

THE ENGINEERED COUPLING

Grinnell® Mechanical Piping Products are designed for grooved end pipe and are available in nominal sizes of 1¹/₄" (32mm) to 24" (600mm) depending on the coupling figure required. The Grinnell Coupling design provides several economic advantages when compared to welded or flanged systems. They also provide a universal means for the connection of pipe, fittings and pipe system components.

Grinnell Couplings and Gaskets permit the selection of suitable combinations for specific applications. Field modifications are easily accommodated with Grinnell Grooved Couplings as the couplings can be easily rotated, eliminated and/or added to facilitate the necessary modification.

Flexible couplings act as an "expansion joint", allowing linear and angular movement of the pipe. They are designed with the coupling keys engaging the pipe without gripping on the bottom of the grooves, while still providing for a restrained mechanical joint. This is particularly useful to allow for pipe expansion or contraction and piping misalignment.

Rigid couplings provide rigid gripping of the pipe. They are designed to bring the pipe ends closely together while the coupling clamps firmly onto the pipe OD and also onto the bottom of the grooves. Because rigid couplings clamp around the entire pipe surface, they provide resistance to flexural loads and therefore permit longer spacing to ASME/ANSI B31.1 (Power Piping) and ASME/ANSI B39.1 (Building Services) requirements.



MATERIAL SPECIFICATIONS

GASKETS

Grinnell offers a variety of gasket grades and styles for a wide range of applications.

Grade "E" EPDM (green color code) recommended for hot water not to exceed 230°F (110°C) plus a variety of dilute acids, oil-free air, and many chemical services. Not recommended for petroleum services. For low temperature and vacuum systems, a tri-seal Grade "E" EPDM gasket with rigid coupling is recommended.

Grade "T" Nitrile (orange color code) recommended for petroleum products, vegetable oils, mineral oils, and air with oil vapors. Not recommended for hot water systems.

Grade "L" Silicone (red gasket) recommended for air without hydrocarbons, dry heat.

Grade "O" Fluoroelastomer (color code blue) recommended for oxidizing acids, petroleum products, hydraulic fluids, lubricants, halogenated hydrocarbons.

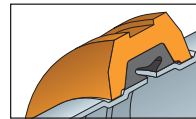
Grade "EN" (color code copper) NSF 61 approved for potable water. Not recommended for petroleum service.

For further information on gasket grades, styles and applications, see Section 8.



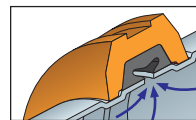
First Seal

C-shaped rubber gasket seals on pipe ends.



Second Seal

The housings compress the gasket to increase the sealing capacity.



Third Seal

The system pressure or vacuum will then maximize the leak-tight seal.

BOLTS & NUTS

Coupling bolts and nuts are heat treated carbon steel, oval-neck track head bolts and heavy hex nuts, conforming to the physical properties of ASTM A-183 minimum tensile strength of 110,000 psi (758,422 kPa). Bolts and nuts are Zinc electroplated.

Gold color coded metric bolts conforming to the physical properties of ASTM F568M are available upon request. Contact Tyco Fire & Building Products.

The oval neck design allows for tightening the hex nut with a single wrench.

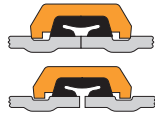
COATINGS

All housings are standard coated with an orange, non-lead waterbased paint. RAL Red non-lead waterbased paint and hot dipped zinc galvanized are optional. Copper system coupling housings are standard coated with a copper acrylic enamel.

FEATURES & BENEFITS

• FLEXIBILITY

Grinnell® flexible couplings are able to absorb linear movement of the pipework due to temperature changes. This eliminates or minimizes the use of expansion joints.



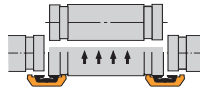
• DEPENDABILITY

The coupling housings are designed to engage into the grooves and provide a secure joint. The pipe ends are sealed by a pressure responsive gasket which is encapsulated by the ductile iron housing.



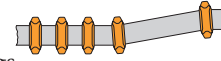
• RETROFIT

Grinnell Mechanical Piping Products allow for quick economical changes as necessary for field retrofit, with the ability to isolate equipment and piping systems for tenant changes and system repair.



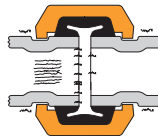
• MISALIGNMENT

The Grinnell Flexible Couplings will accommodate misalignments. The maximum deflection information per coupling can be found in this catalogue.



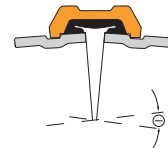
• NOISE & VIBRATION

The resiliency of Grinnell Grooved Couplings with various elastomer gaskets provide excellent noise and vibration dampening. The engineering design of the couplings provide for pipe end gapping which helps to dissipate, isolate, and minimize noise and vibration transmission throughout the piping system.



• JOINT DEFLECTION

Grinnell Flexible Couplings are able to absorb pipe deflection to a certain value. This feature is a great advantage in tunnel, bridge and mine applications.



• SUPERIOR QUALITY

Grinnell Mechanical Piping Products are manufactured according to the ISO 9001:2000 Quality Assurance standard.

• QUICK

Grinnell Mechanical Piping Products will offer you time savings compared to welding, flanging or threading.



• EASY

Grinnell Mechanical Piping Products only require a wrench for installation. No special expensive equipment or skilled labor is required for installation as compared to welded or flanged systems.



• COST-SAVING

Total installed costs for Grinnell Mechanical Piping Products will be far below any other method currently used.

• SAFE

Due to the absence of flames, from welding torches, Grinnell Mechanical Piping Products can be used in hazardous areas without special precautions.

• DEPENDABLE

Grinnell Mechanical Piping Products are designed to last the lifetime of the pipeline and have been tested and approved by major Approval Bodies. Since roll grooving does not remove metal from the pipe, the pipe integrity is fully maintained. The maximum working pressure of the system goes up to 1000 psi (69 Bar) depending on the coupling and pipe wall thickness used.



• COMPACT

Grinnell Mechanical Piping Products require far less space than traditional welded or flanged systems.



• CLEAN

Unlike welding, Grinnell Mechanical Piping Products do not lead to hazardous fumes or to the possible introduction of foreign material in the pipeline.

• WARRANTY

All Grinnell Mechanical Products have a 10 year limited warranty against defects and workmanship. For details, see page 119.

