



PNPCA.net

PACIFIC NORTHWEST PRECAST CONCRETE ASSOCIATION

THE RELIABLE STANDARD FOR MANHOLE STRUCTURES

When it comes to strength, durability, and hydraulics, precast reinforced manholes are unmatched in reputation for quality. Unlike other types of structures, concrete *gains* strength over time. With a proven 100-year service life, concrete manholes are durable, and watertight under a wide range of installation conditions.

Contrast this with the performance of other types of underground structures. Flexible products derive most of their strength from the surrounding compacted soil. Whether the result of poorly compacted soil or insufficient cover, other types of manholes are more susceptible to damage than concrete. *It's that simple!*

Structural Performance

- High inherent strength of concrete
- Strength verified by compression tests
- Supporting strength from the structure itself
- Custom higher strengths available
- Watertight & non-flammable

Quality

- Documented long-term material properties
- ASTM material standards for ALL manhole sizes
- Quality Assurance/Control on all aspects of precast concrete (raw materials, testing, etc.) is verified by physical tests of materials and finished product

Economics

- Minimal field inspection and testing required
- Proven low cost with Least Cost (Life Cycle) Analysis
- Local producers are part of the local economy

Risk

Management

- Time Proven
- Established Design Procedures
- Installation/Contractor Friendly
- Field changes easily achieved
- Independent of contractors ability to build manhole supporting structure in the excavation

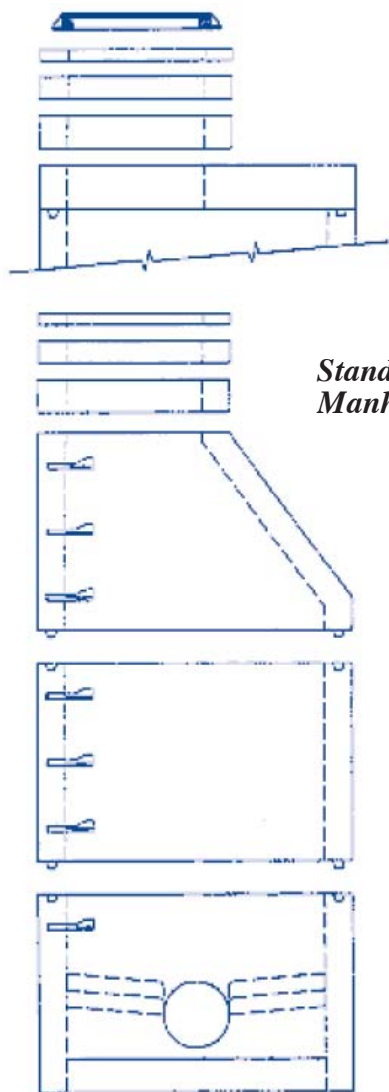


Flexible, Custom Design

- Manholes can be custom made for any design
- Standard pipe sizes from 24 inch to 144 inch diameter
- Joint performance matched to your project requirement
- For liner/connector information, contact us at info@pnpcanet.net

Durability

- Documented service life greater than 100 years
- Unaffected by ultraviolet degradation, corrosion, and thermal variations
- Manholes are tested for strength at the manufacturing facility and requires minimal onsite inspection and post installation testing. If problems occur during the installation they can be repaired in the field.



Standard Manhole

Basic Dimensions of Manholes*

I.D. (inches)	Wall Thickness (inches)	O.D. (inches)	Recommended Max Pipe Size Entering (inches)
24	3	30	12
42	4.5	51	18
48	5	58	21
54	5.5	65	24
60	6	72	30
72	7	86	42
84	8	100	54
96	9	114	72
108	10	128	78
120	11	142	84
132	11	154	84
144	12	168	96

* Wall thickness and joints vary by manufacturing and markets. Please contact your local manufacturer for availability of sizes listed above.

The Pacific Northwest Precast Concrete Association is comprised of regional companies and individuals engaged in the manufacture of precast concrete and related products. Our members are based in a three-state and Canadian province region encompassing Oregon, Washington, Idaho and British Columbia. PNPCCA exists to exchange industry knowledge and information, secure efficient cooperation between the concrete products industry and engineers, developers and governmental agencies, and to advocate and encourage constant improvements of practices for the purpose of developing high product quality.

Log on to our website at www.pnpcanet.net and click on "Free Design Information" for tools and to register for receiving product and technical updates.

PNPCCA

147 SE 102nd Ave.

Portland, OR 97216

503.257.9806 • 503.253.9172 (fax)

info@pnpcanet.net (e-mail) • www.pnpcanet.net

Contact our members on our website at www.pnpcanet.net for:

- Diameters available in your area
- Weights and wall thicknesses of sections joint designs
- General information
- Capacities
- Connection interface with pipe penetrations
- More specification information
- Specialty designs
- Links to other sites