



DEPARTMENT OF BUILDINGS

EXECUTIVE OFFICES
280 BROADWAY, NEW YORK, NY 10007

Patricia J. Lancaster, A.I.A., Commissioner
(212) 566-5000, TTY: (212) 566-4769
Website: NYC.gov/buildings

Sium Derkhidam
Assistant Mechanical Engineer
Materials and Equipment
Acceptance Division
(212) 566-3271
Fax (212) 566-3840

Mr. Patrick Murphy
American Polyster
5150-F Edith Blvd, NE
Albuquerque, NM 87107

Date: DEC/23/03

Dear Applicant:

Enclosed is a final official signed copy of MEA acceptance of your product(s).
MEA 188-03-F, which you may use as proof of your product(s) acceptance in
New York City.

This document together with proper labeling and installation in accordance with New
York City Building Code will enable the inspector to know that the product(s) installed is (are)
legal.

All shipments and deliveries of accepted materials to the job site are required to be
labeled or tagged in accordance with the format below:

Accepted For Use
City of New York
Department of Buildings
MEA - -

Company Name

Very truly yours.

Sium Derkhidam
Sium Derkhidam
Assistant Mechanical Engineer
Materials and Equipment Acceptance Division

**CITY OF NEW YORK
DEPARTMENT OF BUILDINGS**

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of the Material and Equipment Acceptance (MEA) Division.

Patricia J. Lancaster, A.I.A., Commissioner

MEA 188-03-E

Report of Material and Equipment Acceptance Division

Manufacturer – American PolySteel, LLC, 5150-F Edith Boulevard, NE, Albuquerque, NM 87107.

Trade Name – PolySteel Forms.

Product – Fire rated exterior insulated concrete forms wall assembly for combustible construction.

Pertinent Code Section(s) – 27-297, 27-107, 27-133.

Prescribed Test(s) – RS 5-5 (ASTM E84), Toxicity, RS 5-2 (ASTM E119).

Laboratory – Omega Point Laboratories, Inc., Southwest Research Institute.

Test Reports – Omega Point Project No. 8503-106742 dated January 10, 2001, SwRI Evaluation letter dated August 27, 2003.

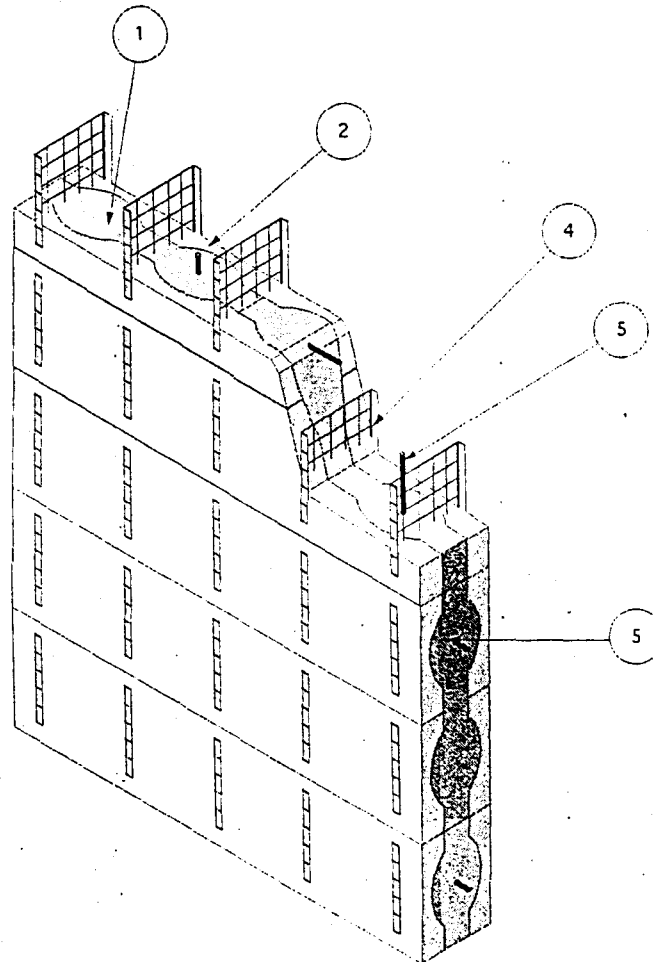
Description – PolySteel Forms are stay-in-place insulating concrete forms (ICF) for poured-in-place above and below grade reinforced concrete walls in residential, commercial, or industrial building applications. PolySteel Form blocks are molded from expandable polystyrene beads having a nominal density of 1.5 pcf in accordance with ASTM C 578, Type II. The foam face shells of the blocks are connected with galvanized steel cross ties. When stacked, the PS-3000 waffle-grid blocks form oval-shaped horizontal vertical cores spaced 12 inches on center. These cores are interconnected by a network of webs. When stacked, the PS-4000 flat wall blocks form a constant width cavity. Reinforcement is placed within the forms per structural design requirements and when filled with concrete the blocks form a monolithic solid concrete wall. The wall system shall be constructed in accordance with Omega Point Laboratories system numbers listed below and manufacturer instruction in achieving the required fire resistance rating for Design No. BW507, BW508, and BW509.

Design No. BW 507

BEARING WALL

Assembly Rating – 4 Hr.

Design Load of 3,000 lb/ft



1. **CONCRETE:** Concrete is poured into the forming system (Item 2). Concrete can be normal weight, sand-lightweight, or lightweight concrete. Use concrete having a minimum 3000 psi. compressive strength.
2. **FORMING SYSTEM:** The forming system consists of molded expanded polystyrene (EPS foam) insulating concrete forms. Two molded EPS foam pieces each nominally measuring 16-inch high by 48-inch long are fitted with steel ties (Item 4) which are

placed perpendicular to the EPS foam pieces to establish a nominal 9-1/4-inch wide block. The EPS foam pieces have a nominal density of 1.5 pcf. The concrete thickness between the EPS foam pieces is a nominal 2 inches at the narrowest point and a nominal 6 inches at the widest point. The interior of the EPS foam blocks are manufactured into a shape to form a waffle-grid concrete wall. When stacked, the EPS waffle-grid blocks form vertical oval-shaped columns spaced 12 inches on center and oval-shaped horizontal beams

spaced 16 inches on center. Between the columns and beams are webs of concrete with a minimum thickness of 2 inches.

Listed Manufacturer:

American Polysteel, LLC

Modular, EPS Concrete Forms

6" Polysteel Form (PS-3600)

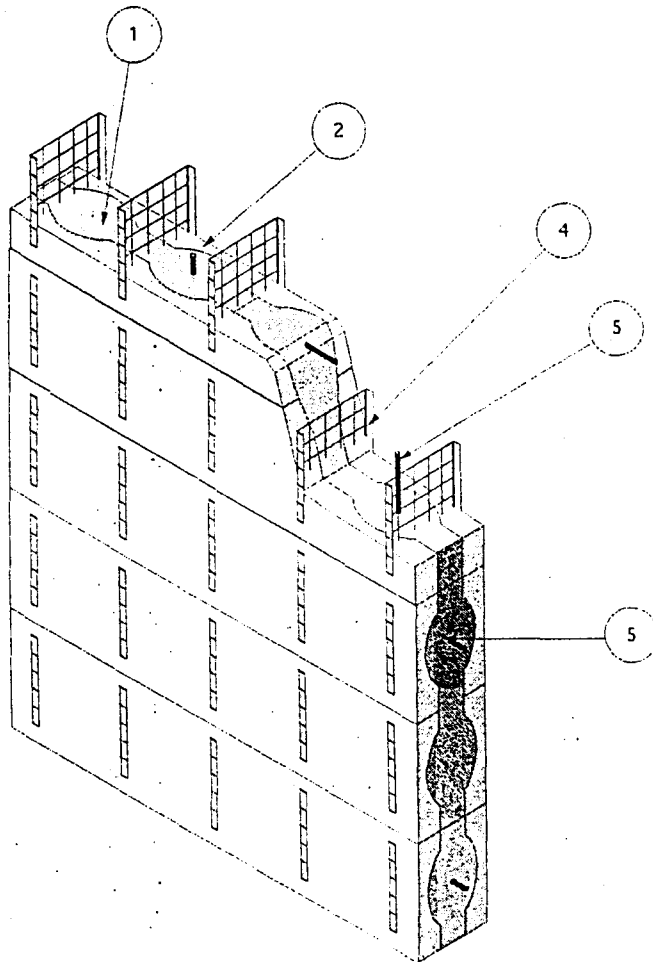
3. **SHEATHING, GYPSUM:** Not shown and not required for fire resistance assembly rating. Use when a min. 15-minute thermal barrier is required to separate the interior of the building from foam plastic insulation. Use min. 1/2-in. thick, gypsum wallboard, applied either horizontally or vertically. Use fasteners long enough to pass through the EPS foam pieces of the forming system (Item 2) and the full diameter of the screw shaft must embed completely through the flange of the steel ties. Secure the min. 1/2-in. thick, gypsum wallboard with screws spaced a min. 12-inch on center in the field and a min. of 8-inch on center around the perimeter on the wall.
4. **STEEL FORM TIES:** Each 16" x 48" block has a minimum of five steel form ties. The steel form ties are spaced . . . nominally 1 inch from each end and nominally 11-1/2 inches on center between the end steel form ties. The steel form ties are a grid design to allow the concrete (Item 1) to pass through and if desired, to provide a seat for horizontal rebar to be placed. The flanges, which are a min. 1.5 inches wide, of the steel form ties act as furring strips. The fasteners used to hold the sheathing (Item 3) are secured to this flange.
5. **STEEL REINFORCEMENT:** Place the steel reinforcement before filling the forming system with concrete (Item 1). Use min. #4 rebar vertically max. 24 in. on center in the core region between the EPS foam blocks. Use min. #4 rebar horizontally max. 32 in. on center in the core region of the EPS foam blocks. Greater reinforcement dimensions and closer spacing patterns are acceptable. Lesser reinforcement dimensions and wider spacing patterns are acceptable when design loads are less than 3000 lbf/ft provided that a professional structural engineer approves the reinforcement type and pattern.
6. **EXTERIOR FINISHES:** Not shown and not required to achieve assembly rating. The following may be applied to the exterior side of the wall assembly without diminishing the assembly rating: any exterior insulation finish system (EIFS), any exterior stucco, brick or brick veneer, stone or stone veneer, cultured stone and siding made from vinyl, aluminum, wood, or steel. Exterior finishes shall be applied in accordance with the manufacturer's instructions.
7. **WALL ASSEMBLY:** The wall assembly may be used as either an interior or exterior wall. Interior walls may require sheathing (Item 3) on both sides to cover the EPS if a min. 15-minute thermal barrier is required. Exterior walls may require sheathing (Item 3) on the interior side only to cover the EPS if a min. 15-minute thermal barrier is required. The completed wall assembly is fire rated from either side.

Design No. BW 508

BEARING WALL

Assembly Rating – 4 Hr.

Design Load of 3,000 lb/ft



1. CONCRETE: Concrete is poured into the forming system (Item 2). Concrete can be normal weight, sand-lightweight, or lightweight concrete. Use concrete having a minimum 3000 psi. compressive strength.
2. FORMING SYSTEM: The forming system consists of molded expanded polystyrene (EPS foam) insulating concrete forms. Two molded EPS foam pieces each nominally measuring 16-inch high by 48-inch long are fitted with steel ties (Item 4) which are

placed perpendicular to the EPS foam pieces to establish a nominal 11-inch wide block. The EPS foam pieces have a nominal density of 1.5pcf. The concrete thickness between the EPS foam pieces is a nominal 2 inches at the narrowest point and a nominal 8 inches at the widest point. The interior of the EPS foam blocks are manufactured into a shape to form a waffle-grid concrete wall. When stacked, the EPS waffle-grid blocks form vertical oval-shaped columns spaced 12 inches on center and oval-shaped horizontal beams

spaced 16 inches on center. Between the columns and beams are webs of concrete with a minimum thickness of 2 inches.

Listed Manufacturer:

American Polysteel, LLC

Modular, EPS Concrete Forms

8" Polysteel Form (PS-3800)

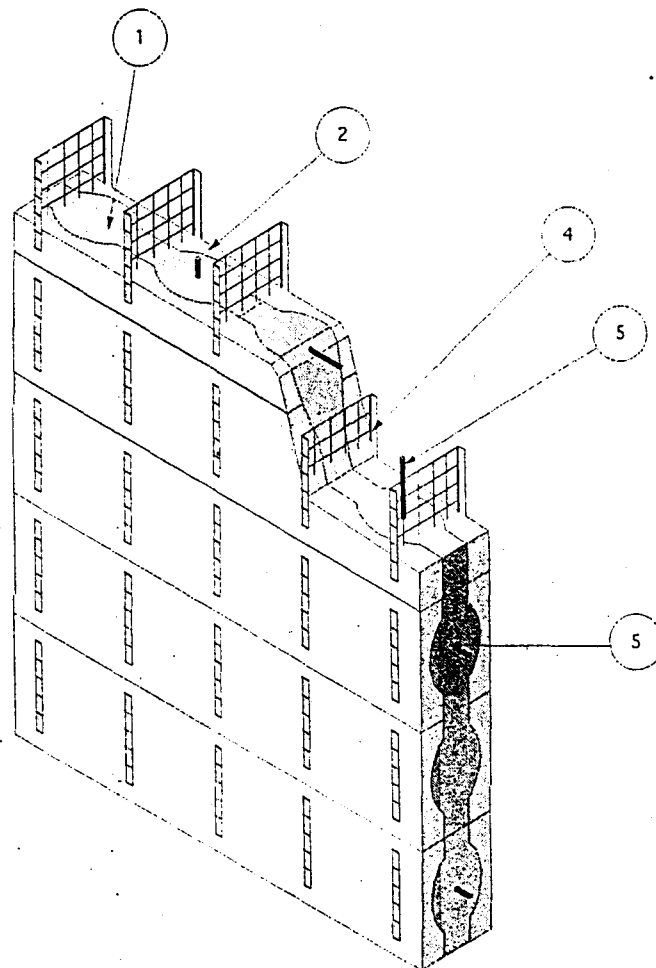
3. **SHEATHING, GYPSUM:** Not shown and not required for fire resistance assembly rating. Use when a min. 15-minute thermal barrier is required to separate the interior of the building from foam plastic insulation. Use min. 1/2-in. thick, gypsum wallboard, applied either horizontally or vertically. Use fasteners long enough to pass through the EPS foam pieces of the forming system (Item 2) and the full diameter of the screw shaft must embed completely through the flange of the steel ties. Secure the min. 1/2-in. thick, gypsum wallboard with screws spaced a min. 12-inch on center in the field and a min. of 8-inch on center around the perimeter on the wall.
4. **STEEL FORM TIES:** Each 16" x 48" block has a minimum of five steel form ties. The steel form ties are spaced nominally 1 inch from each end and nominally 11-1/2 inches on center between the end steel form ties. The steel form ties are a grid design to allow the concrete (Item 1) to pass through and if desired, to provide a seat for horizontal rebar to be placed. The flanges, which are a min. 1.5 inches wide, of the steel form ties act as furring strips. The fasteners used to hold the sheathing (Item 3) are secured to this flange.
5. **STEEL REINFORCEMENT:** Place the steel reinforcement before filling the forming system with concrete (Item 1). Use min. #4 rebar vertically max. 24 in. on center in the core region between the EPS foam blocks. Use min. #4 rebar horizontally max. 32 in. on center in the core region of the EPS foam blocks. Greater reinforcement dimensions and closer spacing patterns are acceptable. Lesser reinforcement dimensions and wider spacing patterns are acceptable when design loads are less than 3000 lbf/ft provided that a professional structural engineer approves the reinforcement type and pattern.
6. **EXTERIOR FINISHES:** Not shown and not required to achieve assembly rating. The following may be applied to the exterior side of the wall assembly without diminishing the assembly rating: any exterior insulation finish system (EIFS), any exterior stucco, brick or brick veneer, stone or stone veneer, cultured stone and siding made from vinyl, aluminum, wood, or steel. Exterior finishes shall be applied in accordance with the manufacturer's instructions.
7. **WALL ASSEMBLY:** The wall assembly may be used as either an interior or exterior wall. Interior walls may require sheathing (Item 3) on both sides to cover the EPS if a min. 15-minute thermal barrier is required. Exterior walls may require sheathing (Item 3) on the interior side only to cover the EPS if a min. 15-minute thermal barrier is required. The completed wall assembly is fire rated from either side.

Design No. BW 509

BEARING WALL

Assembly Rating – 4 Hr.

Design Load of 3,000 lbf/ft



1. **CONCRETE:** Concrete is poured into the forming system (Item 2). Concrete can be normal weight, sand-lightweight, or lightweight concrete. Use concrete having a minimum 3000 psi. compressive strength.
2. **FORMING SYSTEM:** The forming system consists of molded expanded polystyrene (EPS foam) insulating concrete forms. Two molded EPS foam pieces each nominally measuring 16-inch high by 48-inch long are fitted with steel ties (Item 4) which are

placed perpendicular to the EPS foam pieces to establish a nominal 14-inch wide block. The EPS foam pieces have a nominal density of 1.5 pcf. The concrete thickness between the EPS foam pieces is a nominal 3-1/2 inches at the narrowest point and a nominal 10 inches at the widest point. The interior of the EPS foam blocks are manufactured into a shape to form a waffle-grid concrete wall. When stacked, the EPS waffle-grid blocks form vertical oval-shaped columns spaced 12 inches on center and oval-

shaped horizontal beams spaced 16 inches on center. Between the columns and beams are webs of concrete with a minimum thickness of 3-1/2 inches.

Listed Manufacturer:

American Polysteel, LLC

Modular, EPS Concrete Forms

10" Polysteel Form (PS-3100)

3. **SHEATHING, GYPSUM:** Not shown and not required for fire resistance assembly rating. Use when a min. 15-minute thermal barrier is required to separate the interior of the building from foam plastic insulation. Use min. 1/2-in. thick, gypsum wallboard, applied either horizontally or vertically. Use fasteners long enough to pass through the EPS foam pieces of the forming system (Item 2) and the full diameter of the screw shaft must embed completely through the flange of the steel ties. Secure the min. 1/2-in. thick, gypsum wallboard with screws spaced a min. 12-inch on center in the field and a min. of 8-inch on center around the perimeter on the wall.
4. **STEEL FORM TIES:** Each 16" x 48" block has a minimum of five steel form ties. The steel form ties are spaced nominally 1 inch from each end and nominally 11-1/2 inches on center between the end steel form ties. The steel form ties are a grid design to allow the concrete (Item 1) to pass through and if desired, to provide a seat for horizontal rebar to be placed. The flanges, which are a min. 1.5 inches wide, of the steel form ties act as furring strips. The fasteners used to hold the sheathing (Item 3) are secured to this flange.
5. **STEEL REINFORCEMENT:** Place the steel reinforcement before filling the forming system with concrete (Item 1). Use min. #4 rebar vertically max. 24 in. on center in the core region between the EPS foam blocks. Use min. #4 rebar horizontally max. 32 in. on center in the core region of the EPS foam blocks. Greater reinforcement dimensions and closer spacing patterns are acceptable. Lesser reinforcement dimensions and wider spacing patterns are acceptable when design loads are less than 3000 lbf/ft provided that a professional structural engineer approves the reinforcement type and pattern.
6. **EXTERIOR FINISHES:** Not shown and not required to achieve assembly rating. The following may be applied to the exterior side of the wall assembly without diminishing the assembly rating: any exterior insulation finish system (EIFS), any exterior stucco, brick or brick veneer, stone or stone veneer, cultured stone and siding made from vinyl, aluminum, wood, or steel. Exterior finishes shall be applied in accordance with the manufacturer's instructions.
7. **WALL ASSEMBLY:** The wall assembly may be used as either an interior or exterior wall. Interior walls may require sheathing (Item 3) on both sides to cover the EPS if a min. 15-minute thermal barrier is required. Exterior walls may require sheathing (Item 3) on the interior side only to cover the EPS if a min. 15-minute thermal barrier is required. The completed wall assembly is fire rated from either side.

Recommendation – That the above described wall assembly consisting of the exterior insulated concrete form and other components be accepted as having fire resistance classification listed above for combustible construction only. When installation complies with the applicable New York City Codes, Rules, and Regulations and in particular with Section 27-297A, tables 3-4, and 4-2 of the Building Code, for 1, 2, or 3 family, when interior and exterior of the insulated concrete form is covered with accepted one hour fire rated material.

This acceptance does not include structural adequacy of wall design, which must be certified by a P.E. or R.E. for particular structures for compliance with the Building Code prior to plan examination by department engineering.

Final Acceptance Oct/29/03

Examined by S Derfludon