturer for a period of 10-years from date of material purchase to be free from defects in workmanship and materials under normal use. Refer to product warranty for complete terms.

## **2. PRODUCTS**

### **2.01 MATERIALS**

- A. Floor Framing: Cold formed steel with minimum G-60 galvanized coating, minimum 18 gauge meeting ANSI and ASTM specifications and requirements for use in a structural floor system. Follow manufacturer's installation instructions.
- B. Floor Sheathing: Minimum 3/4" (19mm) thickness OMNIROC® panel, factory sealed, tongue & groove on long 8' edges as manufactured by Omniroc, Inc.
- C. Adhesives: Use PEMCO 5100 non-flammable, solvent free, zero V.O.C., polyurethane adhesive as manufactured by Alpha Systems, Inc., Elkhart, IN or equal. Follow manufacturer's installation instructions.

- D. Fasteners: Use corrosion resistant self-countersinking head screws such as Grabber Part No. CHS8200JBW, or equal. Fasteners to be minimum #8 diameter with self-drilling points. Length of fastener to equal 2-1/2 to 3 times the board thickness. Follow manufacturer's installation instructions.
- E. Sealer: Use alkaline-resistant masonry sealers compatible with PH 11 or greater such as Sherwin Williams Loxon XP, or equal.

### **3. EXECUTION**

#### **3.01 FRAMING**

- A. The floor joists and other floor framing components must be designed to meet the strength and deflection criteria as determined by project architect & engineer and specified in the contract documents.
- B. The attachment flange or bearing edge shall be a minimum 1 1/2" wide, doubled up at OMNIROC® panel board edges.
- C. Metal framing shall be a minimum 18 gauge.
- D. Metal framing shall be spaced a maximum of 24" on centers.
- E. All blocking or bridging must be installed prior to the installation of OMNIROC® panel.
- F. Framing must be of good quality, free of bows, twists or other malformations.

#### **3.02 STRUCTURAL PANEL SHEATHING APPLICATION**

- A. Panels shall be cut to size with a circular saw equipped with cement cutting blade and a dry dust collection device or a water-dispensing device that limits the amount of airborne dust. Wear safety glasses and a NIOSH approved dust mask when cutting the panel. Collected dust shall be disposed in a safe manner and in compliance with local, state and federal ordinances.
- B. OMNIROC® panels shall be installed with the long edges perpendicular to the framing. Panels may be installed with either surface against the framing.
- C. Plan the layout so first and last panel rows are a minimum of 24" wide. Start the first panel with the cut edge or tongue along the rim joist. Place each panel across three or more supports. Cut panel to length as needed to ensure butt ends are centered on the framing member.
- D. Use of adhesive at all board joints is recommended to enhance the connection strength of adjacent OMNIROC® panels. Follow adhesive manufacturer's product and installation instructions. Carefully apply a 1/4" to 3/8" diameter bead of adhesive to the joint of the installed panel. Only apply enough adhesive to bond the edges of the panels being joined.
- E. Fasten each panel to framing members after it has been placed using the following fastening schedule:
  - 1. Fastener placement shall be a maximum of 12" on center along all

- supports at panel joints and edges.
2. Fastener placement shall be a maximum of 16" on center along all supports in the field of the panel.
  3. Fastener placement shall be a minimum 1/2" from all panel edges. Fastener placement shall be a minimum 2" from all panel corners. Offset fasteners to avoid 45 degree fastener placement at board corners.
  4. Begin fastening at one end and fan out across the panel. Do not fasten all the corners first.
  5. Drive fasteners so the heads are flush with the surface of the board.
- F. After installing one complete row of panels begin the next row. Slide panels together so that the tongue of the panel being installed fits into the groove of the installed panel. Install all rows in a running bond pattern so that end joints fall over the center of the framing members and are staggered by at least two supports from where the end joints fall in the adjacent rows.
- G. Cutouts in OMNIROC® panels should be made before installation whenever possible. If a cutout is required after the panel is installed, set the depth of the saw blade to ensure that the framing is not scored. Continuous structural perimeter support such as blocking, bracing and bridging is required at all cutouts and/or penetrations larger than 4" in either direction.
- F. Panels are factory sealed for protection from moisture. During Installation apply alkaline resistant masonry sealer, compatible with a PH of 11 or greater, to all areas where the factory applied sealer has been compromised. Examples of areas requiring resealing include, but are not limited to, sanded areas during floor leveling, exposed cut-edges not receiving joint adhesive and damage during construction.

### **3.03 CLEAN-UP**

- A. Left over material shall be removed from the job site.
- B. Remove foreign material from floor surface and vacuum all dust from the surface.

### **3.04 SAFETY**

- A. Avoid concentrated point loads on OMNIROC® panel by referring to concentrated load tables and as determined by project architect & engineer. Pay close attention to stored building materials and/or equipment such as masonry units, hoists, framing members, sheet goods, ladders and scaffolding.
- B. Measures shall be taken to distribute concentrated and point loads on the deck system during construction such as the utilization of pallets, dunnage, and/or structural building panels such as plywood or OSB laid over multiple spans.
- C. Workers must take extra care to avoid impacts such as dropped masonry units, framing members, scrap material, tools, equipment, etc. Such impacts can cause deforming marks or even penetrations if dropped onto the sheathing surface of these panels and will need repair.

### **3.05 FLOOR FINISH**

- A. Before the application of floor finish materials, ensure that all panels are properly installed with the fastener head driven flush or slightly below the surface of the panels. Fill all voids and depressions with compatible patching or leveling compounds.
- B. Underlayments and accessories may be secured to OMNIROC® panel by following the installation instructions provided by the flooring manufacturer. Mechanical fasteners or adhesive and pneumatically driven, divergent point staples can be used. Staples should penetrate OMNIROC® panel 1/2" to 3/4".
- C. For wood flooring apply a building paper No. 15 felt or equivalent over OMNIROC® panel prior to applying the wood flooring. For engineered wood flooring use the moisture barrier recommended for the flooring system specified in lieu of the building paper. Follow the wood flooring manufacturer's installation instructions for applying flooring to plywood or OSB floor sheathing. OMNIROC® panel must be kept dry and maintained in a conditioned space for a minimum of 30 days prior to the installation of wood flooring.
- D. Ceramic tile should be installed over a crack isolation or cleavage membrane applied to OMNIROC® panel. Use latex modified thin set mortar that complies with ANSI Standards for application of the tile to the membrane unless the tile or membrane manufacture directs the use of an alternate material that complies with ANSI Standards.
- E. Carpet should be installed using tackless strips designed for concrete application for the installation of stretched carpet.

**END OF SECTION**