Section H: Repair Sleeves, Couplings, Clamps & Non-Pressure Adapters

Effective Date: 01-01-2025

- H 1 Pipe Adapters, Non-Pressure
- H 1.2 Pipe Adapters, Concrete Manhole Connection Boots
- H 2 Repair Clamps/ Ductile Iron Lugs (Pipe Savers)
- H 3 Repair Clamps/ All Stainless Steel (Pipe Savers)
- H 4 Full Seal Clamps
- H 5 Bell Joint Leak Clamp
- H 6 Repair Coupling/ Restrained/ DI, CI, PVC, & HDPE (4" thru 12")
- H 6.1 Repair Coupling/ Non-Restrained/ Transition (2" thru 12")



H 1 - PIPE ADAPTERS, NON-PRESSURE:

Effective Date: 01-01-2025

SPECIFICATION/ MATERIAL:

Non-pressure pipe adapters shall meet or exceed the performance specifications proscribed in:

- ASTM Standards D 5926 standard specification for Poly Vinyl Chloride (PVC) or manufactured with synthetic rubbers and ASTM Standards C 425 standard specification for watertight compression sealed joints of vitrified clay pipe and ASTM Standards C1173 standard specification for flexible transition couplings for underground piping systems.
- The connector shall be molded or extruded and vulcanized from materials whose physical/chemical properties meet or exceed the physical/chemical resistant properties outline in ASTM C 5926.
- The material shall resistant to ozone, weathering, aging, and chemicals, including acids, alkalis, animal and vegetable fats, oils and petroleum products.
- Bands and screw assembly shall be manufactured from totally non-magnetic series 300 stainless steel.
- The size and application colophons must be embossed on each adapter.





MANUFACTURER:

- FERNCO INC.
- INDIANA SEAL-GPK
- MISSION RUBBER
- MAX ADAPTER

RESTRICTIONS:

- For repairs and connections to existing vitrified clay pipe (VCP) facilities.
- For repairs and connections to other pipe materials for resistance to heavy earth loads and improved alignment use.



H 1.2 - PIPE ADAPTERS, CONCRETE MANHOLE CONNECTION BOOTS:

Effective Date: 01-01-2025

SPECIFICATION:

Concrete manhole pipe adapters shall meet or exceed the performance specifications in:

- ASTM Standards C 923, Resilient connectors between reinforced concrete manhole structures, pipes and laterals.
- Manhole adapters shall create a watertight flexible seal around pipes entering sanitary manhole walls.
- The material shall resistant to ozone, weathering, aging, and chemicals, including acids, alkalis, animal and vegetable fats, oils and petroleum products.
- Shall be made of elastomeric Poly Vinyl Chloride (PVC), ethylene propylene (EPDM) or polyisoprene rubber.
- The size and application colophons must be cast on each adapter.
- Bands and screw assembly shall be manufactured from totally non-magnetic series 300 stainless steel.

REQUIREMENT:

 Shall be used for connections to existing and new pre-cast manhole and structures.





MANUFACTURER:

- A-Lok Products
- Kor-N-Seal (NPS)
- OPEN

RESTRICTIONS:



H 2 - REPAIR CLAMPS/ DUCTILE IRON LUGS (PIPE SAVERS):

Effective Date: 01-01-2025

SPECIFICATION:

Leak repair clamps shall meet or exceed the performance specifications of:

- ASTM Standards A536 ductile iron.
- 18-8 type 304 stainless steel.
- Gasket shall be securely glued or imbedded in the band of the clamp to ensure a positive seal against the pipe.
- · Gaskets shall have ribbed surface.

MATERIAL:

Lugs:

Ductile iron per ASTM Standards A536

Band:

Stainless steel, 18-8 type 304.

Bolts, Nuts & Washers:

• 316 stainless steel.

Gasket:

- EPDM (ethylene propylene).
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- Viton; Fluorel (FKM)

Coating:

- Ductile iron: shop coat.
- · Stainless steel: none.

DESIGN:

• For patching holes in iron pipe size O.D. pipe.

WIDTH OF CLAMP/ NUMBER OF BOLTS:

- 3": One (1) bolt
- 6": Two (2) bolts



MANUFACTURER:

- CASCADE CFC SERIES
- DRESSER STYLE 118
- FORD FSC SERIES
- JCM 110 SERIES
- MUELLER 212 SERIES
- TOTAL PIPING SOLUTIONS 4100 SERIES
- POWER SEAL 3151 SERIES
- ROMAC SC SERIES
- SMITH-BLAIR 245 SERIES

RESTRICTIONS:

For repairs to existing, in-service pipelines by CFPUA personnel only.



H 3 - REPAIR CLAMPS/ ALL STAINLESS STEEL (PIPE SAVERS):

Effective Date: 01-01-2025

SPECIFICATION:

Leak repair clamps shall meet or exceed the Performance specifications of:

- 18-8 type 304 stainless steel.
- Type 304 cast stainless steel per ASTM Standards A743.
- Gasket shall be securely glued or imbedded in the band of the clamp to ensure a positive seal against the pipe.
- Lubricant treated nuts to prevent galling.
- · Gaskets shall have ribbed surface.

MATERIAL:

Lugs:

• Type 304 cast stainless steel.

Band:

Stainless steel, 18-8 type 304.

Bolts, Nuts & Washers:

 316 stainless steel with lubricant treated nuts to prevent galling.

Gasket:

- EPDM (ethylene propylene).
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- Viton; Fluorel (FKM)

Coating:

• Stainless steel: none.

DESIGN:

- For patching holes in iron pipe size O.D. pipe.
- · Only cast lug design will be accepted.

WIDTH OF CLAMP/ NUMBER OF BOLTS

- 3": One (1) bolt
- 6": Two (2) bolts



MANUFACTURER:

- FORD FLSC
- SMITH-BLAIR 248
- ROMAC SCS

RESTRICTIONS:

• For repairs to existing, in-service pipelines by CFPUA personnel only.



H 4 - FULL SEAL CLAMPS:

Effective Date: 01-01-2025

SPECIFICATION:

Full circle leak repair clamps shall meet or exceed the performance specifications of:

- ASTM Standards A536 ductile iron.
- 18-8 type 304 stainless steel.
- Gasket shall be securely glued or imbedded in the band of the clamp to ensure a positive seal against the pipe.
- · Gaskets shall have ribbed surface.

MATERIAL:

Lugs:

• Ductile iron per ASTM Standards A536

Band:

Stainless steel, 18-8 type 304.

Bolts, Nuts & Washers:

• Low alloy steel per AWWA C 111.

Gasket:

- EPDM (ethylene propylene).
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- Viton; Fluorel (FKM)

Coating:

- · Ductile iron: shop coat.
- Stainless steel: none.

DESIGN:

• For patching full circle holes in cast iron pipe size O.D. pipe.

ADDITIONAL REQUIREMENTS:

 Spring washers may be required for use on HDPE pipe (consult manufactures documentation).

MANUFACTURER:

- CASCADE CDR1
- DRESSER STYLE 360
- FORD F1 SERIES
- JCM 101 SERIES
- MUELLER 500 SERIES
- POWER SEAL 3121 SERIES
- ROMAC CL1 SERIES
- SMITH-BLAIR 226 SERIES

RESTRICTIONS:

· For repairs to existing, in-service pipelines only.







H 5 - BELL JOINT LEAK CLAMP:

Effective Date: 01-01-2025

SPECIFICATION:

Leak repair clamps shall meet or exceed the Performance specifications of:

- ASTM Standards A536 ductile iron.
- Low alloy steel per AWWA C111.
- ASTM Standards D2000 gasket seals.

MATERIAL:

Bell and Spigot Rings:

• Ductile iron per ASTM Standards A536.

Bolts, Nuts & Washers:

• 316 stainless steel.

Gasket:

- EPDM (ethylene propylene).
- SBR (styrene butadiene)
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- Viton; Fluorel (FKM)

Coating:

• Ductile iron: fusion bonded epoxy.

DESIGN:

• For leak repairs in bell joints on cast iron, ductile iron and C-900 PVC pipe.





MANUFACTURER:

- FORD FBC SERIES
- MUELLER PIPE JOINT REPAIR CLAMP
- POWER SEAL 3232 SERIES
- ROMAC STYLE 516

RESTRICTIONS:

• For repairs to existing, in-service pipelines only.



H 6 – REPAIR COUPLING/ RESTRAINED/ DI, CI, PVC, & HDPE, (4" THRU 12"):

Effective Date: 01-01-2025

SPECIFICATION:

Restraining repair sleeves or couplings shall meet or exceed the performance specifications of:

- Shall connect and restrain two plain end pipes of the same or dissimilar materials.
- Shall provide axial restraint by use of multiple gripping wedges incorporated into the follower glands coupled together with threaded rods.
- ASTM Standards A536 ductile iron.
- Low alloy steel per AWWA C111 (ANSI A21.11) or latest revision thereof.
- ASTM Standards D2000 gasket seals.
- Shall posses a minimum rating of twice (2:1) the pressure rating of the pipe.
- Material supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Affidavit of compliance to this specification shall be available upon request.



End Ring & Sleeve Body:

 Ductile iron per ASTM Standards A536, minimum 65-45-12.

Bolts, Nuts & Rods:

Low alloy steel per ANSI/ AWWA C111/ A21.11.

Gasket:

- EPDM (ethylene propylene).
- SBR (styrene butadiene).
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- · Viton; Fluorel (FKM).

Coating:

• Coupling Body: fusion bonded epoxy.

APPLICATION:

- For leak repairs to join two plain end pipes of the same or dissimilar material.
- For use on cast iron, ductile iron, HDPE, and C-900 PVC pipe.



MANUFACTURER:

• EBBA IRON - 3800 SERIES

RESTRICTIONS:

- For repairs to existing, in-service pipelines only.
- Insert stiffener is required on HDPE pipe.



H 6.1 – REPAIR COUPLING/ NON-RESTRAINED/ TRANSITION (2" THRU 12"):

Effective Date: 01-01-2025

SPECIFICATION:

Non-restraining transmission repair sleeves or couplings shall meet or exceed the performance specifications of:

- Shall connect two plain end pipes of dissimilar or similar diameters.
- Shall join pipes with diameter differences as listed in "Minimum Required Coupling Size Range" in a single coupling kit.
- Shall have a two layer gasket, with a removable layer to allow for pipe diameter range expansion OR have separate gaskets included in a boxed kit to cover the required size range.
- NSF-61 for gaskets and coatings.
- Shall be pressure rated for a minimum working pressure of 150psi.
- Material supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Affidavit of compliance to this specification shall be available upon request.

MATERIAL:

End Ring & Sleeve Body:

- · Carbon Steel.
- Ductile Iron.

Bolts, Nuts:

· 304 stainless steel with no-gall coating.

Gasket:

- EPDM (ethylene propylene).
- · SBR (styrene butadiene).
- Nitrile Buna-N (Acrylonitrile butadiene (NBR)).
- Viton; Fluorel (FKM).

Coating:

Coupling Body & end rings: NSF-61 fusion bonded epoxy.

RESTRICTIONS:

- · For repairs to existing, in-service pipelines only.
- · Shall not be used where joint restraint is required.

APPLICATION:

- For leak repairs to join two plain end pipes of dissimilar or similar diameters.
- For use on cast iron, ductile iron, AC, and PVC pipe.

MINIMUM REQUIRED COUPLING SIZE RANGE:

- 2"- (2.375" to 2.50")-(IPS thru CIP)
- 3"- (3.50" to 4.13")-(IPS thru AC 200)
- 4"- (4.50" to 5.35")-(IPS thru AC 200)
- 6"- (6.625" to 7.56")-(IPS thru AC 200)
- 8"- (8.625" to 9.74")- (IPS thru AC 200)
- 10"- (10.75" to 11.95")-(IPS thru AC 150)
- 12"- (12.75" to 13.20")-(IPS thru DIP)
- 12"- (13.20" to 14.38")-(DIP thru AC 350)



MANUFACTURER:

- CASCADE WATERWORK MFG.- OMEGA CRCER
- FORD FC2W
- HYMAX
- ROMAC MACRO

