

poligon

A Division of

W. H. Porter, Inc.

4240 N. 136th Ave.

Holland, Michigan 49424

1-800-354-7721

FAX: 616-399-9123

Web site: <http://www.poligon.com>

WO 18 S/SSR

The Wooster style gazebo was named after the city in Ohio for which it was first produced. Available in 18', 20' and 22' sizes, the frame and ornamentation come powdercoated as standard. The roof is standing seam over a sandwich panel roof deck. With 10 foot arches and double columns, it is the most ornate structure in the POLIGON product line.

**** SPECIFICATIONS ****

*** POLIGON WOOSTER 18 ***

SUMMARY

Loading: 30 psf snow, 90 mph wind, seismic zone 4.

Diameter: 18'.

Area under roof: 229 square feet.

Total height: 19'-10".

Height below the lower tension ring: 10'.

Roof pitch: 8:12 on the lower tier and 5:12 on the upper tier.

FULL SPECIFICATION

PRE-MANUFACTURED SHELTER CONSTRUCTION

APPROVED MANUFACTURER

The use of a manufacturer's name and model or catalog number is only for the purpose of establishing the standard of quality, design details and general configuration desirable. Products of other manufacturers will be considered in accordance with the requirements in this and as follows.

All components for the shelter shall be manufactured or supplied by **Poligon/W. H. Porter, Inc.**, Holland, MI, (616) 399-1963. Contractor may submit other manufacturer for approval with following conditions.

The owner or his representative shall determine all approved equals. In order to be considered an approved equal, the following criteria must be met:

1. Manufacturer's literature: Submit complete manufacturer's literature and technical data. Literature must include address of manufacturer's physical facility and manufacturer's telephone number.
2. Certification: Submit, via transmittal, properly identified with project name, location and date, certification of manufacturer's compliance with the requirements specified herein signed and sealed by a Professional Engineer registered in the State of _____. Data must be specific to the

project spelling out exactly what will be supplied and not of a general nature.

3. Submit complete set of shop drawings signed and sealed by a Professional Engineer registered in the State of _____. Drawings must be specific to the project spelling out exactly what will be supplied and not of a general nature.

4. Submit samples, certifications and specification sheets on the following items: Roof decking, beams, panels, welding, columns, fascia, interior finish and exterior siding.

5. All equals must be approved (10) ten days before the bid date.

6. All approved equals shall be notified with written statements of their approval. Manufacturers shall not bid this project without this written notification.

7. Only primary manufacturers of shelters will be allowed to bid. The product shall be from a single source. Design firms which sub-contract different components from different sources will not be allowed to bid. The manufacturer shall have been making steel frame pre-manufactured shelters for a minimum of (5) five years and demonstrate quality by listing (3) three similar projects in the territory. The owner may review their projects to determine quality, design details and durability in service.

8. Approved equals shall be attentive to design details of the entire structure. Design details in the method of clean appearance and hidden fasteners must be equal to that of **Poligon**.

Fabrication using open "I" beams, open "CEES," or open channels shall not be accepted. Any open members must be covered or boxed-in for a tubular appearance. Tapered columns shall not be accepted.

Approved equals using a ribbed or seamed metal roof shall have the ribs or seams running with the slope of the roof.

9. Field labor will be kept to a minimum by pre-manufactured parts. Any equivalents to **Poligon** shall list all materials that must be field cut, custom fit and field fabricated. Roof deck and/or panel work shall be detailed as to field work required. Field work required for erections shall not exceed that of a **Poligon** structure.

10. Foundation and anchor bolt configurations shall be the same "foot print" as that of the specified **Poligon** structure. Surface mounting with a single hidden anchor bolt per column will be the only accepted method.

11. Any equivalent structure manufacturer must submit information indicating they meet specified area under roof and area encompassed by columns.

12. Shelter shall be "Made In America."

13. The manufacture will be operated under a quality control program equivalent to Mil I.

14. A Five-year warranty shall be provided by the bidder.

15. All components and details shall meet or exceed **Poligon** specifications as follows:

GENERAL

The structure shall be a **POLIGON WOOSTER 18** manufactured by W. H. Porter, Inc. of Holland, Michigan. It shall be designed in strict accordance with the Uniform Building Code (current edition) using a minimum Snow Load of 30 psf, a minimum Wind Load based on a 100 mph wind speed, and a Seismic (earthquake) Load based on Zone 4. (Consult factory if heavier loads are required.)

The **POLIGON WOOSTER 18** shall be designed as a Space Frame using three dimensional (3-D) structural analysis to determine member loads and forces. The structure shall be surface mounted over internal anchor bolts. The plans and elevation shall match that of Poligon Model WO 18.

All structural framing of the **POLIGON WOOSTER 18** shall be steel tubes or structural steel sections with cover plates to form a clean neat appearance. Since all connections will bolt together, field welding shall not be required. Bolts shall be concealed within the tubing where possible.

All steel members of the **POLIGON WOOSTER 18** shall be designed in strict accordance with the requirements of the "American Institute of Steel Construction" (AISC) Specifications and the "American Iron and Steel Institute" (AISI) Specifications for Cold Formed Members.

All structural field connections of the **POLIGON WOOSTER 18** shall be designed and made with High Strength bolted connections using ASTM A325 structural bolts.

All shop welded connections of the **POLIGON WOOSTER 18** shall be designed and made in strict accordance with the requirements of the "American Welding Society" (AWS) Specifications. Structural welds shall be made in compliance with the requirements of the "Prequalified" welded joints where applicable and "Special" welded joints developed by W. H. Porter, Inc. (tested and certified in accordance with AWS requirements). All "Special" welded joint procedures are the property of and for the exclusive use by W. H. Porter, Inc.

The frame of the **POLIGON WOOSTER 18** shall be fabricated from ASTM A-500 Grade B structural steel tubing and ASTM Grade A36 structural steel plates.

SIZE

The **POLIGON WOOSTER 18** shall be a two tiered octagon. The diameter shall be 18'. The area under roof shall be 229 square feet. The total height shall be 19'10". The height below the lower tension ring shall 10'. The roof pitch shall be 8:12 on the lower tier and 5:12 on the upper tier.

FRAME

There shall be (8) ornamental 3'4" high COLUMN BASES. Each shall be a six sided polygonal shape. There shall be 6" x 29" rectilinear recessed inserts on the (2) outside facets of each component.

There shall be (8) prefabricated tubular STEEL ARCHES, each consisting of (2) upper column sections and a double tension ring.

There shall be (8) TRUSSES of tubular steel.

The center COMPRESSION FRAME shall be an octagon composed of an upper and lower tubular steel ring. The rings shall be joined by (1) foot long vertical tubular steel members at each

corner.

All exposed welds shall be descaled and finish ground.

Frame shall have wiring access openings.

RAILING AND ORNAMENTATION

A standard **POLIGON WOOSTER 18** railing package shall consist of 6 lower handrail sections, 8 sets of overhead ornamentation and 8 sets of upper ornamentation. All railings and ornamentation shall be fabricated from solid steel materials. There shall be no 'overlapping' joints, piercing or tack welding. All welds are to be complete. All materials are to be ASTM Grade A36 steel.

FRAME FINISH

The frame of the **POLIGON WOOSTER 18** shall have a Polyester powder coated finish. The finish shall be achieved by shot blasting to near white condition, caustic washing, iron phosphate coating and electrostatic deposition and baking of zinc rich primer and Polyester finish coat. The finish coat shall be a minimum of 3-6 mils in thickness.

Railings and ornamentation finish shall be the same as the structural steel frame.

ROOF DECK SYSTEM

The roof system for the **POLIGON WOOSTER 18** shall be structural sandwich panels composed of simulated tongue and groove decking on the underside, foam core, and a wood decking on top. Panel size shall be based on 4' wide module with lengths and angles pre-cut.

The simulated tongue and groove decking shall be 5/8" rough sawn fir plywood (APA T 1-11 18W) with grooves 4" on center. It shall have 18 or fewer patches per 4' x 8' unit. It shall have no plastic or synthetic filler.

The foam core shall be 3-5/8" expanded polystyrene with a nominal 1 pound density.

The exterior surface shall be 7/16" strand board.

Sandwich panels shall be joined by 2 x 4 wood splines and attached to the steel frame with self-tapping screws according to the shelter manufacturer's schedule.

All plywood and structure wood components of the **POLIGON WOOSTER 18** shall be approved by the American Plywood Association (APA).

All laminated structural sandwich panels of the **POLIGON WOOSTER 18** shall have available test data done by a BOCA licensed third party professional engineering agency. Testing has been done for racking, compressive, and transverse loadings in accordance with the American Society for Testing Materials (ASTM) E-72-80.

Panels shall be laminated with adhesive approved by the International Congress of Building Officials (ICBO) test report #3462.

ROOFING

The roofing for the **POLIGON WOOSTER 18** shall be 24 gauge Standing Seam Roofing. The roofing shall be prefinished with Kynar 500, in a standard Kynar color. All required ridge caps,

flashing, counter flashings and trim components shall be supplied in a matching finish.

All required felt sealants, clips, battens and fasteners to apply the roofing, shall be supplied.

SURFACE MOUNTING ON CONCRETE FOUNDATION

The shelter shall be set on prepared footings and/or concrete slab. Foundation will be constructed to local codes, the shelter manufacturer's specifications, and good construction practices for the specific site conditions. The structure shall be attached to the top of the concrete by use of anchor bolts as specified and furnished by the manufacturer. Anchor bolts shall be inside the column.

PRE-ENGINEERED PACKAGE

The **POLIGON WOOSTER 18** shall be a pre-cut and pre-fabricated package that shall include the structural frame, panelized roof, fasteners, trim and installation instructions. The structure shall be shipped in a knocked down manner for minimum shipping charges.

BUILDING CODES

Building codes vary widely in the USA. W. H. Porter, Inc. has attempted to design within most common codes. It is the owner's responsibility to check with code officials to see that the structure conforms. Consult W. H. Porter, Inc. for specific design information that can assist in obtaining code approval. Certified stamped engineering drawings will be supplied upon request for a fee.