

CARR-BILT SPECIFICATIONS

MODEL: **HMS116166**
SIZE: **11'-6" x 16'-6" Hazardous Material Storage**



MANUFACTURER CRITERIA

1. ACI-318-02, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
2. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures". IBC 2006, 1996 BOCA Concrete Reinforcing Institute, "Manual of Standard Practice".
3. Fabricator must be plant certified by The Precast/Prestressed Concrete Institute (PCI) and the National Precast Concrete Association (NPCA).
4. Building fabricator must have a minimum of 10 (ten) years experience manufacturing and setting transportable precast concrete buildings.
5. No alternate building designs to the CARR-BILT® building will be allowed unless pre-approved by the owner 10 (ten) days prior to the bid date.
6. Building shall come with a 10-year warranty.

STRUCTURAL CONSTRUCTION DETAILS

1. *Panel Type Construction:* The building is fabricated of six (6) solid, one-piece concrete panels. Panels are bolted together and joints caulked inside and out to make the building weatherproof.
2. *Wall Panels:* The four(4) walls are 3" thick solid panels of concrete with primary structural reinforcement of steel bar and welded wire fabric.
3. *Roof Panel:* The roof is a 4" thick concrete panel which extends 2-1/2" over the walls to act as a drip edge. The roof has primary reinforcement of steel bar and welded wire fabric. In addition, the roof is post-tensioned through the use of an internal tensioning cable for additional protection against cracking and checking. No additional roof coatings are required to make the building weatherproof.
4. *Sump Floor Panel:* The floor is an 11" thick monolithically poured concrete panel with eight (8) containment sumps, or cells, 7" in depth. The cells are designed with interconnecting spillways to keep spills confined and segregated. Each cell will hold 67 gallons before spilling over into the adjacent cell. The four cells collectively hold 536 gallon of spilled liquid. All exposed surfaces of the floor and sump are coated with a high solid, solvent-free, abrasive resistant epoxy which provides broad range chemical protection against absorption into or degradation of the floor panel from spills. Actual resistances are available upon request. The floor sumps are covered with grating to

provide a one level, flat floor surface from wall to wall. Black steel grating is standard. Galvanized steel, fiberglass or other type gratings are available as options. The floor is heavily reinforced with steel bar and welded wire fabric. Like the roof, the floor is post-tensioned through the use of an internal tensioning cable for additional protection against cracking or checking.

5. *Panel Connections:* The panels are bolted together with 1/4" thick steel brackets and 1/2" coil thread bolts. The steel brackets are cold galvanized to resist rusting.
6. *Structural Loadings:* The standard roof loading is 30 psf. The standard wind load is 27 psf (103 mph). The floor loading with standard grating is 250 psf. Higher loadings for roof and wind are optional.
7. *Preassembly:* Standard procedures are for the completely assembled building to arrive at the jobsite on a tractor trailer. The building is then lifted from the trailer and set in place with a crane. Carr Concrete can economically make arrangements for freight and crane unloading or the customer can provide these services.
8. *Warranty of Structural Integrity:* Carr Concrete shall provide a warranty against defects in material or workmanship for a period of ten (10) years on all concrete components manufactured at our Waverly, WV location. The warranty is valid only when concrete is used within the specified loadings. Furthermore, said warranty includes only the related material necessary for the construction and fabrication of said concrete components. If found defective, Carr Concrete Corporation will, at its option, repair or replace any concrete component of the building. Upon receipt and approval of the delivered building – troubleshooting, installation, repair and shipping are the responsibility of the end user, unless otherwise agreed upon in writing between Carr Concrete and end user.

Non-concrete components are defined as any item not manufactured by Carr Concrete and include, but are not limited to, the following categories: electrical equipment, interior finishing, flooring, air circulation, security or entry. Any non-concrete component found to be defective shall be covered by the manufacturer's standard warranty of said non-concrete component. All troubleshooting, installation, repair and shipping of non-concrete components are the responsibility of the end user.

ARCHITECTURAL DETAILS

1. *Dimensions:* Outside dimensions are 9'-3" high, 11'-6" wide and 16'-6" long except for the roof which extends over the walls 2-1/2" on all sides. The inside dimensions (without optional interiors) are 8'-0" high, 11'-0" wide and 16'-0" long.
2. *Doors, Frames and Hardware:* This building comes standard with a single door, consisting of one (1) 4'-0" wide x 6'-8" x 1-3/4" 16 gauge, Grade II heavy-duty metal door with polyurethane foam core. For ease in maintenance and replacement, the door frame is bolted and caulked to the wall panel. Doors are primed and painted one coat of gray enamel. Standard door hardware includes a deadbolt lock, a stainless steel pull plate, a door sweep, a 2" drip cap. The door is hung with three heavy-duty, vandal-proof hinges.

VAULT TOILETS



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3. *Vents:* two (2) 18" x 18", 16 gauge steel vents are located 6" off the floor level. For fire safety, all vents are equipped with a fusible link and spring mechanism, which closes the vent(s) automatically in the event of a fire.
4. *Caulking:* All wall-to-wall, wall-to-roof and wall-to-floor joints are caulked on both the interior and exterior surfaces for double weatherproof protection. The limestone-colored caulking is a high quality, polyurethane-based, elastomeric sealant.
5. *Sealer:* All exterior surfaces of the building are treated with a clear penetrating silane sealer to prevent water absorption and freeze-thaw damage.
6. *Lifting Points:* The building is equipped with cast-in-place lifting inserts located in the exterior edge of the floor. These remain as part of the building and can be used later to lift or relocate the building.
7. *Weight:* The building weight without options is approximately 41,000 pounds.
8. *Finishes:* An exposed aggregate finish of light Indiana limestone is standard. The earth tone shades of grays, brown and tans in this stone means that it blends well with a variety of backgrounds.
9. *Drawings:* Carr will furnish CAD drawings for your approval. The customer must approve drawings before manufacturing will begin. Prices do not include any documentation other than standard drawings, packing lists and invoices. Special documentation, reports or submittals can be supplied at an additional cost. If additional engineering, engineer seals, state approvals, drawings or insignias are required by local authorities or others for permitting or other purposes, it may or may not be available.
10. *Site Preparation:* To minimize the cost of site preparation, Carr buildings are designed to be installed on a level pad of compacted crushed stone. The buildings can also be set on level footer foundations or slab type foundations if needed. Site preparation is the responsibility of owner and should verify compliance with state and local codes.

