mar mac CONSTRUCTION PRODUCTS

PolySeal Coupler
for corrugated plastic pipe joints

CORRUGATED PLASTIC PIPE

MarMac PolySeal Couplers are flexible, high-strength, over-engineered, external pipe couplings that permanently seal and restrain corrugated HDPE and HDPP plastic pipe joints. PolySeal is designed to be infiltration-proof, exfiltration-resistant, and are over-engineered to outlast the pipes they connect. They are perfect for cut & butt joints, field repairs, new detention systems, and more.

Today, millions of PolySeal pipe couplings have been installed underground around the world with nearly a 100% success rate. PolySeal is the proven, premiere coupler for HDPE pipe connections, and the "go to" solution for when it really matters. Designed to be installed in the worst field conditions and succeeding where other corrugated pipe adapters fail, PolySeal is an excellent choice for both field repairs and new installations.

Features & Benefits

- Infiltration-proof, exfiltration-resistant
- Easily installed & immediately inspectable
- Permanent protection
- Track record of proven performance
- Highly durable, shear/puncture-resistant

PolySeal Coupler data sheet

Applications

- HDPE & HDPP corrugated plastic pipe
- Cut & Butt joints
- Detention & retention systems
- Field repairs
- New installations

Versions

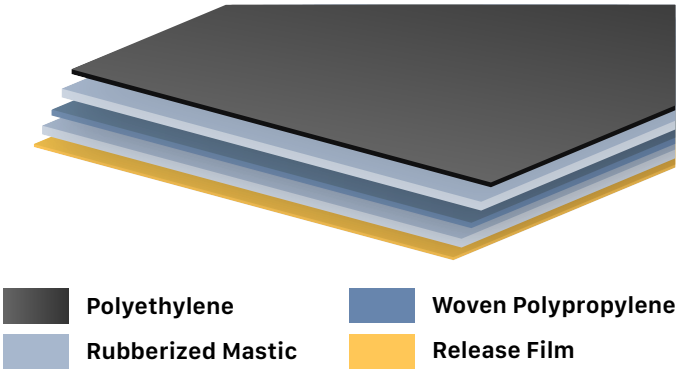
- Standard PolySeal
- Chemical Resistant PolySeal
- Double-Wide PolySeal

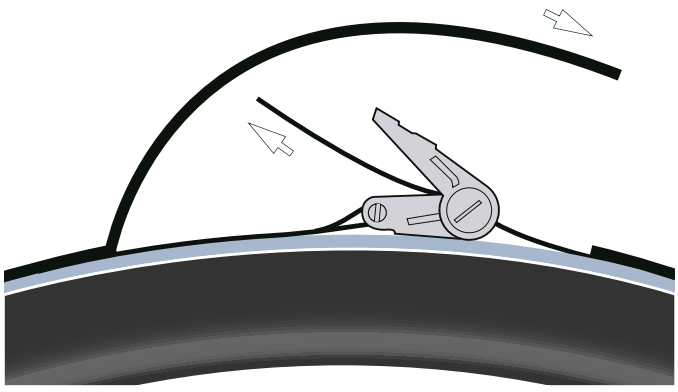
Please refer to the appropriate section for specific PolySeal version details & availability.

Specifications

PolySeal is manufactured with interval layers of our rubberized mastic, specially formulated to adhere aggressively to all known pipe surfaces. A sheet of puncture and shear-resistant woven polypropylene, and an outside backing of cross-laminated polyethylene makes PolySeal resistant to most acids and bases (additional protection available with Chemical Resistant PolySeal). The integrated compression bands mechanically "lock" into the corrugations of the pipe, bonding the mastic to the pipe wall, and forming a permanent seal.

The minimum length of a PolySeal Coupler is the circumference of the outside diameter of the pipe, plus eight inches for overlap.





TYPICAL PROPERTIES	MIN	MAX
RUBBERIZED MASTIC		
Ash-inert matter	8.0%	15.0%
Volitiles	0.1%	2.0%
Softening temp	175 °F	
Specific gravity	0.95	1.05
Penetration	60 dmm	90 dmm
Flow	10 mm	10 mm

PolySeal 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	

Performance

In a laboratory setting, PolySeal held 10.8 psi internal hydrostatic pressure for 10 minutes with no visual leakage, as per ASTM D 3212. PolySeal has been third party tested to 22″ Hg vacuum for 10 minutes with no loss of vacuum, per ASTM D 3212.

Storage

PolySeal 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.

Installation

Surface preparations: Inspect the outside of the joint. Brush surface as needed to ensure it is free of debris. If installing on horizontal pipe, dig a bell hole for complete access to the joint.

The coupler shall be placed around the pipe with the mastic side to the pipe wall and spanning the joint, while centered on the joint gap to be sealed. The protective film shall be removed and the coupler applied with the overlap at the top of the pipe. The tensioning straps shall be aligned between the pipe corrugations and tightened. The closing flap protective film shall be removed and the closing flap shall cover the exposed straps and the work area.

PolySeal Coupler data sheet

Clean Joint & Position

Clean the external surface of the joint to ensure it is dry and free of debris.

Line up the center compression band on the pipe joint corrugation.

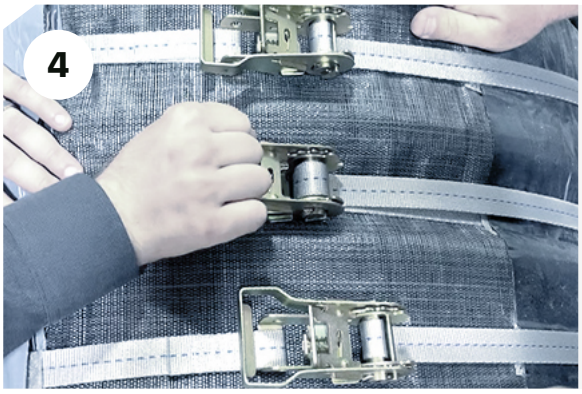
Remove Release Film & Apply

Peel the main release film from the (mastic side) main surface of coupler.

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.

Feed Straps

Thread the compression band adjustable ends (tails) through the ratchet tensioning pins.

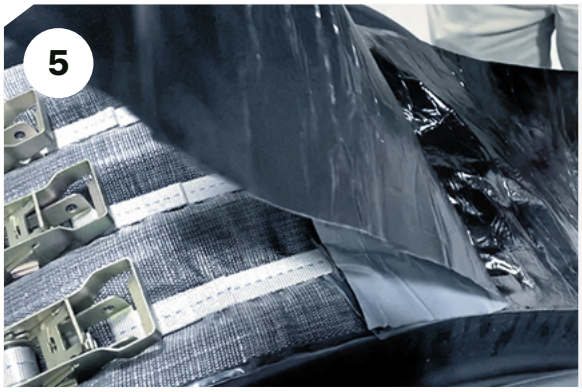


Tighten Straps

Beginning with the center compression band, move the ratchet handle back and forth until the strap is tight and sunken into the corrugation of the pipe.

Repeat the process with the remaining bands.

PolySeal Coupler data sheet



Remove Flap Release Film

Remove the release film from the under side of the protective closing flap, ensuring the ratchet handles are in the down position.

Cover & Smooth

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

Smooth the flap to ensure full contact.

Standard PolySeal

MarMac's Standard PolySeal Coupler has three integrated compression bands. Sizes under 30″ use threaded hose clamp bands made of high-strength 409 or 304 stainless steel. Heavy-duty sizes 30″ diameter and above utilize built-in ratchet straps.

Applications

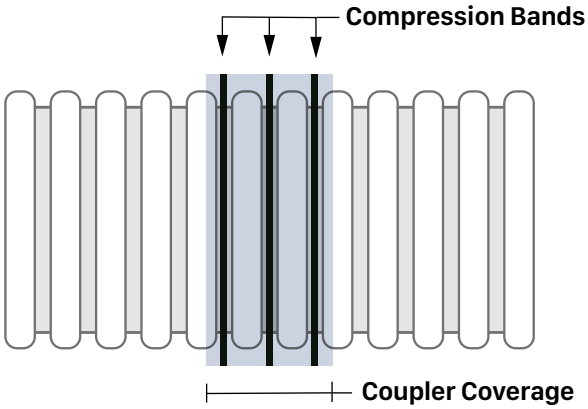
- HDPE & HDPP corrugated plastic pipe
- Field repairs
- Cut & Butt joints
- New installations
- Detention & retention systems

Availability

- Pipe sizes: 4-60″
- Optional: Chemical Resistant or UV Resistant

PolySeal Coupler data sheet

PIPE ID	WIDTH	LENGTH	STRAP LENGTH	WEIGHT
HOSE CLAMPS W/ GEARED STAINLESS STRAPS x3				
4"	9"	21"	27"	1 lbs
6"	9"	29"	27"	1.5 lbs
8"	9"	36"	40"	2 lbs
10"	9"	46"	45"	3 lbs
12"	9"	54"	54"	4 lbs
15"	9"	64"	67"	5.5 lbs
18"	12"	76"	79"	6 lbs
24"	12"	101"	102"	8 lbs
RATCHETS W/ POLY WEBBING STRAPS x3				
30"	16"	122"	122"	
36"	20"	142"	145"	
42"	20"	162"	162"	
48"	20"	183"	183"	
54"	28"	204"	204"	
60"	28"	222"	222"	



Double-Wide PolySeal

MarMac's Double-Wide PolySeal Couplers are manufactured with the same high-quality and durable materials, but nearly twice the width of a Standard PolySeal. Double-Wide comes with five integrated compression bands, as opposed to the standard three.

Common uses include repairs, such as where pipe ends have minor damage or to cover small punctures in a pipe. Additionally, Double-Wide PolySeal can be used in place of a Standard to make a stronger, stiffer joint.

PolySeal Coupler data sheet

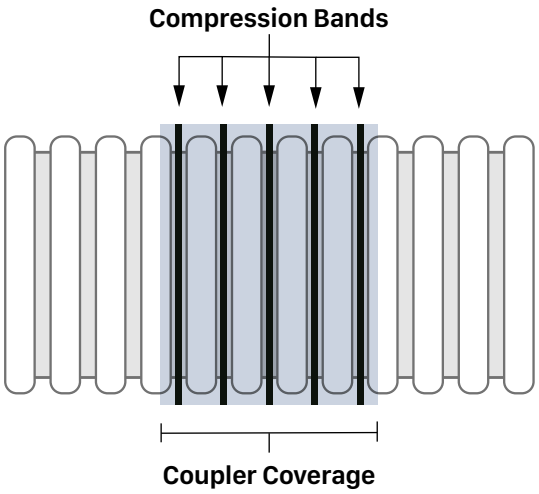
Applications

- HDPE & HDPP corrugated plastic pipe
- Cut & Butt joints
- Field repairs

Availability

- Pipe sizes: 4-60″
- Optional: Chemical Resistant or UV Resistant

PIPE ID	WIDTH	LENGTH	STRAP LENGTH
HOSE CLAMPS W/ GEARED STAINLESS STRAPS x5			
4"	12"	21"	27"
6"	12"	29"	27"
8"	12"	36"	40"
10"	12"	46"	45"
12"	12"	54"	54"
15"	16"	64"	67"
18"	16"	76"	79"
21"	16"	89"	90"
24"	20"	101"	102"
RATCHETS W/ POLY WEBBING STRAPS x5			
30"	28"	122"	122"
36"	28"	142"	145"
42"	28"	162"	162"
48"	32"	183"	183"
60"	42"	222"	222"



PolySeal Coupler data sheet

Chemical Resistant PolySeal

MarMac's Chemical Resistant PolySeal (PolySeal CR) is specified for stormwater and sanitary sewer gravity-flow applications. When installed in contaminated soils (principally hydrocarbon-based), PolySeal CR will prevent inflow/infiltration and exfiltration into the joint in which it is installed. It is designed to maintain the joint integrity, including in less than perfect bedding conditions.

Applications

- Sanitary sewer
- Elevated hydrocarbon environments
- Contaminated soil

Availability

- Pipe sizes: 4-60″
- Standard or Double-Wide

Specifications

The structure of PolySeal CR includes a proprietary, co-extruded, multi-layer barrier film which is laminated to the exterior of the coupler. This film has been tested per ASTM F 739 against a battery of chemicals at 95% concentration for permeation resistance with excellent results, including benzene, toluene, and other hydrocarbon-based solvents.

PolySeal CR is certified to meet the properties of chemical resistance. A summary list of ASTM F 739 test results is as follows:

POLYSEAL CR TEST RESULTS - ASTM F 739

CHEMICAL	RESULT	CHEMICAL	RESULT
1,1,1-Trichloroethane 71-55-6	Pass	2-Butanone 78-93-3	Pass
1,2,-Dichlorobenzene 95-50-1	Pass	2-Chloropropylene Oxide 106-89-8	Pass
1,2-Dichloroethane 107-06-2	Pass	2-Mercaptoethanol 60-24-2	Pass
1,2-Dihydroxyethane 107-21-1	Pass	4-Aminodiphenyl 92-67-1	Pass
1,3 Butadiene 106-99-0	Pass	4-Phenylaniline 92-67-1	Pass
1,3-Dimethylbenzene 108-38-3	Pass	A-Methyl Styrene 98-83-9	Pass
1,4-Diaminobenzene 106-50-3	Pass	Acetic Acid 64-19-7	Pass
1-Butanol 71-36-3	Pass	Acetic Anhydride 108-24-7	Pass
1-Vinyl-2 pyrrolidinone 88-12-0	Pass	Acetone 67-64-1	Pass
2-Aminodiphenylamine {2-ADP} 534-85-0	Pass	Acetonitrile 75-05-8	Pass
2-Aminoethanol 141-43-5	Pass	Acrolein 107-02-8	Pass

PolySeal Coupler data sheet

MACWRAP CR TEST RESULTS - ASTM F 739

CHEMICAL	RESULT	CHEMICAL	RESULT
Acrylic Acid 79-10-7	Pass	Dibutyl phthalate 84-74-2	Pass
Acrylonitrile 107-13-1	Pass	Dichloromethane 75-09-2	Pass
Alkylate Mixture	Pass	Diethylamine 109-89-7	Pass
Allyl Alcohol 107-18-6	Pass	Diethylene Oxide 109-99-9	Pass
Allyl Chloride 107-05-1	Pass	Diethylethanolamine 100-37-8	Pass
Aluminium Potassium Sulfate 12 Hydrate 7784-24-9	Pass	Dimethyl Ketone 67-64-1	Pass
Ammonia Gas 7664-41-7	Pass	Dimethyl Sulfate 77-78-1	Pass
Ammonium Hydroxide 1336-21-6	Fail	Dimethyl Sulfide 75-18-3	Pass
Aniline 62-53-3	Pass	Dimethyl-Acetamide 127-19-5	Pass
Aqua Fortis 7697-37-2	Pass	Dimethylamine 124-40-3	Pass
Azabenzene 110-86-1	Pass	Dimethylene Oxide 75-21-8	Pass
Battery Acid 7664-93-9	Pass	Dimethylformamide 68-12-2	Pass
Benzene 71-43-2	Pass	Epichlorohydrin 106-89-8	Pass
Benzyl Chloride 100-44-7	Pass	Ethanamine 121-44-8	Pass
Biethylene 106-99-0	Pass	Ethanoic Acid 64-19-7	Pass
Bis (2-chloroethyl) Sulfide 505-60-2	Pass	Ethanolamine 141-43-5	Pass
Black Liquor Mixture	Pass	Ethenyl Benzene 100-41-4	Pass
Blood and Body Fluids	Pass	Ethyl Acetate 141-78-6	Pass
Butyl Alcohol 71-36-3	Pass	Ethyl Benzene 100-41-4	Pass
Butyl Methyl Ether 1634-04-4	Pass	Ethyl Chloroformate 541-41-3	Pass
Carbolic Acid 108-95-2	Pass	Ethyl Ethanoate 141-78-6	Pass
Carbon Bisulfide 75-15-0	Pass	Ethyl-S-Dimethylaminoethyl Methylphosphonothiolate 50782-69-9	Pass
Carbon Disulfide 75-15-0	Pass	Ethylene Dichloride 107-06-2	Pass
Carbon Oxychloride 75-44-5	Pass	Ethylene Glycol 107-21-1	Pass
Caustic Soda 1310-73-2	Pass	Ethylene Oxide 75-21-8	Pass
Chlorine Gas 7782-50-5	Pass	Ferric Chloride 7705-8-0	Pass
Chlorobenzene 108-90-7	Pass	Formaldehyde 50-00-0	Pass
Chloroform 67-66-3	Pass	Formonitrile 74-90-8	Pass
Chloromethane 74-87-3	Pass	Gasoline 8006-61-9	Pass
Chlorosulfonic Acid 7790-94-5	Pass	Glutaric Dialdehyde 111-30-8	Pass
Chlorovinylarsine Dichloride 541-25-3	Pass	Gluteraldehyde 111-30-8	Pass
Chromic Acid 1333-82-0	Pass	Hexahydrobenzene 110-82-7	Pass
Cumene 98-82-8	Pass	Hexamethylene Diisocyanate 822-06-0	Pass
Cumene Hydroperoxide 80-15-9	Pass	Hexamethylene diamine 124-09-4	Pass
Cyanoethylene 107-13-1	Pass	Hexane 110-54-3	Pass
Cyanomethane 75-05-8	Pass	Hydrochloric Acid 7647-01-0	Pass
DMAC 127-19-5	Pass	Hydrofluoric Acid 48% 7664-39-3	Pass
Denatured Ethanol Mixture	Pass	Hydrogen Chloride 7647-01-0	Pass

PolySeal Coupler data sheet

MACWRAP CR TEST RESULTS - ASTM F 739

CHEMICAL	RESULT	CHEMICAL	RESULT
Hydrogen Floride Gas 99% 7664-39-3	Pass	N,N-Dimethylformamide 68-12-2	Pass
Hydrogen Phosphide 7803-51-2	Pass	N-Butyl Acetate 123-86-4	Pass
Hydrogen Sulfide 100% Vapor 7783-06-4	Pass	N-Ethylethanamine 109-89-7	Pass
Iodomethane 74-88-4	Pass	N-Hexane 110-54-3	Pass
Isophorone Diamine {IPDA} 2855-13-2	Pass	N-Methyl-2Pyrrolidone 872-50-4	Pass
Isopropenyl Benzene 98-83-9	Pass	N-Pentane 109-66-0	Pass
Isopropyl Alcohol 67-63-0	Pass	Naphtha Mixture	Pass
Isopropyl Benzene 98-82-8	Pass	Nerve agent (VX) 50782-69-9	Pass
Isopropyl Methanefluorophosphonate 107-44-8	Pass	Nitric Acid 7697-37-2	Pass
Isopropylamine 75-31-0	Pass	Nitrobenzene 98-95-3	Pass
JP 5 Jet Fuel 8008-20-6	Pass	Nitrobenzol 98-95-3	Pass
JP 8 Jet Fuel 84742-47-8	Pass	O-Cresol 95-48-7	Pass
Kerosene Mixture	Pass	O-Xylene 95-47-6	Pass
Lewisite (L) 541-25-3	Pass	Oleum 8014-95-7	Pass
M- Xylene 108-38-3	Pass	Orthophosphoric Acid 7664-38-2	Pass
Methanol 67-56-1	Pass	P-Phenylenediamine {PPDA} 106-50-3	Pass
Methyl Acetate 79-20-9	Pass	P-Xylene 106-42-3	Pass
Methyl Alcohol 67-56-1	Pass	Pentane 109-66-0	Pass
Methyl Benzene 108-88-3	Pass	Perchloroethylene 127-18-4	Pass
Methyl Chloride 74-87-3	Pass	Phenol @43 C 108-95-2	Pass
Methyl Chloroform 71-55-6	Pass	Phenyl Hydride 71-43-2	Pass
Methyl Chloroformate 79-22-1	Pass	Phenylamine 62-53-3	Pass
Methyl Ethyl Ketone 78-93-3	Pass	Phosphoric Acid 7664-38-2	Pass
Methyl Iodide 74-88-4	Pass	Phosphorous Oxychloride 10025-87-3	Pass
Methyl Isobutyl Ketone 108-10-1	Pass	Phosphorus Trichloride 7719-12-2	Pass
Methyl Methacrylate 80-62-6	Pass	Picoline 108-99-6	Pass
Methyl Pyrrilidone 872-50-4	Pass	Potassium Hydroxide 1310-58-3	Pass
Methyl Sulfate 77-78-1	Pass	Propylene carbonate 108-32-7	Pass
Methyl tert Butyl Ether 1634-04-4	Pass	Pyridine 110-86-1	Pass
Methylamine 40% 74-89-5	Pass	Reformate Naphtha Mixture Sarin (GB) 107-44-8	Pass
Methylene Dichloride 75-09-2	Pass	Sodium Chlorate 7775-09-9	Pass
Methylene Oxide 50-00-0	Pass	Sodium Chromate Tetrahydrate 10034-82-9	Pass
Monochloroacetic Acid 79-11-8	Pass	Sodium Hydroxide 1310-73-2	Pass
Monochloroethylene 75-01-04	Pass	Styrene Monomer 100-42-5	Pass
Monochlorosulfuric Acid 7790-94-5	Pass	Sulfur Dioxide 7446-09-5	Pass
Motor Fuel 8006-61-9	Pass	Sulfur Trioxide 99% 7446-11-9	Pass
Muriatic Acid 7647-01-0	Pass	Sulfuric Acid 7664-93-9	Pass
Mustard (HD) 505-60-2	Pass	Tetrabory Lam 2052-49-5	Pass

PolySeal Coupler data sheet

MACWRAP CR TEST RESULTS - ASTM F 739

CHEMICAL	RESULT	CHEMICAL	RESULT
Tetrachloroethylene 127-18-4	Pass	Toluene diisocyanate 584-84-9	Pass
Tetrachlorotitanium 7550-45-0	Pass	Trichloroethylene 79-01-6	Pass
Tetrahydrofuran 109-99-9	Pass	Triethylamine 121-44-8	Pass
Tetramethylammonium Hydroxide 75-59-2	Pass	Trifluoroacetic Acid 76-05-1	Pass
Titanium Tetrachloride 7550-45-0	Pass	Vinyl Acetate 108-05-4	Pass
Toluene 108-88-3	Pass	Vinyl Chloride 75-01-04	Pass

For more information, additional instructions, or questions regarding PolySeal Couplers, visit **marmac.com/PolySeal** or scan the QR code on the first page.