Typical Specification

1.0 GENERAL

Under this section there shall be furnished and installed a complete Link-Seal® modular seal assembly, manufactured by GPT® as shown on drawings and specifications. For clarification, complete assembly is defined as a combined:

A. Wall (Floor, Ceiling) opening (i.e. steel sleeve, Thermoplastic (HDPE) sleeve, cored hole or formed hole). The wall opening size and/or type shall be selected according to information found in the most recent Link-Seal® modular seal catalog.

B. Sufficient quantity and type of Link-Seal® modular seals required to effectively provide a hydrostatic and/or fire-rated seal.

C. Each individual link shall be conspicuously and permanently identified with the name of the manufacturer and model number. Manufacturers other than the above-named company wishing to quote equipment in this section shall submit detail drawings of their proposed equipment and suitable evidence of a minimum of 25 years of experience and results to the engineer to obtain written approval to quote at least ten (10) days prior to bid opening.

2.0 LINK-SEAL® MODULAR SEAL RUBBER LINKS

Shall be modular, mechanical type, consisting of inter-locking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening. The elastomeric element shall be sized and selected per manufacturer's sizing procedure and have the following properties as designated by ASTM. Coloration shall be throughout elastomer for positive field inspection. Each link shall have a permanent identification of the size and manufacturer's name molded into it.

A. For Standard Service Applications = Model C
-40 to +250ºF (-40 to +121ºC)
EPDM = ATSM D2000 M3 BA510 Color = Black

B. For Potable Water/NSF 61 Service Applications = Model S61
-40 to +250ºF (-40 to +121ºC)
EPDM = ATSM D2000 M3 BA510 Color = Black

C. For Thin Walled Pipe Applications = Model L
-40 to +250ºF (-40 to +121ºC)
EPDM = ATSM D2000 M3 BA510 Color = Blue

D. For Hydrocarbon Service Applications = Model O
-40 to +210ºF (-40 to +99ºC)
Nitrile = ASTM D2000 M1BF510 Color = Green

E. For High Temperature or Fire Seal Applications = Model T
-67 to +400ºF (-55 to +204ºC)
Silicone = ASTM D2000 M1GE505 Color = Gray

Reference shall always be made to the latest published Link-Seal® modular seal selection guide for the service intended.

2.1 LINK-SEAL® MODULAR SEAL PRESSURE PLATES

A. Link-Seal® modular seal pressure plates shall be a uniform pressure plate design molded of glass reinforced Nylon Polymer with the following properties:

Izod Impact - Notched =	2.05ft-lb/in. per ASTM D-256
Flexural Strength @ Yield =	30,750 psi per ASTM D-790
Flexural Modulus =	1,124,000 psi per ASTM D-790
Elongation Break =	11.07% per AST M D-638
Specific Gravity =	1.38 per ASTM D-792

B. Models LS200-275-300-315 shall incorporate the most current Link-Seal® Modular Seal design modifications and shall include an integrally molded compression assist boss on the top (bolt entry side) of the pressure plate, which permits increased compressive loading of the rubber sealing element. Models 325-340-360-400-410-425-475-500-525-575-600 shall incorporate an integral recess known as a "Hex Nut Interlock" designed to accommodate commercially available fasteners to insure proper thread engagement for the class and service of metal hardware. All pressure plates shall have a permanent identification of the manufacturer's name molded into it.

C. For fire and Hi-Temp service, pressure plates shall be steel with 2-part Zinc Dichromate Coating.

2.2 LINK-SEAL® MODULAR SEAL HARDWARE

All fasteners shall be sized according to latest Link-Seal® modular seal technical data. Bolts, allen head/flange hex nuts shall be either:

A. Mild Steel with a 60,000 psi minimum tensile strength and 2-part Zinc Dichromate coating per ASTM B-633 and Organic Coating, tested in accordance with ASTM B-117 to pass a 1,470 hour salt spray test.

B. 316 Stainless Steel per ASTM F593-95, with a 85,000 psi average tensile strength.

3.0 WALL OPENING

A. Century-Line® Sleeves - for openings to 24.75" diameter. Where pipes must pass through walls and floors of new structures, unless otherwise shown or specified, install molded non-metallic high density polyethylene Model CS Century-Line® sleeves as manufactured by GPT. Model CS sleeves shall have integrally formed hollow water stop sized having a minimum of four inches larger than the outside diameter of the sleeve itself and allowing 1/2" movement between wall forms to resist pour forces. Each sleeve assembly shall have end caps manufactured of the same material as the sleeve itself and installed at each end of the sleeve so as to prevent deformation during the initial concrete pour, and to facilitate attaching the sleeve to the wall forms. End caps shall remain in place to protect the opening from residual debris and rodent entry prior to pipe insertion.

B. Cell-Cast® Disks - for openings from 29.25" to 64.74" diameter. The contractor shall install Cell-Cast® disks, providing a round hole in conformance with Link-Seal® modular seal sizing data. Cell-Cast® disks shall consist of 3" and/or 4" lightweight interlocking polyethylene cells stacked to form the thickness of the poured concrete wall. Molded into each cell shall be a cavity to accept a 2" x 4" nailer.

4.0 QUALITY ASSURANCE

Link-Seal® Modular Seal components and systems shall be domestically manufactured at a plant with a current ISO 9001:2008 registration. Copy of ISO 9001:2008 registrations shall be a submittal item.

NOTE: *Link-Seal Modular Seals are specifically designed as hydrostatic and/or fire rated seals and are not considered to be pipe supports. When appropriate, Link-Seal Modular Seals should be used with proper pipe supports on both ends.*