



Dissimilar Pipe Coupler

for jointing pipes of different materials

DISSIMILAR PIPE COUPLERS



MarMac Dissimilar Pipe Couplers (DP Couplers) are engineered to join, seal, and restrain the connections between pipes of differing material and/or pipes of varying nominal size¹. These unique, external sealing bands are reinforced and prevent infiltration into gravity-flow drainage systems.

With hundreds of designs, MarMac DP Couplers are able to join virtually any scenario of structurally sound pipe combinations. Our most commonly joined pipe materials are reinforced concrete pipe (RCP), corrugated metal pipe (CMP)², corrugated plastic pipe (HDPE/HDPP), ductile iron (DI), smooth-wall PVC pipe, vitrified clay pipe, and more. Additionally, DP Couplers are a great choice for connecting two pipes of the same material, but with differing nominal diameter, as well as for connecting BMP separator systems.

The minimum length of a DP Coupler is the circumference of the larger outside diameter (if applicable) plus eight inches for overlap. Our DP Couplers are easy to install, cost-efficient, permanent, readily available, and fully customizable.

Universal DP Couplers are available for joining size-for-size pipes; from B-wall RCP





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(w/o bell) down to SCH40 PVC and every other type of pipe in that nominal size. Universal DP Couplers are heavy duty with 3-ply, 180 mil thickness, and are designed with 4 compression bands to mechanically seal the coupler to the pipe walls. A custom DP Coupler is required for any non-rerolled CMP.

¹ While dependent upon pipe material(s) and/or overall pipe diameter(s), the difference in diameter must not exceed 15% or a maximum of 8" to allow for proper step-down.

² DP Couplers connecting CMP/CSP include an added butyl rope to properly seal the corrugations.

Features & Benefits

- Strong, permanent, shear & puncture resistant
- Easily installed & immediately inspectable
- Tens of thousands in use today with nearly a 100% success rate
- Full-perimeter, positive seal = infiltration-proof
- Specially formulated mastic layer
- Heavy-duty, high quality construction
- Protection from corrosion, acids & alkali

Applications

- Concrete Pipe (RCP)
- Corrugated Metal Pipe
- PVC (gravity flow)
- All Gravity Flow Pipe
- Corrugated HDPE Pipe
- Vitrified Clay Pipe
- Ductile Iron Pipe

Availability

- Pipe sizes: All sizes of gravity-flow pipe
- Standard, Chemical Resistant, or UV Resistant

Specifications

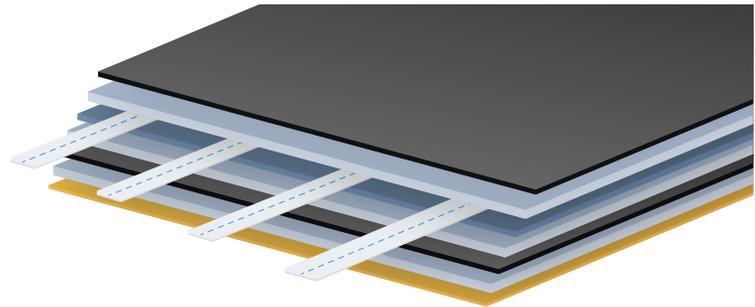
MarMac DP Couplers are strategically manufactured with sandwiched layers of cross-laminated polyethylene, woven polypropylene, rubberized "cold-flow" mastic, and integrated compression bands, similar to our PolySeal couplers. DP Couplers are three-ply with a total thickness of approximately 180 mils. See the Typical Properties table for more information.

DP Couplers integrate several unique components into a single, customizable, full-perimeter, external sealing band. Our specially-formulated, rubberized mastic aggressively adheres to all known pipe surfaces, providing a positive seal to battle infiltration. The coupling is reinforced with a sheet of durable, woven polypropylene which provides shear and puncture resistance. An outside backing of heavy-duty, cross-laminated polypropylene protects the joint from future infiltration, acids, and alkali. They are constructed with four integrated compression bands, which when tightened, form a mechanical seal, permanently bonding the mastic to the pipe wall.



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-  Polyethylene
-  Rubberized Mastic
-  Woven Polypropylene
-  Release Film
-  Compression Bands



TYPICAL PROPERTIES	MIN	MAX
RUBBERIZED MASTIC		
Ash-inert matter	8.0%	15.0%
Volatiles	0.1%	2.0%
Softening temp	175 °F	
Specific gravity	0.95	1.05
Penetration	60 dmm	90 dmm
Flow	10 mm	10 mm
POLYETHYLENE BACKING		
Tensile strength	4000 psi	
Elongation at break	100%	
Tear resistance	1500 psi	
Water absorption		0.01%
REINFORCING MESH ELEMENT		
Tensile strength warp	75 lb/in	
Tensile strength fill	75 lb/in	
Elongation at break warp	20 lb/in	
Elongation at break fill	20 lb/in	

Performance

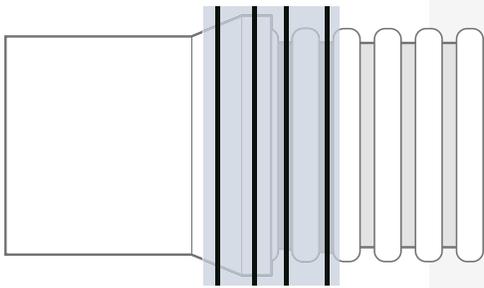
Because DP Couplers are utilized in a wide variety of field applications, MarMac makes no claim regarding the hydrostatic performance of this product in field applications since the character of installation can neither be predicted nor controlled by MarMac. DP Couplers are however, generally considered a soil-tight, infiltration-proof, exfiltration-resistant jointing system in most applications.

Common Connections

Some of our most popular pipe jointing scenarios are as follows. The black, vertical lines shown in the drawings represent compression band placement. The thinner lines signify our standard-duty compression bands, while the thicker lines are butyl reinforced bands. The light blue section represents coupler & overall joint coverage. These are in no way a comprehensive list, nor a suggestion that these connections perform better than others.

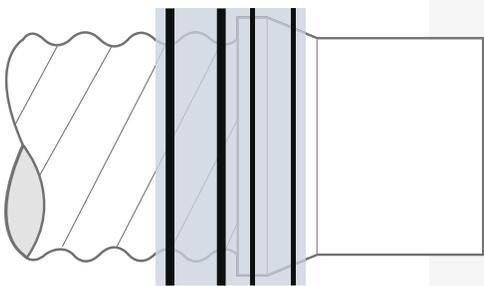


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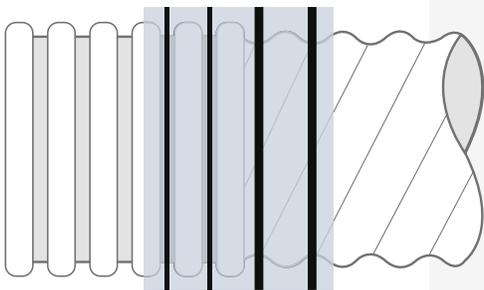
RCP / HDPE

A common DP Coupler connection, the integrated compression bands are spaced to engage two corrugations of the HDPE pipe as well as the bell & spigot or tongue & groove RCP surface.



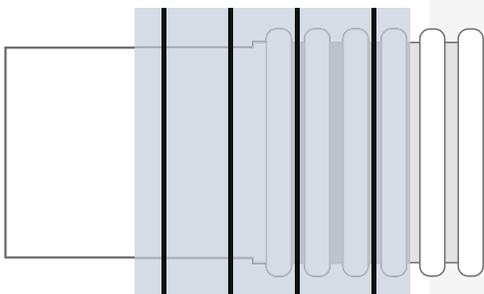
CMP / RCP

Another ordinary DP Coupler connection, the two integrated compression bands on the CSP side are reinforced with butyl underlays by default to properly seal the helical pipe corrugations for a soil/silt-tight connection.



HDPE / CMP

This DP Coupler is designed so that two compression bands engage two HDPE pipe corrugation valleys, while two butyl-reinforced compression bands engage the CSP for a minimum of soil/silt-tight performance.



PVC / HDPE

Another common dissimilar connection, the integrated compression bands are spaced to engage two corrugation valleys of the HDPE pipe, while a standard smooth-wall connection is used on the PVC pipe for an infiltration-proof joint at minimum.

Storage

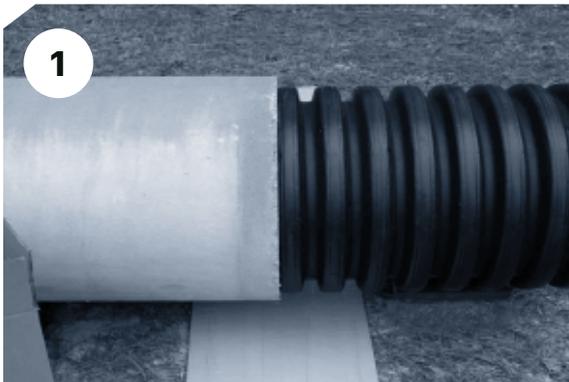
DP Couplers should be stored carefully in their original packaging, out of direct sunlight and protected from the elements. Materials should be kept away from direct heat, sparks and open flame. For optimum results, store in a tepid (60°-80°F) environment prior to installation.



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Installation

The coupler shall be placed around the pipe, mastic side to the pipe, spanning the joint (see illustration). The protective release film shall be removed and the coupler applied with the overlap at the top of the pipe. The straps shall be secured (outside straps first) on the larger outside diameter pipe (when applicable) with the proper tools. Then the straps on the outside of the smaller outside diameter pipe shall be secured. The inside straps shall be tightened last. The closing flap shall cover the exposed strap work area, completing the joint.



Clean Joint & Position Beneath

Clean the external surface of the joint to insure that foreign materials do not interfere with direct contact between the coupler and the joint.
Place and center coupler under pipe joint.



Remove Release Film & Apply

Peel the main release film from the (mastic side) surface of coupler.
Place the compression band tails' end of the coupler's exposed mastic on the joint. Pull the coupler around, spanning the joint, and creating the overlap at the top of the pipe.



Feed Straps

Slide the compression band tails into the clamps (or ratchets) on the opposite end.



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Tighten Straps

Using the proper tool, tighten the bands starting with the larger outside diameter pipe, followed by the smaller outside diameter pipe.



Remove Flap Release Film

Remove the release film from the protective closing flap.



Cover & Smooth

Cover the exposed portions of the strap with the protective flap.

Smooth the flap to ensure full contact.

For more information, additional instructions, or questions regarding MarMac's Dissimilar Couplers, visit marmac.com/Dissimilar-Coupler or scan the QR code on the first page.

CAUTION: Prior to use, please read the Manufacturer Warranty & Disclaimer found at marmac.com/cp/disclaimer.

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