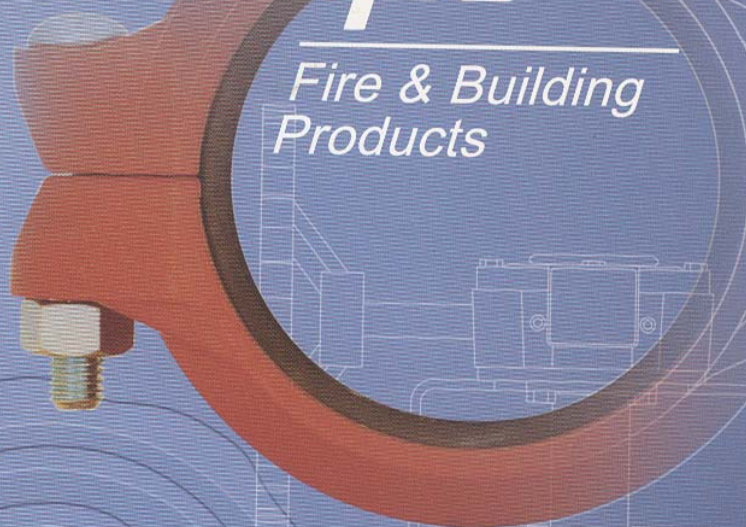
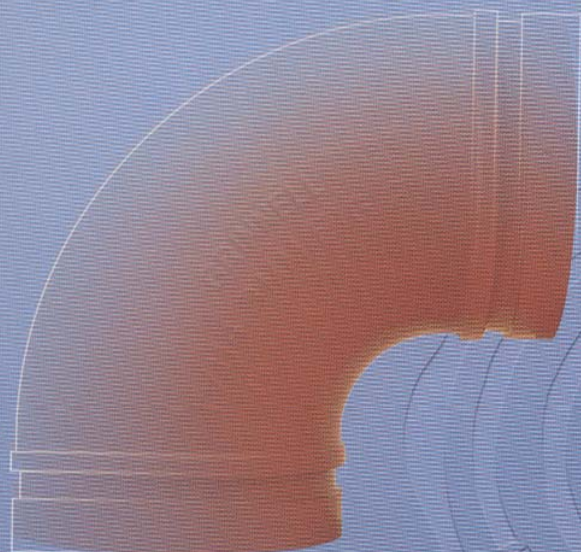




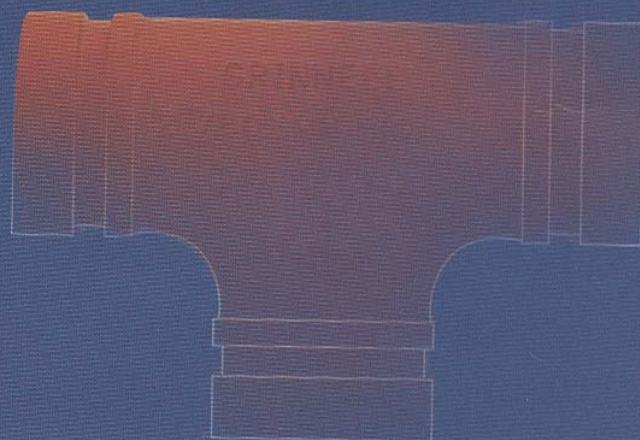
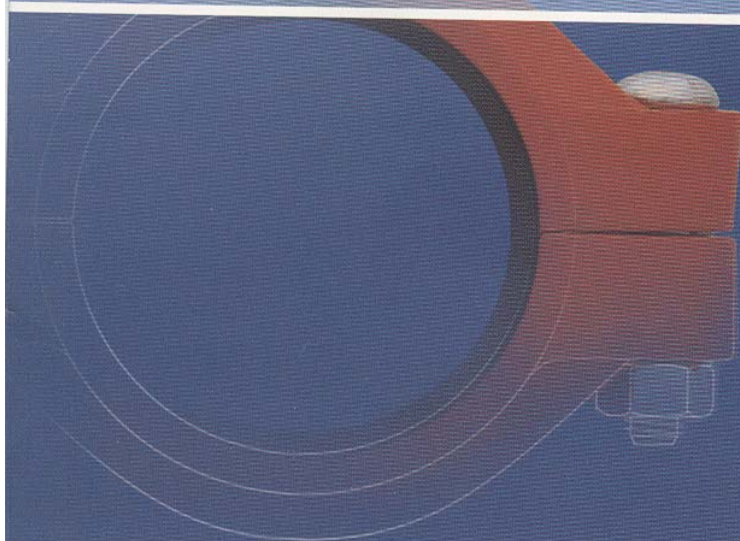
Grinnell®

tyco

*Fire & Building
Products*



GROOVED PIPING PRODUCTS



FITTINGS

Grinnell **Mechanical Fittings** are cast of Ductile Iron (ASTM A-536, Grade 65-45-12) and are supplied with a non-lead orange paint (standard) or hot-dipped galvanized coating.

Figure 201 & 301 45° Elbow



Sizes: 1 1/4" to 24"

Figure 210, 310 & 510S 90° Elbow



Sizes: 1 1/4" to 24"

Figure 219, 319 & 519S Tee



Sizes: 1 1/4" to 24"

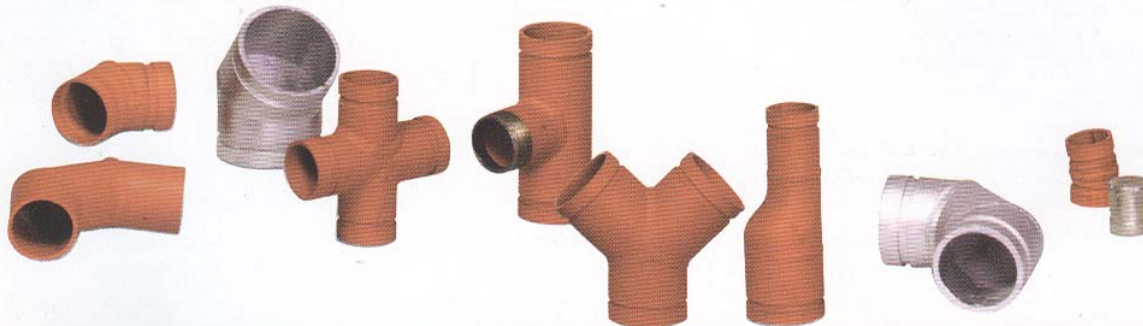
Figures 260 & 360 CAP



Sizes: 1 1/4" to 24"

Fabricated Fittings

Fabricated Fittings are available in a wide range of configurations to meet all your piping needs. Made of Carbon Steel (ASTM A-53, Grade B) they are available with non-lead orange paint (standard) or hot-dipped galvanized coating.



BRANCH OUTLETS

Figure 730 Branch Outlet

The Mechanical Tees are rated at 500 psi on standard weight pipe and can be used in place of a tee, a cross connection, or a welded outlet where a threaded or grooved outlet is needed. The Mechanical Tee is ideal for use in retrofit or equipment hookup installations, as it can be positioned along the pipe at the proper location in the field, ensuring exact lineup of the branch outlet connection. All Figure 730 Mechanical Tees are provided with a ductile iron lower housing section for increased strength and dependability. This provides stability, rigidity, and inhibits damage to the pipe during tightening.



Branch Outlet with
Grooved Branch

Branch Outlet with
Female NPT/ISO 7-1
Threaded Branch

THE ENGINEERED COUPLING

Grinnell couplings and grooved-end fittings are utilised for joining pipe in a wide variety of piping systems. Grinnell couplings for grooved-end pipe are designed to provide a self-centering joint which accommodates the application of pressure, vacuum and other external forces while limiting the burdensome need for special supports, expansion joints, etc...

THE ENGINEERED COUPLING

Flexible or Rigid Housing

The Grinnell Coupling housing is designed to self-center around the pipe. The housing encircles and retains the gasket against the application of internal system pressure or vacuum.

The housing key sections fit into and engage the pipe-end grooves around the entire pipe circumference, thus restraining the pipe ends from separation due to the application of internal pressure.

Flexible Couplings provide designed-in clearances between the housing key sections and the pipe grooves to permit both angular and longitudinal movement of the pipe. Rigid couplings grip the pipe and lock the joint into position.

All housings are coated with lead free paint for general service applications. The paint serves to provide protection against normal atmospheric corrosion. However, for couplings used in corrosive environments, hot-dip galvanising, and stainless steel are available.

Bolts and Nuts

Heat treated oval-neck track head bolts serve to connect and secure the housing segments together.

The oval neck design prevents turning of the bolt while tightening the hex nut with a single wrench. The metric bolts and nuts are made out of zinc electroplated carbon steel or stainless steel.

Grooved Pipe Ends

The ends of the pipe must have a groove in them which may be either cut grooved or roll grooved. The grooved pipe ends engage the coupling keys, thus, providing a self-restraining, mechanical joint capable of resisting the separation of the pipe ends due to the application of system pressure. The groove diameters must be dimensionally accurate to obtain the maximum benefit of the Grinnell Coupling.

Gaskets

The unique single piece "C" shaped design of the rubber gasket has been engineered to provide a pressure responsive, leak-tight seal in both pressure and vacuum applications without the aid of external forces.

The "lips" of the gasket are molded so that, upon installation onto the pipe ends, they provide compression against the pipe surface to establish the leak-proof seal.

The gasket cavity functions as a "pressure reservoir". Pressure within the pipe-system is applied to the internal surfaces of the gasket which increases the sealing force and enhances the leak-tight seal. In normal vacuum systems, non pressure-responsive seals tend to "lift off" the pipe, producing leak paths.

The Grinnell gasket avoids this problem by reacting to the negative pressure (higher outside atmospheric pressure) in such a manner as to improve the sealing capability of the gasket.

THE GRINNELL DESIGN ACTS AS A TRIPLE SEAL:



First seal

C-shape rubber gasket naturally seals on pipe ends.



Second seal

The housings compress the gasket to increase the sealing capacity.



Third seal

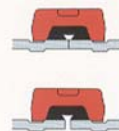
The system pressure or vacuum will then maximize the leak-tight seal.

FEATURES AND BENEFITS

Expansion and Contraction

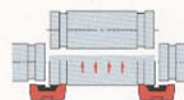
Grinnell couplings designed for flexible joints allow for pipe expansion and contraction due to temperature changes.

The need for expansion joints is minimized or eliminated.



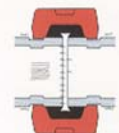
Maintenance

Grinnell couplings can be disassembled easily to permit maintenance, servicing and modification of the piping system. This also allows periodic rotation of the pipe to distribute internal wear from slurries or other abrasive media.



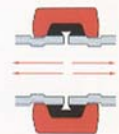
Noise and Vibration

The resilient elastomeric gasket and pre-designed gap of the Grinnell couplings help isolate and absorb noise and prevent vibration transmission.



Self Restraining

Grinnell couplings engage the pipe around the entire circumference and restrain the pipe ends from separation due to pressure and other forces, up to the coupling's maximum rated working pressure.



Misalignment

The flexibility designed into the Grinnell flexible couplings will accommodate misalignments caused by the imprecise location of pipe openings through walls and floors; will provide a pitch to drain piping systems and will facilitate pipe laying on uneven terrain, thus permitting deflection in any direction.



Joint Deflection

Flexibility designed into the Grinnell couplings absorbs and eliminates stress from settlement of buried pipe or stress induced by seismic tremors.



COUPLINGS

Figure 577 Rigid Coupling, Lightweight

The Figure 577 Rigid Coupling is capable of pressures up to 300 psig and provides a rigid, locked in pipe connection to meet the demand of rigid design steel pipe. Fast and easy swing over installation of the rugged. Lightweight housing produces a secure, rigid pipe joint.

Sizes: 1" to 8"



Figure 705 Flexible Coupling

The Figure 705 Flexible Coupling is capable of pressures up to 500 psig depending on pipe size and wall thickness. It provides needed flexibility to allow for differential movement.

Sizes: 1 1/4" to 12"



Figure 707 Heavy Duty Flexible Coupling

The Figure 707 Heavy Duty Flexible Coupling is capable of pressures up to 1000 psig depending on pipe size and wall thickness. Flexible couplings can act as an "expansion joint" allowing linear and angular movement of the pipes when properly installed.

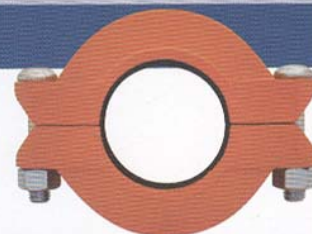
Sizes: 1 1/2" to 24"



Figure 716 Reducing Coupling

The Figure 716 Reducing Coupling is capable of pressures up to 500 psig depending on pipe size and wall thickness. It provides a direct transition between two different pipe sizes, replacing two couplings and a reducing fitting.

Sizes: 2" x 1 1/2" to 8" x 6"



FLANGES

Figure 71 (ANSI Class 125/150) DIN PN10/16 BS4504 Flange Adapter

The Figure 71 Flange Adapter is capable of pressures up to 300 psig depending on pipe size and wall thickness. It provides a direct transition from flanged components into a grooved piping system. I.P.S. size flange bolt patterns conform to ANSI Class 125 and 150.

The gasket seal is designed with optimum amount of rubber to provide a dependable seal and also avoid the overfilling of the gasket pocket which may cause assembly difficulties. Stainless steel flanged washer adapters are available.

Sizes: 2" to 12"

