



CSP Coupler for corrugated steel pipe joints

CORRUGATED STEEL PIPE



MarMac's CSP Coupler is a single unit, external sealing band which creates a flexible, strong, and permanent seal around the joints of corrugated steel pipe. The coupler is constructed of cross-laminated layers of rubberized mastic, integrated mechanical compression bands, an internal woven reinforcement, and butyl underlays.

MarMac's proprietary mastic aggressively adheres to the pipe surface, while the integrated compressions bands mechanically seal and form a permanent bond to the full circumference of the pipe walls. The internal woven polypropylene material provides increased shear and puncture resistance. The butyl rubber underlays compress beneath the compression bands and against the pipe wall and joint, forming an infiltration-proof seal on annular, spiral or helical corrugations. The combination of these technologies allows MarMac CSP Couplers to produce high-performance, permanent joints regardless of whether the pipes are rerolled (addressed / annularized) or are non-rerolled (spiral or helical corrugations).





CSP Coupler data sheet

Features & Benefits

- Easy to install, permanent & versatile
- Infiltration-proof
- Cost-efficient & readily available
- Works on rerolled or non-rerolled ends
- Exfiltration-proof (Watertight version)

Applications

- New installations & repairs
- Galvanized & Polymer-coated CSP
- Detention systems
- Rerolled & non-rerolled pipe

Versions

- Watertight CSP Coupler
- Soil-Tight CSP Coupler

Please refer to the appropriate section for specific CSP Coupler version details & availability.

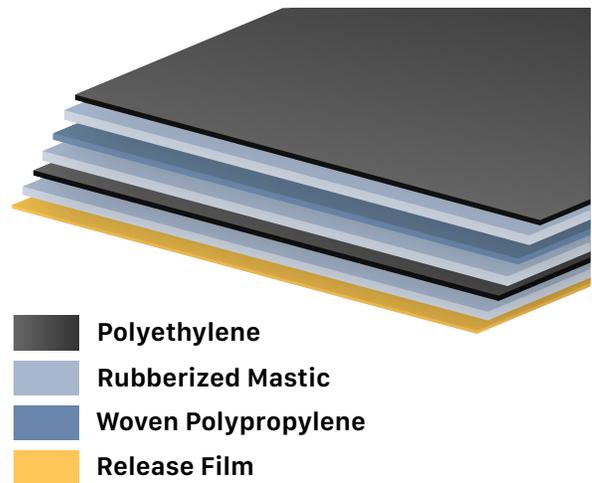
Specifications

CSP Couplers integrate several unique components into a single, full-perimeter, external sealing band. The coupler composition consists of:

- Heavy duty polyethylene backing
- Internal woven polypropylene reinforcement
- High-tensile compression bands
- Specially formulated mastic contact layer

All typical properties are based on the following:

- ASTM D 882, Method A
- ASTM D 570
- ASTM D 624, Die C
- ASTM D 1682



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



CSP Coupler data sheet

TYPICAL PROPERTIES	MIN	MAX
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	

Storage

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

Installation

The coupler shall be placed around the pipe, mastic side to the pipe, spanning the joint. 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 first) with the proper tools. The inside straps shall be tightened last. The closing flap shall cover the exposed strap work area, completing the joint.

Although instructions are similar between the two CSP Coupler versions, the photos shown in the following steps feature a Watertight CSP Coupler.



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.

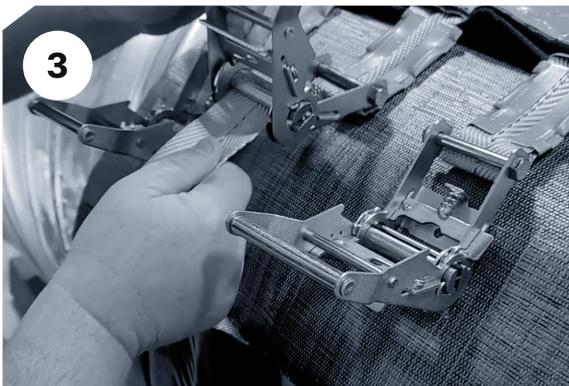


2

Remove Release Film & Apply

Peel the main release film from the (mastic side) main surface of coupler and the raised butyl reinforcement strips.

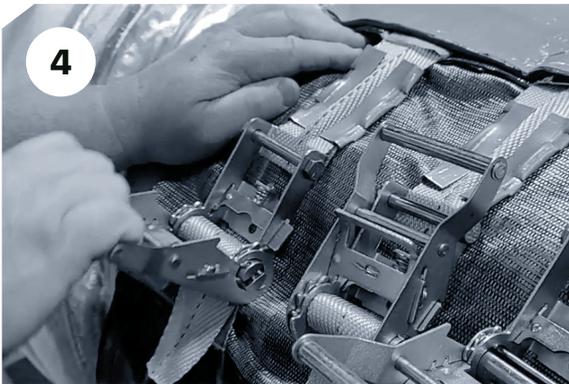
Place the exposed mastic (tail end) of the coupler on the joint. Pull the coupler around, spanning the joint, and creating the overlap at the top.



3

Feed Straps

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



4

Tighten Straps

Using the proper tool, tighten the outside compression bands followed by the inside compression bands.



5

Remove Flap Release Film

Remove the release film from the protective closing flap.



6

Cover & Smooth

Cover the exposed portions of the compression bands with the protective flap.

Smooth the flap to ensure full contact.

Watertight CSP Coupler

MarMac's Watertight CSP Coupler is designed to be an infiltration-proof as well as exfiltration-proof sealing solution for connecting up to 42" diameter corrugated steel pipe. It has been third party tested by Oregon State University's College of Engineering for hydrostatic pressure tolerance. Our Watertight CSP Coupler was found to withstand a minimum hydrostatic pressure of 10.8 psi for over 10 minutes without leakage.



Applications

- New installations & repairs
- Galvanized & Polymer-coated CSP
- Detention & retention systems
- Rerolled & non-rerolled pipe

Availability

- Pipe sizes: 6-42"
- Standard, Chemical Resistant, or UV Resistant

PIPE ID	WIDTH	LENGTH	STRAP LENGTH
HOSE CLAMPS			
6"	16"	30"	34"
8"	16"	37"	41"
10"	16"	43"	47"
12"	16"	49"	53"
15"	16"	59"	63"
18"	16"	68"	72"
21"	16"	78"	82"
24"	16"	87"	91"

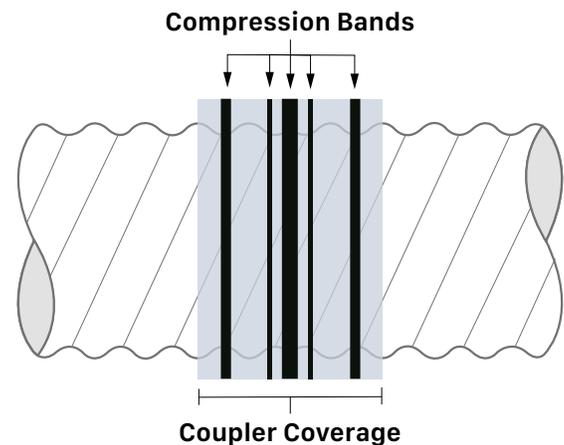


CSP Coupler data sheet

PIPE ID	WIDTH	LENGTH	STRAP LENGTH
RATCHET STRAPS			
30"	20"	106"	110"
36"	20"	125"	129"
42"	20"	143"	147"

Specifications

Watertight CSP Couplers utilize five high-tensile compression bands. The center and outside edge bands are reinforced with butyl rubber underlays, which when the bands are tightened, create an exfiltration-proof seal. Two secondary compression bands straddle either side of the main center strap as a preventative measure.



Soil-Tight CSP Coupler

MarMac's Soil-Tight CSP Coupler is designed to be an infiltration-proof, exfiltration-resistant sealing solution for connecting virtually any size of corrugated steel pipe on both rerolled and non-rerolled pipe ends.



Applications

- New installations & repairs
- Detention & retention systems
- Galvanized & Polymer-coated CSP
- Rerolled & non-rerolled pipe

Availability

- Pipe sizes: 6-144"
- Standard, Chemical Resistant, or UV Resistant

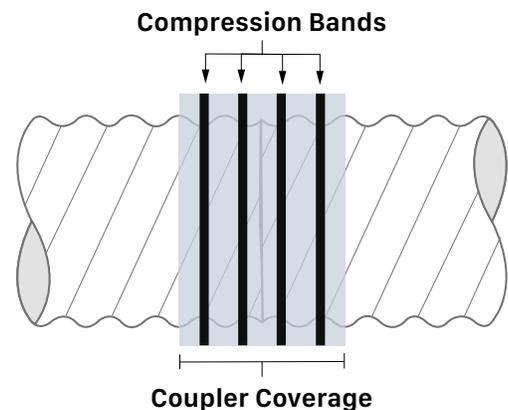


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30"	20"	106"	110"
36"	20"	125"	129"
42"	20"	143"	147"
48"	20"	162"	166"
54"	20"	181"	185"
60"	20"	200"	204"
72"	20"	238"	242"
78"	20"	257"	261"
84"	20"	276"	280"
96"	20"	313"	317"
102"	20"	332"	336"
108"	20"	351"	355"
120"	20"	389"	393"
144"	20"	464"	468"

Specifications

Soil-Tight CSP Couplers utilize four evenly-spaced, high-tensile compression bands, each reinforced with butyl rubber underlays. When the bands are tightened, the compressed butyl creates an infiltration-proof, exfiltration-resistant joint.



For more information, additional instructions, or questions regarding MarMac's CSP Couplers, visit marmac.com/CSP-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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