

## Multi-Gard® Quick Reference Sheet

### PVC

- **Outer Duct:** Type C, Type 40 & Type 80
- **Outer Duct Size:** 4"
- **Innerducts:** PVC, 3-Way or 4-Way
- **Lengths:** 20ft. Lay Length
- **End Caps**



Features	Benefits	
Nonmetallic, Noncorrosive, Nonconductive	<ul style="list-style-type: none"> <li>• Extends product life, eliminates rust &amp; the need for replacement.</li> </ul>	<ul style="list-style-type: none"> <li>• Lightweight.</li> <li>• Easy to handle and transport</li> </ul>
Manufactured out of PVC Resin- Type C, Type 40 and Type 80	<ul style="list-style-type: none"> <li>• Crush and impact resistant.</li> <li>• Chemical resistant.</li> <li>• Able to withstand the rigors of installation and concrete construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptable to other conduit systems using solvent cement. Adapts to all IPS pipe products.</li> <li>• Will NOT ovalize.</li> <li>• Less expansion/contraction than HDPE.</li> </ul>

### Fiberglass

- **Outer Duct:** Standard, Heavy or Bullet Resistant
- **Outer Duct Size:** 4"
- **Innerducts:** PVC, 3-Way or 4-Way
- **Lengths:** 20ft. Overall Length
- **End Caps**



Features	Benefits	
Nonmetallic, Noncorrosive, Nonconductive	<ul style="list-style-type: none"> <li>• Extends product life, eliminates rust &amp; the need for replacement.</li> </ul>	<ul style="list-style-type: none"> <li>• Lightweight.</li> <li>• Easy to handle and transport.</li> </ul>
Manufactured out of Fiberglass Resin- Standard Duty, Heavy Duty and Bullet Resistant	<ul style="list-style-type: none"> <li>• Crush and impact resistant.</li> <li>• Chemical resistant.</li> <li>• Excellent insulator.</li> <li>• Excellent UV resistant properties for above ground applications.</li> <li>• Flexible – less likely to be damaged by earthquakes or other similar conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Resistant to rodents and insects.</li> <li>• Will NOT ovalize.</li> <li>• Less expansion/contraction than HDPE.</li> </ul>

### Galvanized Steel/PVC-Coated

- **Outer Duct:** Galvanized Steel or PVC-Coated Steel
- **Outer Duct Size:** 4"
- **Innerducts:** PVC, 3- or 4-Way
- **Lengths:** 10ft. Lay Length
- **End Caps**



Features	Benefits	
Manufactured out of Galvanized (Zinc Coated) Steel	<ul style="list-style-type: none"> <li>• Noncorrosive – Extends product life, eliminates rust &amp; the need for replacement.</li> <li>• Superior strength and durability for outdoor environments.</li> <li>• Weatherproof.</li> <li>• For use in places where extra protection is important.</li> </ul>	<ul style="list-style-type: none"> <li>• Crush and impact resistant for maximum wire/cable protection.</li> <li>• Chemical resistant.</li> <li>• Will NOT ovalize.</li> </ul>

### EMT

- **Outer Duct:** Steel
- **Outer Duct Size:** 4"
- **Innerducts:** PVC, 3- or 4-Way
- **Lengths:** 10ft. Lay Length
- **End Caps**



Features	Benefits	
Manufactured out of Steel	<ul style="list-style-type: none"> <li>• Superior strength and durability.</li> <li>• Crush and impact resistant for maximum wire/cable protection.</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical resistant.</li> <li>• Will NOT ovalize.</li> </ul>
UL Listed EMT Outer Duct	<ul style="list-style-type: none"> <li>• For use inside buildings.</li> </ul>	<ul style="list-style-type: none"> <li>• Acceptable in plenum areas.</li> </ul>

Features	Benefits		
Pre-Installed Innerducts – 3-Way (1-1/2" Ducts) and 4-Way (1-1/4" Ducts)	<ul style="list-style-type: none"> <li>• Provides separate paths for wire/cable.</li> <li>• Straighter paths than pulled-in innerducts.</li> <li>• Allows longer wire/cable pulls.</li> <li>• Eliminates post installation of innerducts.</li> </ul>	<ul style="list-style-type: none"> <li>• Lower installed costs.</li> <li>• Provides more capacity: Compared to 4-Way Multi-Gard, HDPE only accommodates (3) 1 1/4" ducts.</li> </ul>	<ul style="list-style-type: none"> <li>• Faster duct bank installation.</li> <li>• Eliminates "corkscrewing" like reeled HDPE.</li> </ul>
Pre-Lubricated Innerducts	<ul style="list-style-type: none"> <li>• Provides a very low coefficient of friction making wire/cable pulls easier.</li> </ul>	<ul style="list-style-type: none"> <li>• Saves costs of field applied lubricant – Jobs 1,000 ft. or less.</li> <li>• Allows longer wire/cable pulls.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces quantity of man holes.</li> <li>• Saves mess, time and money.</li> </ul>
Standard Innerduct Colors – Top Duct is WHITE and All Others Are Gray	<ul style="list-style-type: none"> <li>• Saves time aligning ducts.</li> </ul>	<ul style="list-style-type: none"> <li>• Easy consistency around bends.</li> </ul>	
Deep Bell	<ul style="list-style-type: none"> <li>• Provides strong joint for field bends.</li> </ul>		
O-Ring Gasket at Base of Bell	<ul style="list-style-type: none"> <li>• Helps keep water/ground water from entering the system.</li> </ul>		
Anti-Reversing Gasket on Coupling Body	<ul style="list-style-type: none"> <li>• Seals outer duct and each innerduct for line blowing operations.</li> </ul>	<ul style="list-style-type: none"> <li>• Prevents pull-outs.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates need for cementing joints.</li> </ul>
Inward Tapering Holes on Coupling Body	<ul style="list-style-type: none"> <li>• Provides quick and easy innerduct alignment.</li> </ul>		
Marked Innerduct and Marked Hole on Coupling Body	<ul style="list-style-type: none"> <li>• Provides reference point for installation.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensures proper innerduct alignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Allows crews to work from opposite directions.</li> </ul>
Innerducts are Jettable	<ul style="list-style-type: none"> <li>• Can be used with high speed air blowing systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Cable/wire Installation flexibility.</li> </ul>	
Print Line on Outer Duct Reads "Install Print Line Up"	<ul style="list-style-type: none"> <li>• Keeps the duct path straight.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates duct "roll-over".</li> </ul>	
Sweeps: Fixed and Flexible <i>Note: Innerducts made of Nylon Material</i>	<ul style="list-style-type: none"> <li>• EXCLUSIVE Flexible Bends – Patented design containing Nylon innerducts.</li> </ul>	<ul style="list-style-type: none"> <li>• Flexible Bends – Easy to cut-to-length.</li> </ul>	<ul style="list-style-type: none"> <li>• Burn-through resistant for pulling systems.</li> </ul>
Internal Spacers	<ul style="list-style-type: none"> <li>• Maintains straight innerduct path.</li> </ul>	<ul style="list-style-type: none"> <li>• Makes installing wire/cable faster/easier.</li> </ul>	
Field Repair Kit for Outer Duct and Inner Duct	<ul style="list-style-type: none"> <li>• Field repairs without taking installed cable out-of-service.</li> </ul>	<ul style="list-style-type: none"> <li>• Save time and money.</li> </ul>	
Available in 10 and 20 Foot Lengths 10ft. – Galvanized Steel & EMT 20ft. – PVC and Fiberglass	<ul style="list-style-type: none"> <li>• Fast, easy assembly.</li> <li>• Ideal for tight/confined spaces.</li> <li>• True 20ft. lay length on all PVC conduits.</li> </ul>	<ul style="list-style-type: none"> <li>• Easy to transport.</li> <li>• Eliminates reel handling/costly reel returns.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates wasted product.</li> <li>• Saves time and money.</li> <li>• Fiberglass = 20ft. overall length.</li> </ul>
Shipped with End Caps	<ul style="list-style-type: none"> <li>• Keeps product clean and clear from debris.</li> </ul>	<ul style="list-style-type: none"> <li>• Makes installations faster.</li> </ul>	<ul style="list-style-type: none"> <li>• Saves labor time/money.</li> </ul>

## Multi-Gard® Quick Reference Sheet

Applications:		
<b>Utility and Telecommunication</b>	<ul style="list-style-type: none"> <li>• <b>PVC - Outdoor</b> <ul style="list-style-type: none"> <li>– Direct Bury and Concrete Encased</li> </ul> </li> <li>• <b>Fiberglass - Outdoor (UV Resistant)</b> <ul style="list-style-type: none"> <li>– Bridge Crossings</li> <li>– Areas Subject to Physical Damage</li> <li>– Bullet Resistant</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Galvanized/PVC-Coated Steel – Outdoor</b> <ul style="list-style-type: none"> <li>– Areas Subject to Physical Damage</li> <li>– Vandalism &amp; Crush</li> <li>– Bridge Crossings</li> </ul> </li> <li>• <b>EMT – Indoor</b> <ul style="list-style-type: none"> <li>– Inside Buildings</li> </ul> </li> <li>• <b>Boreable – Outdoor</b> <ul style="list-style-type: none"> <li>– Horizontal Directional Drilled (See Bore-Gard® Info)</li> </ul> </li> </ul>
Installation Methods:		
<b>IMPORTANT:</b>	It's <u>Always</u> recommended installing the bell end onto the spigot end. This prevents the innerducts from coming out of the outer duct.	Be Sure to Align Key Duct with Grooved Cell in Coupling Body Faceplate.
<b>Man Hole Terminations:</b>	• Always start by cutting the bell end off and terminating.	
<b>PVC Field Cutting: Joining Spigot and Bell Ends</b>	<ol style="list-style-type: none"> <li>1. Lay sections side-by-side and mark the spigot end at the base of the bell end. Cut using a carpenter saw.</li> <li>2. A spare spacer may be installed to align the innerducts if they seem loose.</li> <li>3. Re-Chamfer the innerducts after cutting.</li> </ol>	<ol style="list-style-type: none"> <li>4. Raise both ends and align the innerducts into the coupling body. Lower both ends and the innerducts will automatically return to their original position.</li> </ol> Note: Recommend using a 4X4, Hammer, and Oil/Sprayer.
<b>PVC Field Cutting: Part No. (M_C C_) Joining Two Spigot Ends</b>	<ol style="list-style-type: none"> <li>1. Flush cut sections "A" + "B". Slide outer duct sleeve over section "B". Insert end spacer into plain end (chamfer side in). Press couplings onto innerducts of section "B"</li> </ol>	<ol style="list-style-type: none"> <li>2. Align innerducts on section "A" with couplings on section "B". Solvent cement each coupling for air tight seal and push until both ends are flush. Apply solvent cement to both ends of Multi-Gard and slide sleeve until it is centered on both sections. Twist to get good cement coverage.</li> </ol>
<b>PVC: Terminations</b>	<ol style="list-style-type: none"> <li>1. Standard Terminations allow Multi-Gard to be terminated into a standard pre-cast termination Part No. (M_T 1_).</li> <li>2. Use a Type 1 Standard Terminator also at an entrance where a pre-cast terminator is not available or a knockout is used Part No. (M_T1_).</li> </ol>	<ol style="list-style-type: none"> <li>3. The Pass-Through Terminator is designed to allow for continuous ducts through the vault or hand hole for cable pulling. Part No. (M_T 2_)</li> <li>4. Use the Jet Terminator for jetting operations. Part No. (M_T 9_)</li> </ol>
<b>PVC: Direct Bury</b>	<b>IMPORTANT: Always Install Bell End Onto Spigot End.</b>	
<b>PVC: Plowing</b>	<b>PVC: Concrete Encased</b>	<b>Fiberglass: Bridge Crossings</b>
<b>Galvanized/PVC Coated Steel: Joining Spigot and Bell Ends</b>	<ol style="list-style-type: none"> <li>1. Lay sections side-by-side and mark the spigot end at the base of the bell. Cut using a hack saw or any other means capable of cutting steel.</li> <li>2. Re-thread conduit with standard straight threads.</li> </ol> Note: It's recommended to apply a spray on galvanizing coating to the threads to prevent corrosion.	<ol style="list-style-type: none"> <li>3. Raise both ends and align the innerducts into the coupling body. Lower both ends and the innerducts will automatically return to their original position.</li> </ol>
<b>Galvanized/PVC Coated Steel: Bridge Crossings</b>	<b>EMT: Inside Buildings</b>	

Technical Information:				
<b>PVC:</b>		<b>OD</b>	<b>ID</b>	<b>Wall</b>
	Type 40:	4.50"	4.67"	0.227"
	Type 80:	4.75"	5.00"	0.360"
	Type C:	4.35"	5.50"	0.154"
<b>Fiberglass:</b>	– UV Resistant – Wall Thickness: • Standard Wall: .070" • Heavy Wall: .090" • Bullet-Resistant: .250"			
<b>Galvanized/PVC-Coated Steel:</b>	N/A			
<b>EMT:</b>	– Conforms to NEC Article 300.22 & NFPA 90A for Installation of Communication Cables			
<b>Innerducts:</b>	– 3-Way: 1.50" I.D. 1.66" O.D. – 4-Way: 1.19" I.D. 1.31" O.D.			
<ul style="list-style-type: none"> <li>• Multi-Gard Joint Tensile: Approximately 500 lb. (For Reference Only)</li> <li>• Always Recommend Polywater for Jobs 1,000 Ft. or Greater.</li> <li>• 3,500 Ft. Maximum Length for Jetting</li> </ul>				
Listings/Ratings:				
<b>PVC:</b>	– UL Listed & ETL Listed: Type 40 and Type C			
<b>Fiberglass:</b>	N/A			
<b>Galvanized/PVC-Coated Steel:</b>	N/A			
<b>EMT:</b>	– UL Listed Electrical Metallic Tubing Outer Shell			

Catalog Offering:		
<b>Part No: M_SS_S-020</b> *Example: MXSS4S-020		
<b>Position 2</b>	<b>Position 2</b>	<b>Position 5</b>
X = Type C	H = Heavy Wall Fiberglass	3 = 3-Way Innerducts
F = Type 40	B = Bullet Resistant Fiberglass	4 = 4-Way Innerducts
D = Type 80	R = Galvanized Steel	
S = Standard Fiberglass	P = PVC-Coated Steel	
	E = EMT	
*See Master Catalog for a complete list of part numbers. Boreable Multi-Gard: See Bore-Gard presentation/information.		
Catalog Offering – Accessories:		
• Fixed Bends (M__N_S)	• Expansion Joints (M_EC_)	
• Flexible Bends (M_F_)	• Repair Kits (M_R_S)	
• Terminators (M_T_)	• Spacers (Spare) (MAES_)	
• Couplings (M_C C_)	• Transition Adapters (M_A_)	
*See Master Catalog for a complete list of part numbers.		