

Carlton® Multi-Gard® Multi-Cell Raceway

Georgia Underground
Is Your
Utility
Products **SUPERSTORE**
800.245.8339
www.georgiaunderground.com 

PVC

Fiberglass

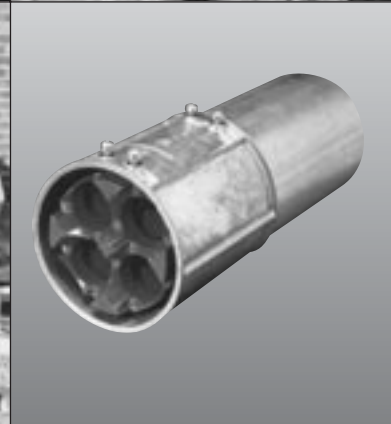
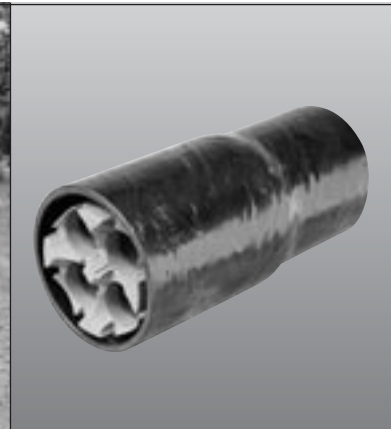
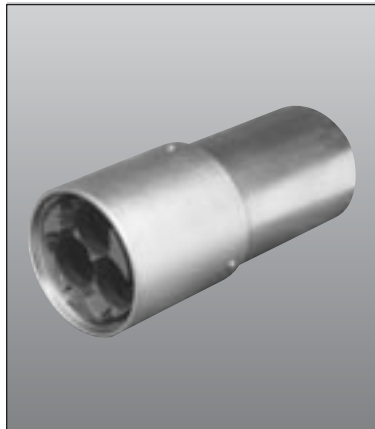
Galvanized Steel

PVC Coated

Galvanized Steel

EMT - Electrical

Metallic Tubing



Carlton® Multi-Gard PVC

RUS Listed

Multi-Gard PVC is a multi-cell raceway system specifically designed for use in direct bury and concrete encasement applications. Multi-Gard PVC is available in Type C, Schedule 40 and Schedule 80 outer shells with 3-way or 4-way innerduct configurations. Multi-Gard PVC is manufactured in convenient 20ft. lengths for easy handling and transportation, and is ideal for jetting or pulling cable.

Applications: Direct Bury and Concrete Encasement
Wall Types: Type C, Schedule 40 and Schedule 80
Innerducts: 3-Way or 4-Way configurations



Features

- Pre-lubricated innerducts provide very low coefficient of friction for easy pulls, and PVC innerducts expand and contract at the same rate as outerduct.
- Anti-reversing gaskets on coupling body allow for easy joining. Eliminates need for cementing joints.
- Jettable using high speed air blowing systems.
- O-ring gasket at base of bell reduces risk of water entering system.
- Inward tapering holes on coupling body give quick and easy innerduct alignment.
- Print line on outer duct states "Install Print Line Up" to keep system straight during installation.
- Marked innerduct and marked hole on coupling body ensure proper innerduct alignment and allow crews to work from opposite directions.
- Terminators for standard, pull-through, and jet-through applications.
- Standard and slip sleeve couplings for field cuts and repairs.
- Field repair kit for outershell and innerducts allows repair without taking cable out of service.
- Transition adapters allow transition between different outerducts.
- 6" deep bell provides strong joint for field bends.
- Internal spacers maintain straight innerduct path.
- End caps are provided on each 20 ft. section.
- Staging materials to job site is simplified.
- Patented flexible bends allow changes in direction.
- 3-Way 1 1/2 and 4-Way 1 1/4



Carlton® Multi-Gard® Fiberglass

Multi-Gard is a multi-cell raceway manufactured in 20 ft. lengths with pre-installed, pre-lubricated innerducts. The pre-installed innerduct design feature eliminates the need of pulling innerducts through existing pipe, which saves valuable time and money.

Applications: Bridge Crossings

Wall Types: Standard, Heavy or Bullet Resistant

Innerducts: 3-Way or 4-Way



Features

- Pre-lubricated PVC innerducts reduce coefficient of friction for easy cable pulling.
- Anti-reversing gaskets on coupling body allow easy push in – hard to pull out sealing system.
- O-ring gasket at base of bell reduces risk of water entering system.
- Inward tapering holes on coupling body give quick and easy innerduct alignment.
- Marked innerduct and marked hole on coupling body ensure proper innerduct alignment.
- Couplings in standard and slip sleeve reduce waste.
- Transition adapters to allow transition between different outerducts.
- Deep bell provides strong joint.
- Internal spacers keep innerducts straight.
- Staging materials to job site is simplified.
- Standard Wall .070" provides basic mechanical and UV protection.
- Heavy Wall .090" provides enhanced mechanical protection where physical abuse might be experienced.
- Bullet Resistant .250" provides heavy duty protection.
- Lightweight construction for easy handling.
- 3-Way 1 1/2 and 4-Way 1 1/4



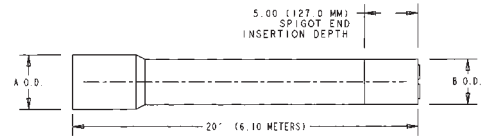
Assembly Instructions

1. Place plain end of one 20' section into gasketed coupling body 1/2" to the gasket depth of another 20' section.
2. Check for alignment and apply epoxy to outside of plain end.
3. Push sections together with a firm push by hand until plain end seats fully into belled end.

Multi-Gard® Fiberglass

20' Length Fiberglass Multi-Cell With Bell

Part No.	Description	Wall Thickness	Bell (A) Dim.	Outerduct (B) Dim.	Innerduct Dim. O.D.	Innerduct Dim. I.D.	Pkg. Qty.	Wt. per 100 ft. (lbs.)
MSSS4S-020	4-Way Standard	.070	4.31	4.14	1.31	1.19	1140'	240
MSSS3S-020	3-Way Standard	.070	4.31	4.14	1.66	1.50	1140'	253
MHSS4S-020	4-Way Heavy Wall	.090	4.39	4.18	1.31	1.19	1140'	338
MHSS3S-020	3-Way Heavy Wall	.090	4.39	4.18	1.66	1.50	1140'	340
MBSS4S-020	4-Way Bullet Res.	.250	5.00	4.25	1.31	1.19	1140'	450
MBSS3S-020	3-Way Bullet Res.	.250	5.00	4.25	1.66	1.50	1140'	450



Standard Multi-Gard supplied with grey and one white tracer innerduct.

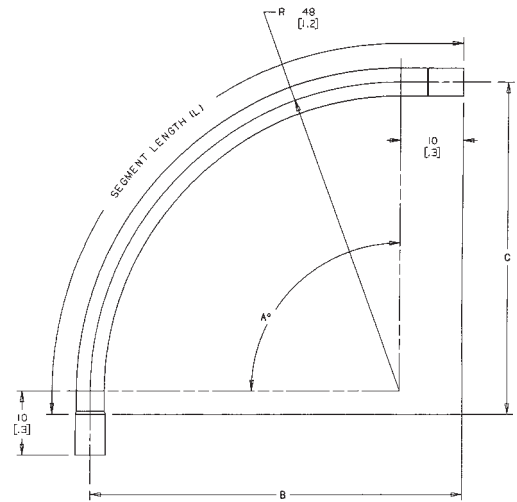
- Custom Orders:**
- * Custom innerduct colors available upon request
 - * Minimum order quantity required
 - * Custom orders non-returnable, non-refundable and non-cancelable

Fiberglass Multi-Cell Fixed Bends with Bell

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
M__HN4S	4-Way Fixed Bend	1.19 I.D.	1
M__HN3S	3-Way Fixed Bend	1.50 I.D.	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Degree (A)	Pos. 4 Radius	Pos. 5 O.D.	Pos. 6 Innerducts	Pos. 7 Innerduct Wall Type
M = Multi-Cell	S = Standard	1 = 5°	H = 4 ft.	N = 4"	4 = 4-Way	S = Smoothwall
	H = Heavy wall	3 = 11 1/4°	S = 12 1/2 ft.		3 = 3-Way	
	B = Bullet Res.	5 = 22 1/2°				
		6 = 30°				
		7 = 45°				
		9 = 90°				



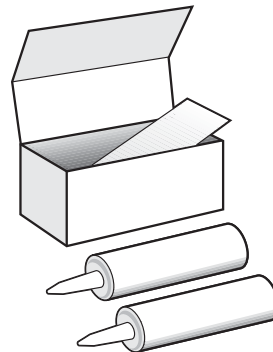
PART NUMBER	ANGLE (A)	SEGMENT LENGTH (L) (INCHES / METERS)	B (IN/M)	C (IN/M)
M__3HN_S	11 1/4°	29.4 (1.75)	1 (0)	13 (1.31)
M__5HN_S	22 1/2°	38.8 (1.95)	4 (1.1)	22 (1.6)
M__7HN_S	45°	57.7 (1.47)	14 (1.4)	38 (1)
M__9HN_S	90°	95.4 (2.42)	58 (1.5)	52 (1.31)

Epoxy Kits

Apply epoxy to plain end and bell before insertion for a water tight joint and to avoid joint pull-out.

Part No.	Description	Pkg. Qty.	Wt. ea.
MA30EK	30 oz. w/mixing tip	1	2.50

Pipe Size	# Joints per 30 oz. Kit
2"	30
3"	24
4"	18
5"	12
6"	10



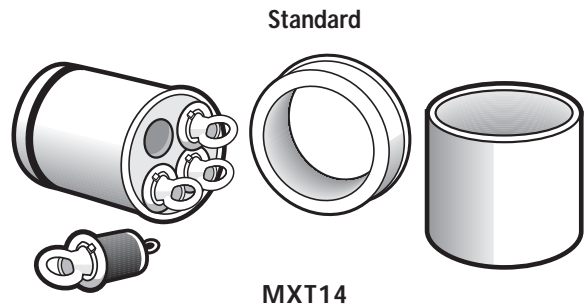
Multi-Gard® Fiberglass – Accessories

Terminators

Termination kits allow for sealing inner and outerducts. Each kit contains innerduct sealing plugs with tie rope. Standard terminators allow for end terminations.

Part No.	Description	Pkg. Qty.	Wt. Ea
MXT1_	Terminator	1	1.5

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerducts
M = Multi-Cell	X = Standard	T = Terminator	1 = Standard w/ plugs	3 = 3-Way 4 = 4-Way

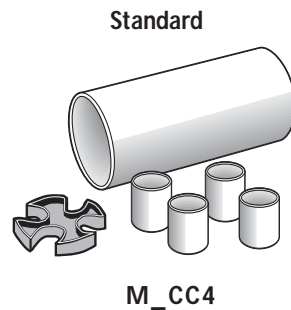


Couplings

Couplings are provided in standard sleeve for joining two uninstalled plain ends and slip couplings for repair of unoccupied Multi-Gard.

Part No.	Description	Pkg. Qty.
M_CC_	Standard Sleeve Coupling	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Type	Pos. 5 Innerducts
M = Multi-Cell	S = Std. wall .070 H = Hvy. wall .090 B = B. res. .250	C = Standard	C = Coupling	3 = 3-Way 4 = 4-Way

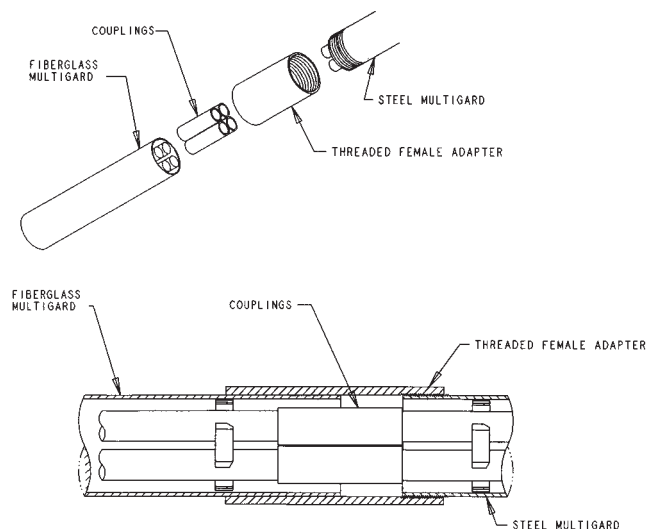


Transition Adapters

Transition adapters allow different outerducts to be coupled together while maintaining same innerduct. (See PVC section for transitioning to PVC Multi-Gard.)

Part No.	Description	Pkg. Qty.
M_A_	Transition Adapters	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Description	Pos. 4 Outerduct	Pos. 5 Innerducts
M = Multi-Cell	B = F/G BR H = F/G HW S = F/G Std.	A = Adapter	E = EMT R = Galv. Steel B = F/G BR H = F/G HW S = F/G Std. F = Sch. 40 PVC D = Sch. 80 PVC X = Type C PVC P = PVC Coated Steel	3 = 3-Way 4 = 4-Way



M_AR4

Spare Spacers

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5
MAES3	3-way end spacers	1 ea. = 5 spacers	.6



Multi-Gard® Fiberglass – Accessories

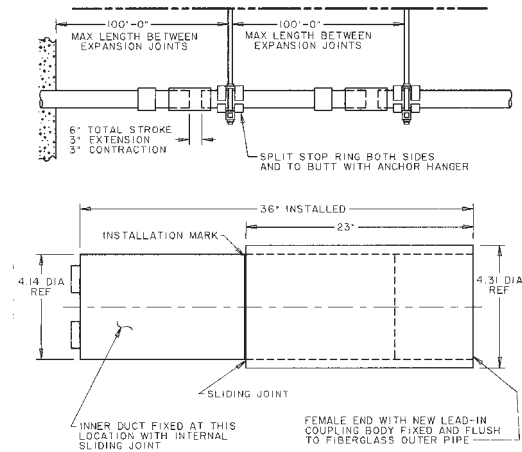
Expansion Joints

Expansion Joints allow for thermal expansion and contraction of outerduct. Fiberglass expansion joints are recommended every 150 feet on bridge crossing applications.

* Must use Split Stop Rings with Expansion Joints

Part No.	Description	Pkg. Qty.
M_EC_	Expansion Joints	1

Pos. 1 Product M = Multi-Cell	Pos. 2 Outerduct S = Standard H = Heavy Wall B = Bullet Res.	Pos. 3 Description E = Expansion	Pos. 4 Type C = Coupling	Pos. 5 Innerducts 4 = 4-Way 3 = 3-Way
-------------------------------------	--	--	--------------------------------	--

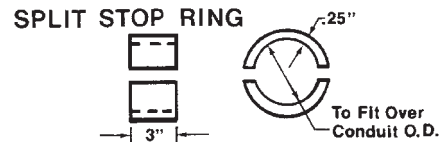


Split Stop Ring

Use split stop rings on either side of support anchors to keep Multi-Gard stationary.

* Must use Split Stop Rings with Expansion Joints

Part No.	Description	Pkg. Qty.	Wt. Ea
MSSR	Standard Wall Split Ring	1	.50
MSSRH	Heavy Wall Split Ring	1	.50
MBSSR	Bullet Resistant Split Ring	1	1.75



Carlton® Multi-Gard® Galvanized Steel

Multi-Gard Galvanized Steel is a multiple celled raceway system designed for bridge applications and other areas requiring heavy duty protection. Multi-Gard is manufactured in 10 ft. lengths with pre-installed, pre-lubricated, smoothwall innerducts.

Applications: Bridge applications and areas requiring extra protection

Innerducts: 3-Way or 4-Way



Features

- Pre-lubricated PVC innerducts for very low co-efficient of friction and lay straight for long pulls.
- Pre-installed reverse spin coupling allows coupling Multi-Gard together without turning pipe.
- 3 set screws keep coupling from backing off, before and after installation.
- Standard sweeps and terminators.
- Patented flexible bend.
- Conforms to NEC 96 Article 300-22 for installation of communication cables inside buildings.
- All bends have "cut-through" resistant innerducts in bends to avoid rope cutting into adjacent occupied innerduct.
- Accessories such as pull line and line blowing kits available.
- Gasketed coupling body and PVC innerducts are designed to handle jetting equipment or line blowing.
- 3-Way 1 1/2 and 4-Way 1 1/4



Assembly Instructions

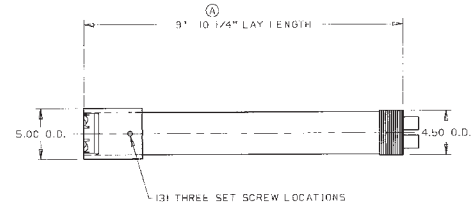
1. Remove cap and loosen set screws on coupling. Spin back to allow for insertion.
2. Insert male into female end and spin coupling forward to bottom out.
3. Check for alignment of marked innerduct and marked hole.
4. Tighten set screws.

Multi-Gard® Galvanized Steel

10' Sections Galvanized Steel with Spin Coupling

Part No.	Description	Coupling O.D.	Outerduct Dim.	Innerduct Dim. O.D.	Innerduct Dim. I.D.	Pkg. Qty.	Wt. per 100 ft.
MRSS4S-010	4-Way Galvanized Steel	5.00	4.50	1.315	1.19	170	1130
MRSS3S-010	3-Way Galvanized Steel	5.00	4.50	1.660	1.50	170	1130
MPSS4S-010	4-Way PVC Coated Steel	5.00	4.50	1.315	1.19	170	1200
MPSS3S-010	3-Way PVC Coated Steel	5.00	4.50	1.660	1.50	170	1200

Standard Multi-Gard supplied with grey and one white tracer innerduct.

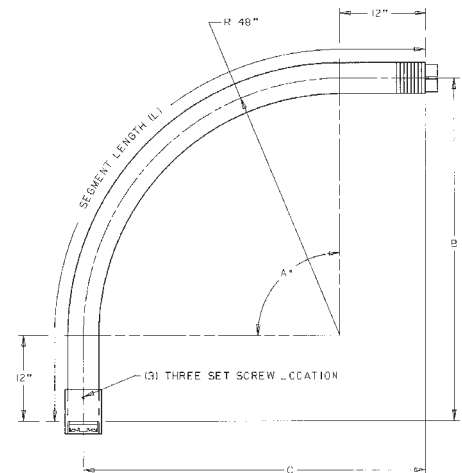


Galvanized Steel Multi-Cell Fixed Bends With Spin Coupling

Multi-Gard fixed bends use the same coupling design as straight sections. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts.

Part No.	Description	Innerduct I.D.	Pkg. Qty.
MR_HN4S	4-Way Fixed Bends	1.19	1
MR_HN3S	3-Way Fixed Bends	1.50	1

Pos. 1 Product	Pos. 2 Outerduct	Pos. 3 Degree(A)	Pos. 4 Radius(R)	Pos. 5 O.D.	Pos. 6 Innerducts	Pos. 7 Innerduct Wall Type
M = Multi-Cell	R = Galvanized Steel	3 = 11 1/4° 5 = 22 1/2°	H = 4 ft. F = 3 ft.	N = 4"	4 = 4-Way 3 = 3-Way	S = Smooth
	P = PVC Coated Steel	6 = 30° 7 = 45° 9 = 90°				



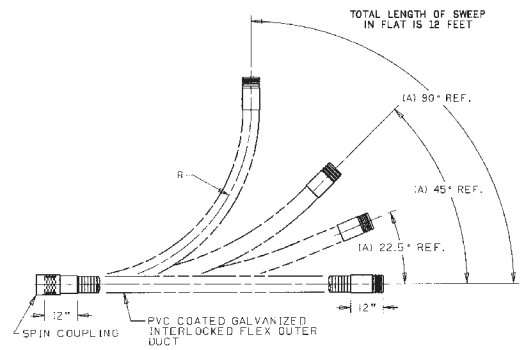
PART NUMBER	DIMENSIONS			
	A	B	C	L
MR3HN_S	11.25"	60	60	2'-9"
MR5HN_S	22.5"	60	60	3'-7"
MR7HN_S	45"	60	60	5'-2"
MR9HN_S	90"	60	60	8'-3"

PRODUCT SHIPPED WITH CLOSED END THREAD PROTECTORS

PVC Coated Flexible Steel Bends With Spin Coupling

Multi-Gard flexible bends use a patented design capable of a 4' minimum bend radius and use the same coupling design as straight sections and fixed bends. All bends are provided with engineered plastic innerducts to avoid rope cut-through into adjacent innerducts. NOTE: After positioning the bend in its application, it is necessary to cut off the excess innerduct material flush to pipe and deburr both the I.D. and O.D. of the innerduct to remove snags.

Part No.	Description	Innerduct I.D.
MRFB4	4-Way Flexible Bend	1
MRFB3	3-Way Flexible Bend	1



CAUTION: DO NOT BEND SWEEP TIGHTER THAN SPECIFIED IN CHART.

PART NUMBER	DIMENSIONS	
	R	A
MRFB 4	4 FT	0-90°
MRFB 3	6 FT	0-70°
MRFB 2	9 FT	0-55°

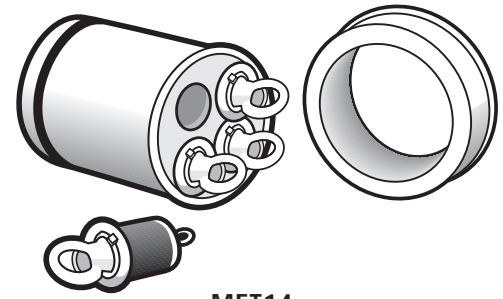
Georgia Underground
Is Your Utility Products
SUPERSTORE
800.245.8339
www.georgiaunderground.com

Multi-Gard® Galvanized Steel – Accessories

Terminators Galvanized Steel

Termination kits allow for sealing inner and outerducts. Each kit contains innerduct sealing plugs with rope tie. Standard terminators allow for end terminations.

Part No.	Description	Pkg. Qty.	Wt. Ea.
MFT14	4-Way Standard Terminator GS	1	1.5
MFT13	3-Way Standard Terminator GS	1	1.5



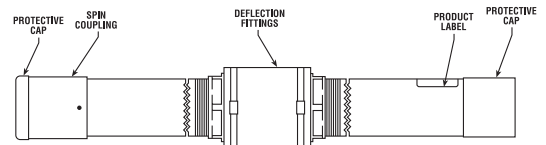
MFT14

Deflection Joint

Couplings are provided in standard sleeve for joining two uninstalled plain ends and slip couplings for repair of unoccupied Multi-Gard.

Part No.	Description	Pkg. Qty.	Wt. Ea.
MROS_	Deflection Joint	1	25 lbs.

Pos. 1 Product
 Pos. 2 Outerduct
 Pos. 3 Description
 Pos. 4 Outerduct
 Pos. 5 Innerduct
 M = Multi-Cell R = Galv. Steel O = Offset/ Deflection S = Standard 4 = 4-Way 3 = 3-Way

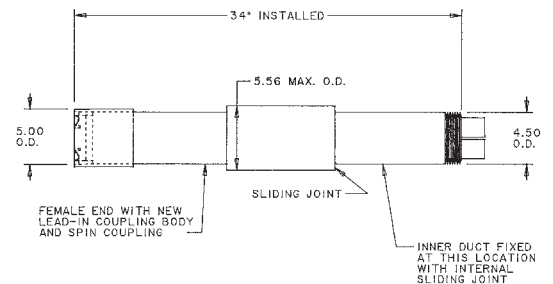
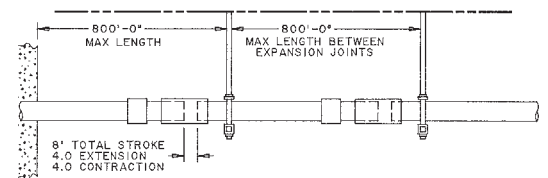


NOTE: PRODUCT DESIGNED FOR OUTDOOR WET LOCATIONS. PRODUCT SHIPPED WITH CLOSED-END THREAD PROTECTORS.

Expansion Joints

Expansion Joints allow for thermal expansion and contraction of outerduct. Steel expansion joints are recommended every 150 feet on bridge crossing applications.

Part No.	Description	Pkg. Qty.	Wt. Ea.
MREC4	4-Way 8" Stroke	1	42
MREC3	3-Way 8" Stroke	1	42



Spare Spacers

Part No.	Description	Std. Ctn. Qty.	Std. Ctn. Wt.
MAES4	4-way end spacers	1 ea. = 5 spacers	3.5
MAES3	3-way end spacers	1 ea. = 5 spacers	.6



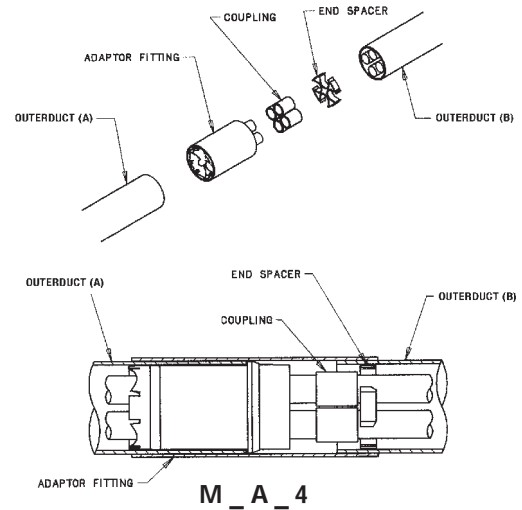
Multi-Gard® Galvanized Steel – Accessories

Transition Adapters

Transition adapters allow different outerducts to be coupled together while maintaining same innerduct. Part numbers configured from smaller duct to larger duct.

Part No.	Description	Pkg. Qty.
M_A__	Transition Adapter	1

Pos. 1 Product	Pos. 2 Outerduct (A)	Pos. 3 Description	Pos. 4 Outerduct (B)	Pos. 5 Innerducts
M = Multi-Cell	R = Galv. Steel P = PVC Coated Steel	A = Adapter	E = EMT R = Galv. Steel B = F/G BR H = F/G HW S = F/G Std. F = Schedule 40 PVC D = Schedule 80 PVC C = Type C PVC P = PVC Coated Steel	3 = 3-Way 4 = 4-Way



Field Bendable Sweeps

Part No.	Description	Pkg. Qty.
MRSS4SFB-010	4-Way Field Bendable Sweep - 10 ft.	1
MRSS3SFB-010	3-Way Field Bendable Sweep - 10 ft.	1

