HOBAS®

MADE IN USA

Restrained Joint Coupling Installation –

Specifications

Engineered to Endure™

If in Doubt, Seek Advice from Hobas Pipe USA, Inc. • 800.856.7473

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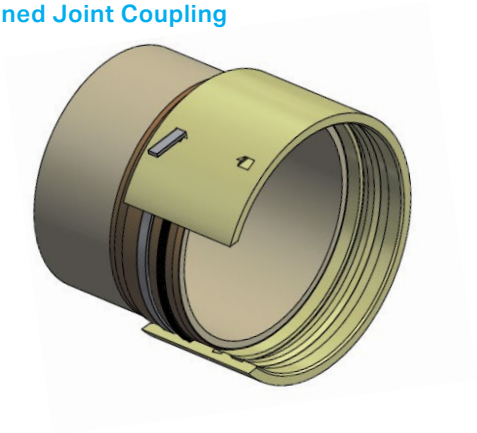
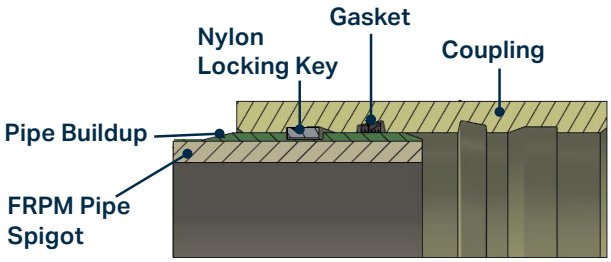
GENERAL

The Hobas Restrained Joint Coupling is a double bell and rubber gasket seal system, utilizing a nylon locking key to transfer thrust from one pipe section to another. The spigot end has a built up FRP section with a machined shelf and groove that matches the inside groove of the coupling in order to accommodate the nylon locking key after assembly. The shelf on the FRP build up section is machined to a precise OD in order to create a proper gasket seal.

Restrained Joint Coupling





The Hobas Restrained Joint Coupling system is designed for the diameter (in) and pressure class range (psi) per the table below.

Restrained Joint Coupling Range

Diameter (in)	150 PN	200 PN	250 PN
12-36			
42			
48-54			

The joint can be tested in the field to a maximum 1.5 X PN, or as specified by project specifications, whichever is less. In order to ensure safety, the Engineer's and/or testing equipment manufacturer's requirements for hydrotesting must be followed.

INSPECTING PIPE

Please reference "Hobas Handling, Unloading, Storage and Inspection Instructions" for more information. This document is part of every pipe submittal is available for download from www.hobaspipe.com/downloads (scroll to Pipe Specs).

In general, all pipes should be inspected upon receipt at the job site to ensure no damage has occurred in transit. Report any damage to pipe, fittings, or couplings as soon as it arrives on the job site by marking the bill of lading accordingly and contacting Hobas Field Service Department at fieldservice@hobaspipe.com.

INSTALLATION STEPS

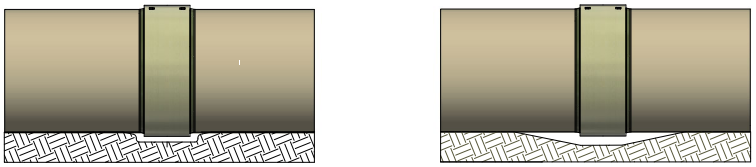
Adherence to restrained lengths defined on manufacturer or engineer's lay drawings to either side of fitting must be followed to ensure Restrained Joint Coupling is installed to meet project pressure conditions. See pipe submittal or contact Hobas Engineering at 800-856-7473.

1. Site Preparation

Clear the trench of any sharp objects, rocks, or debris that could damage the pipe. Ensure that the trench is of adequate depth and width to accommodate the pipe and allow for proper bedding and backfilling. Trench width should allow space for field personnel to install nylon locking key into restrained joint spigot after assembly. A dry trench is required for proper backfilling – ensure well points or dewatering systems are in place prior to placing bedding and FRPM pipes in the trench.

2. Foundation and Bedding

Provide a firm, stable and uniform support for the pipe barrel and its couplings (bell). A minimum of 4" to 6" of bedding below the pipe barrel and 3" below the coupling unless otherwise specified. The stone or min 95 SPD compacted sand bedding should be over-excavated at each joint location to ensure the pipe will have continuous support and does not rest on the couplings.



Correct **Wrong!**

NOTE After joint assembly, fill the coupling holes with bedding material and compact as required.

3. Cleaning the Coupling

Thoroughly clean the coupling grooves and rubber gasket rings to ensure no dirt, bedding material or other contaminants (i.e. oil) are present.

4. Gasket Installation:

The rubber gasket is larger than the groove in circumference to prevent the gasket from escaping the groove during pipe insertion. To install the gasket,

- **a.** Insert the gasket into the gasket groove with the gasket ribs facing the coupling interior.
- **b.** The extra length of the gasket should be formed into at least two sections (humps), preferably evenly spaced apart.
- **c.** These sections can then be pushed simultaneously into groove.
- **d.** The gasket must stick out of the groove edge equally across the whole circumference.

5. Gasket Lubrication – Coupling End

Apply a layer of lubricant to the rubber gasket. Approximately ¼ to ½ lb of lubricant is needed for 18" – 54" diameter pipes. Avoid applying lubricant to the key or keyway.

INSTALLATION STEPS (CONTINUED)

6. Clean and Lubricate Plain End (Spigots)

Thoroughly clean pipe spigots to remove any dirt, grit, grease, etc. Inspect spigot sealing surface for possible damage. Apply a layer of lubricant to the spigots from the end of the pipe to the black a "homing mark". After lubricating, take care to keep the coupling, spigots and gasket clean. Avoid applying lubricant to the nylon locking key or keyway.

NOTE It is important to use only Hobas supplied lubricant. We provide sufficient lubricant with each delivery of pipes. Please contact Hobas for additional lubricant should there be a need, or advice on alternative lubricants.

Do not use petroleum-based lubricants on Hobas gaskets!

7. Joining Pipes

All Hobas Restrained Joint Coupling pipes and fittings are shipped with a coupling on one end and a spigot on the other. Insertion of the spigot ends of the pipe should be limited to the home-line to avoid any damage to the pipe or coupling. Compressive loads should not be directly applied to the couplings during installation.

8. Insertion of the Spigot Into the Bell

Avoid over insertion of the spigot into the bell. Pipes are properly assembled when

- **a**. The groove in the pipe is visible through the opening in the coupling.
- **b**. There are no visible joint offsets
- **c**. There is no angular deflection. The Restrained Joint Coupling is not designed to allow angular deflection.

9. Nylon Locking Key

The nylon locking key is assembled into position with a hammer. A 3-lb steel sledgehammer should be sufficient to use for inserting the keys into the grooves. Care should be taken to not strike the bell OD or built-up mating spigot when assembling the keys. All keys will come in 3 ft sections, with multiple sections needed for each coupling. Ensure the minimum total key length per the table below is achieved. Cut-off the excess key as needed.

Restrained Joint Coupling by Diameter and Pressure Class

Diameter (in)	Minimum Nylon Locking Key Length (in)	Pressure Class		
		150 PN	200 PN	250 PN
18	67			
20	74			
24	88			
30	107			
36	127			
42	146			
48	166			
54	186			

Note: other sizes may be available upon request.

INSTALLATION STEPS (CONTINUED)

10. Final Backfill

Continue backfilling the trench, compacting in layers and ensuring backfill around pipe is not affected by moving of trench boxes or trench protection. Compaction of pipe surround material in lifts may be required to ensure no sloughing of native soil into the pipe zone. Ensure the final backfill material doesn't have large rocks or debris that could damage the pipe. Our restrained coupling takes into account both bearing resistance and friction which requires proper compaction and backfill to function as designed.

11. Testing

Before burying the pipe completely and backfilling to grade, a low-pressure joint test is recommended to ensure joints are properly assembled.

Hydrostatic field test must not exceed a pressure of 1.5 X PN (pipe pressure class).

Unrestrained testing ends (by others) are typically designed to seal under large pressures but need external support to resist corresponding thrust forces. These supports may vary from sheet piles, existing concrete structures and/or temporary thrust blocks among many others. Regardless, all must be properly designed (by others) based on project and field conditions.

12. Document and Final Inspection

Document the installation process, noting any issues or challenges. Perform a final visual inspection to ensure the pipe is properly installed and buried.

13. Safety Precautions

Always wear appropriate personal protective equipment (PPE) such as safety glasses, gloves, and hard hats during the installation process. Handle the fiberglass pipe, couplings and nylon rods with care to avoid any cracking or damage. Ensure the trench is properly shored or sloped per local or OSHA requirements.