

GRP Cable Containment



Rail Solution



THORNE &
DERRICK
INTERNATIONAL

Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com

Life Is On

Schneider
Electric™



Introduction



As a comprehensive manufacturer of corrosion resistant industrial cable support products, Schneider Electric have the solutions and expertise to specify a suitable solution, and deliver a product which can support any type of power circuit, cable, data and instrumentation.

Whether you are specifying a range of equipment for a major project or buying a selection of components for a simple maintenance installation, our premium range and support will put your mind at rest.

Wherever you are situated and whatever you need, we are committed to meeting your requirements.

Why GRP over Concrete or Steel?

- Low maintenance
- Lower cost over time
- 70% lighter than steel
- Simpler, quicker installation
- Easier modifications with no need for painting, earth bonding or special tools.
- No rusting, even when exposed to salt spray, H₂S, acid buildup from exhaust gases or brake dust.
- Resistant to electromagnetic pulses and transfers heat more slowly than steel.
- Completely corrosion resistant
- UV resistant
- Available in 3m or 6m lengths
- Reduced risk of staff injuries; easy to cut, lift and fit.

Features & benefits



Low installation costs

Typically between 30-40% less than steels with easier cutting, drilling and no deburring, painting or earthing.



Installations and modifications are simpler

Our GRP solution offers a far easier installation, without the need for painting, earth bonding or special tools. Fast installation with wide selection of pre-manufactured fittings. Supplying 6m or 3m lengths reduces amount of couplers required.



Long lifetime, low maintenance

Composites are corrosion resistant and maintenance free. Our GRP products are designed and manufactured to withstand a majority of chemicals & extreme weather – without requiring further maintenance.



Lightweight

Density and weight are significantly lower than steel (70% lighter than steel, 90% lighter than concrete) with reduced handling requirements. Composite materials are excellent insulators, do not require earthing and have a thermal conductivity 1/60 of a steel product.



Fire security

GRP is available with 0-halogen, low conductivity and self extinguishing material that is also low smoke classified. Not only this, but it is effective at temperatures between –140 C to +120C.



Compression strength

Tension, flexure & compression strength approx. 20 times that of steel with much greater safety factors. Composites do not permanently deform under high loads.



Health and safety

Reduced risk of staff injuries due to its lightweight, easy to cut, no hot works requirement, no deburring and no sharp edges.

Applications



Rail

- 10 times lighter than concrete
- Halogen free available
- Slow heat transfer allows for even stronger mechanical resistance
- High safety standards; reduced risk of staff injuries
- Our flexible, simple installation means no sharp edges or burrs
- Reduced transport costs
- No earthing, deburring or painting
- Fast installation; available in 3m & 6m lengths
- Full range of pre-manufactured bends, jointing bays and transitions available for fast installation
- Dedicated design facility to support bespoke solutions



Road

- Resistant to corrosion
- Optimum safety
- Halogen & smoke free
- Our flexible, simple installation means no sharp edges or burrs
- Reduces installation costs



Sea

- Resists corrosion: atmospheric, UV & saline.
- Costs & time saving features including reduction in use of bolts and clip on splice plates and fittings.
- Reduction in drilling and cutting means no burrs or sharp edges
- Resistant to vibrations
- Lighter material ensures mechanical resistance



Industrial environments

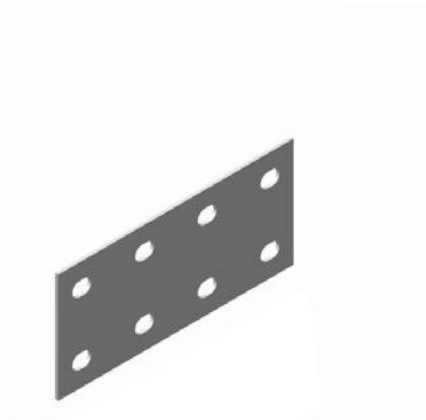
- Highly reduced corrosion leads to lower maintenance costs
- Reduction in drilling and cutting means no burrs or sharp edges
- No requirement for expensive protection accessories or coatings
- Lighter material ensures mechanical resistance
- Slow heat transfer allows for even stronger mechanical resistance
- Anti-static solution is available



GRP Cable Containment



GRP Cable Containment Rail Solution



GRP Trough

Reference code	Size
GRP100110 Concrete C/1/6	100 x 110mm
GRP150110 Concrete C/1/7	150 x 110mm
GRP150210 Concrete C/1/8	150 x 210mm
GRP200110 Concrete C/1/9	200 x 110mm
GRP300110 Concrete C/1/10	300 x 110mm
GRP400110 Concrete C/1/29	400 x 110mm

GRP Lid

Reference code	Size
GRC100	100 x 110mm
GRC150	150 x 110mm
GRC150	150 x 210mm
GRC200	200 x 110mm
GRC300	300 x 110mm
GRC400	400 x 110mm

GRP Couplers

Reference code	Size
GHCG	100 x 110mm
GHCG	150 x 110mm
GHCG210	150 x 210mm
GHCG	200 x 110mm
GHCG	300 x 110mm
GHCG	400 x 110mm

Elevated GRP Trough Adaptor - Concrete Ground Trough

Reference code	Size
GRCTA1910V342B (Concrete C/1/6)	100 x 110mm
GRCTA1915V342B (Concrete C/1/7)	150 x 110mm
GRCTA18150V342B (Concrete C/1/8)	150 x 210mm
GRCTA1920V342B (Concrete C/1/9)	200 x 110mm
GRCTA1930V342B (Concrete C/1/10)	300 x 110mm
GRCTA1940V342B (Concrete C/1/29)	400 x 110mm



90 Degree Flat Bend

Reference code	Size
GRA100110R1500	100 x 110mm
GRA150110R1500	150 x 110mm
GRA150210R1500	150 x 210mm
GRA200110R1500	200 x 110mm
GRA300110R1500	300 x 110mm
GRA400110R1500	400 x 110mm



90 Degree Flat Bend Lid

Reference code	Size
GRAC100R1500	100 x 110mm
GRAC150R1500	150 x 110mm
GRAC150R1500	150 x 210mm
GRAC200R1500	200 x 110mm
GRAC300R1500	300 x 110mm
GRAC400R1500	400 x 110mm



30 Degree Flat Bend

Reference code	Size
GRA1030110R1500	100 x 110mm
GRA1530110R1500	150 x 110mm
GRA1530210R1500	150 x 210mm
GRA2030110R1500	200 x 110mm
GRA3030110R1500	300 x 110mm
GRA4030110R1500	400 x 110mm



30 Degree Flat Bend Lid

Reference code	Size
GRAC1030R1500	100 x 110mm
GRAC1530R1500	150 x 110mm
GRAC1530R1500	150 x 210mm
GRAC2030R1500	200 x 110mm
GRAC3030R1500	300 x 110mm
GRAC4030R1500	400 x 110mm



90 Degree External Riser

Reference code	Size
GRE100110R1500	100 x 110mm
GRE150110R1500	150 x 110mm
GRE150210R1500	150 x 210mm
GRE200110R1500	200 x 110mm
GRE300110R1500	300 x 110mm
GRE400110R1500	400 x 110mm

90 Degree External Riser Lid

Reference code	Size
GREC100110R1500	100 x 110mm
GREC150110R1500	150 x 110mm
GREC150210R1500	150 x 210mm
GREC200110R1500	200 x 110mm
GREC300110R1500	300 x 110mm
GREC400110R1500	400 x 110mm

30 Degree External Riser

Reference code	Size
GRE1030110R1500	100 x 110mm
GRE1530110R1500	150 x 110mm
GRE1530210R1500	150 x 210mm
GRE2030110R1500	200 x 110mm
GRE3030110R1500	300 x 110mm
GRE4030110R1500	400 x 110mm

30 Degree External Riser Lid

Reference code	Size
GREC1030110R1500	100 x 110mm
GREC1530110R1500	150 x 110mm
GREC1530210R1500	150 x 210mm
GREC2030110R1500	200 x 110mm
GREC3030110R1500	300 x 110mm
GREC4030110R1500	400 x 110mm

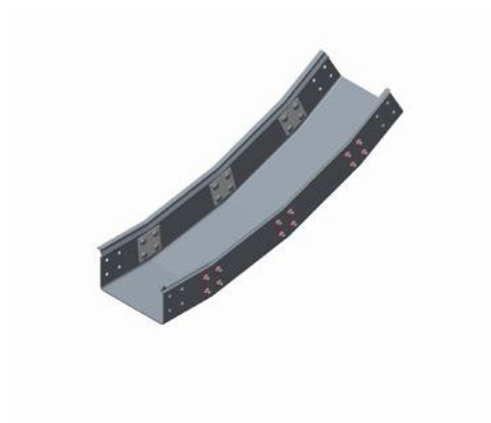


90 Degree Internal Riser

Reference code	Size
GRI100110R1500	100 x 110mm
GRI150110R1500	150 x 110mm
GRI150210R1500	150 x 210mm
GRI200110R1500	200 x 110mm
GRI300110R1500	300 x 110mm
GRI400110R1500	400 x 110mm

90 Degree Internal Riser Lid

Reference code	Size
GRIC100110R1500	100 x 110mm
GRIC150110R1500	150 x 110mm
GRIC150210R1500	150 x 210mm
GRIC200110R1500	200 x 110mm
GRIC300110R1500	300 x 110mm
GRIC400110R1500	400 x 110mm



30 Degree Internal Riser

Reference code	Size
GRI1030110R1500	100 x 110mm
GRI1530110R1500	150 x 110mm
GRI1530210R1500	150 x 210mm
GRI2030110R1500	200 x 110mm
GRI3030110R1500	300 x 110mm
GRI4030110R1500	400 x 110mm

30 Degree Internal Riser Lid

Reference code	Size
GRIC1030110R1500	100 x 110mm
GRIC1530110R1500	150 x 110mm
GRIC1530210R1500	150 x 210mm
GRIC2030110R1500	200 x 110mm
GRIC3030110R1500	300 x 110mm
GRIC4030110R1500	400 x 110mm



The image is a composite of two photographs. The top photograph shows a close-up, low-angle view of a large metal lattice structure, likely part of an overhead power line system, against a clear blue sky. A green semi-transparent banner is overlaid on the bottom half of this top image, containing the text 'GRP Trough Reducers' in white. The bottom photograph shows a wide view of multiple railway tracks receding into the distance. Overhead power lines and support poles are visible along the tracks. A train is blurred in the distance on the right side of the tracks. The sky is a mix of blue and orange, suggesting a sunset or sunrise.

GRP Trough Reducers

GRP Trough Reducers



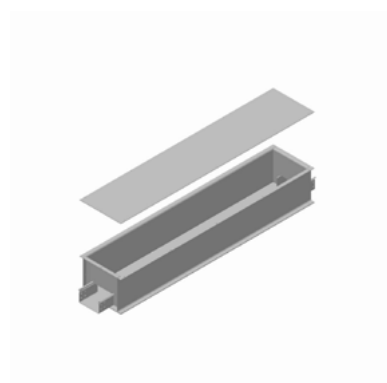
Left Hand Reducer

Reference code	Size
-	100 x 110mm
GR150L10110 (150x110mm to 100x110mm)	150 x 110mm
-	150 x 210mm
GR200110L150210 (200x110mm to 150x210mm), GR200L15110(200x110mm to 150x110mm)	200 x 110mm
GR300L20110 (300x110mm to 200x110mm)	300 x 110mm
GR400L30110 (400x110mm to 300x110mm)	400 x 110mm



Right Hand Reducer

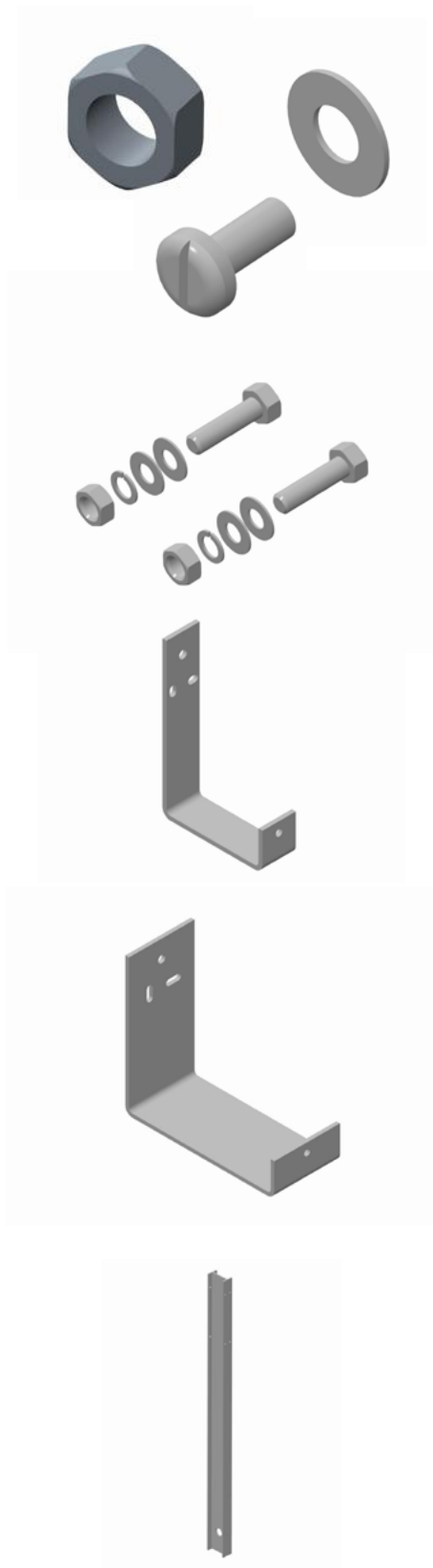
Reference code	Size
-	100 x 110mm
GR150R10110 (150x110mm TO 100x110mm)	150 x 110mm
-	150 x 210mm
GR200110R150210 (200x110mm to 150x210mm), GR200R15110 (200x110mm to 150x110mm)	200 x 110mm
GR300R20110 (300x110mm to 200x110mm)	300 x 110mm
GR400R30110 (400x110mm to 300x110mm)	400 x 110mm



GRP Trough Jointing Bay

Reference code	GRP I beam post length
GRPJBAY200110C43	350W x 300D x 200 x 110 Trough

GRP Fixings



Panhead Bolts, Nuts & Washers

Reference number	Specification
MSS820BP	Bolt M8 x 20mm Slotted panhead 316 stainless steel
MSS8N	Nut M8 316 Stainless Steel
W8SS	Washer round M8 316 stainless steel

Bracket to Post Fixing Kit

Reference number	Specification
M8BNWZP/B	M8 Nut, Bolt washer kit hot dip galv.

Brackets GRP Posts

Reference number	Dimensions	For use with trough width
BRK150SL50	230 x 150 x 50mm	100mm
BRK200SL50	230 x 200 x 50mm	150mm
BRK250SL50	230 x 250 x 50mm	200mm

Brackets Steel Posts

Reference number	Dimensions	For troughing size
BRK150	230 x 150 x 110	GRP100
BRK200	230 x 200 x 110	GRP150
BRK250	230 x 250 x 110	GRP200
BRK350	230 x 350 x 110	GRP300
BRK450	230 x 450 x 110	GRP400

Elevated Trough Posts GRP

GRP Posts for trough size 100mm - 200mm wide	GRP I beam post length
MPG14	1.4 metres
MPG20	2.0 metres
MPG24	2.4 metres
MPG30	3.0 metres



Cleats



Elevated Trough Post Steel

GRP Posts for trough size 300mm - 400mm wide	Specification
MPS14	Single trough, Steel hot dip galv. 1.4 metres
MPS24	Single trough, Steel hot dip galv. 2.4 metres
MPD14	Double trough, Steel hot dip galv. 1.4 metres
MPD24	Double trough, Steel hot dip galv. 2.4 metres
MPS30	Single trough, steel hot dip galv 3 metres
MPD30	Double trough, Steel hot dp galv 3 metres

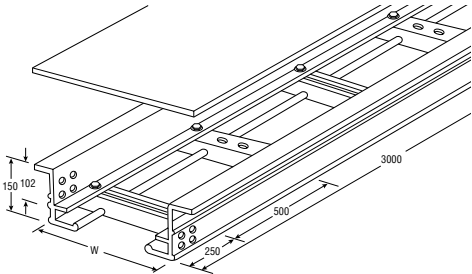
Heavy duty cable cleats

Product code	Description	Pack quantity
LDPP - single hole		
MS3	7.6mm	50
MS4	10.2mm	50
MS5	12.7mm	50
MS6	15.2mm	50
MS7	17.0mm	50
MS8	20.3mm	50
MS9	22.8mm	50
MS10	25.4mm	50
MS11	27.7mm	20
MS12	30.4mm	20
MS14	35.6mm	20
MS16	40.6mm	20
MS18	45.7mm	20
MS20	50.8mm	20
LDPP - two hole		
MT9	57.1mm	5
MT10	63.5mm	5
MT11	69.8mm	5
MT12	76.2mm	5
MT14	82.5mm	5
MT15	105mm	5

LSF polypropylene JEM 2 part clamps

Product code	Description	Pack quantity
MJ2	Cable diameter 50 – 75mm	5

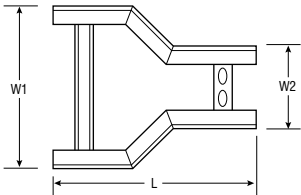
Ladder



GXL Ladder

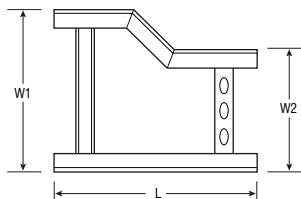
Ref	W (mm)	D (mm)	L (mm)	Cover Ref
GXL150	150	150	3000	GZL150
GXL200	200	150	3000	GZL200
GXL300	300	150	3000	GZL300
GXL400	400	150	3000	GZL400
GXL450	450	150	3000	GZL450
GXL600	600	150	3000	GZL600
GXL750	750	150	3000	GZL750
GXL900	900	150	3000	GZL900
GXL1000	1000	150	3000	GZL1000

Reducers



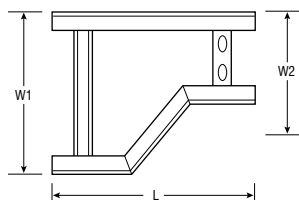
Reducer Straight

Ref	W1 (mm)	W2 (mm)	L (mm)	Cover Ref
GXR3015	300	150	478	GZR3015
GXR4015	400	150	524	GZR4015
GXR4030	400	300	453	GZR4030
GXR4530	450	300	478	GZR4530
GXR6030	600	300	553	GZR6030
GXR6045	600	450	478	GZR6045
GXR7560	750	600	478	GZR7560
GXR9075	900	750	478	GZR9075
GXR1075	1000	750	524	GZR1075



Reducer L/Hand

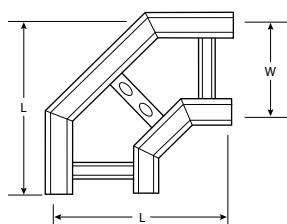
Ref	W1 (mm)	W2 (mm)	L (mm)	Cover Ref
GXRL3015	300	150	553	GZRL3015
GXRL4015	400	150	653	GZRL4015
GXRL4030	400	300	503	GZRL4030
GXRL4530	450	300	553	GZRL4530
GXRL6030	600	300	703	GZRL6030
GXRL6045	600	450	553	GZRL6045
GXRL7560	750	600	553	GZRL7560
GXRL9075	900	750	553	GZRL9075
GXRL1075	1000	750	653	GZRL1075



Reducer R/Hand

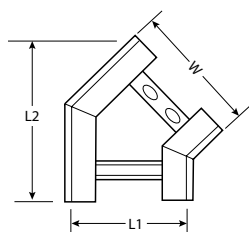
Ref	W1 (mm)	W2 (mm)	L (mm)	Cover Ref
GXRR3015	300	150	553	GZRR3015
GXRR4015	400	150	653	GZRR4015
GXRR4030	400	300	503	GZRR4030
GXRR4530	450	300	553	GZRR4530
GXRR6030	600	300	703	GZRR6030
GXRR6045	600	450	553	GZRR6045
GXRR7560	750	600	553	GZRR7560
GXRR9075	900	750	553	GZRR9075
GXRR1075	1000	750	653	GZRR1075

Bends



90° Flat Bend

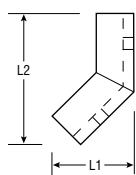
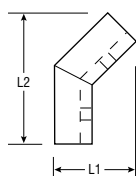
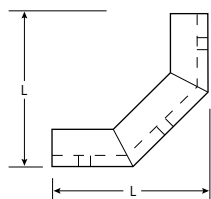
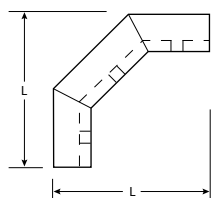
Ref	W1 (mm)	L (mm)	Cover Ref
GXA150	150	527	GZA150
GXA200	200	577	GZA200
GXA300	300	677	GZA300
GXA400	400	777	GZA400
GXA450	450	827	GZA450
GXA600	600	977	GZA600
GXA750	750	1127	GZA750
GXA900	900	1277	GZA900
GXA1000	1000	1377	GZA1000



45° Flat Bend

Ref	W (mm)	L1 (mm)	L2 (mm)	Cover Ref
GXA1545	150	226	437	GZA1545
GXA2045	200	297	472	GZA2045
GXA3045	300	438	543	GZA3045
GXA4045	400	580	614	GZA4045
GXA4545	450	650	649	GZA4545
GXA6045	600	862	755	GZA6045
GXA7545	750	1075	861	GZA7545
GXA9045	900	1287	968	GZA9045
GXA1045	1000	1428	1038	GZA1045

Risers



External 90° Riser

Ref	W (mm)	L (mm)	Cover Ref
GXE150	150	517	GZE150
GXE200	200	517	GZE200
GXE300	300	517	GZE300
GXE400	400	517	GZE400
GXE450	450	517	GZE450
GXE600	600	517	GZE600
GXE750	750	517	GZE750
GXE900	900	517	GZE900
GXE1000	1000	517	GZE1000

Internal 90° Riser

Ref	W (mm)	L (mm)	Cover Ref
GXI150	150	517	GZI150
GXI200	200	517	GZI200
GXI300	300	517	GZI300
GXI400	400	517	GZI400
GXI450	450	517	GZI450
GXI600	600	517	GZI600
GXI750	750	517	GZI750
GXI900	900	517	GZI900
GXI1000	1000	517	GZI1000

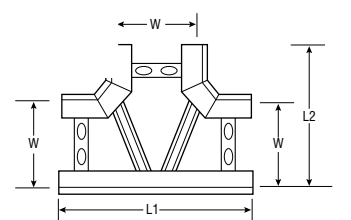
External 45° Riser

Ref	W1 (mm)	L1 (mm)	L2 (mm)	Cover Ref
GXE1545	150	284	430	GZE1545
GXE2045	200	284	430	GZE2045
GXE3045	300	284	430	GZE3045
GXE4045	400	284	430	GZE4045
GXE4545	450	284	430	GZE4545
GXE6045	600	284	430	GZE6045
GXE7545	750	284	430	GZE7545
GXE9045	900	284	430	GZE9045
GXE1045	1000	284	430	GZE1045

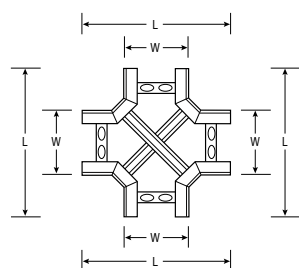
Internal 45° Riser

Ref	W1 (mm)	L1 (mm)	L2 (mm)	Cover Ref
GXI1545	150	284	430	GZI1545
GXI2045	200	284	430	GZI2045
GXI3045	300	284	430	GZI3045
GXI4045	400	284	430	GZI4045
GXI4545	450	284	430	GZI4545
GXI6045	600	284	430	GZI6045
GXI7545	750	284	430	GZI7545
GXI9045	900	284	430	GZI9045
GXI1045	1000	284	430	GZI1045

Tees & Crossovers



rung configuration will change with width



rung configuration will change with width

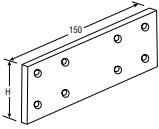
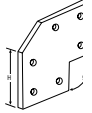
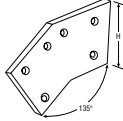
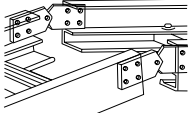
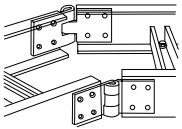
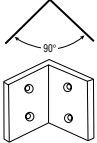
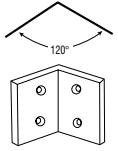
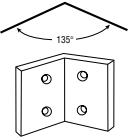
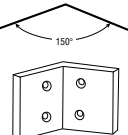
Equal Tee

Ref	W (mm)	L1 (mm)	L2 (mm)	Cover Ref
GXT150	150	894	527	GZT150
GXT200	200	944	577	GZT200
GXT300	300	1044	677	GZT300
GXT400	400	1144	777	GZT400
GXT450	450	1194	827	GZT450
GXT600	600	1344	977	GZT600
GXT750	750	1494	1127	GZT750
GXT900	900	1644	1277	GZT900
GXT1000	1000	1744	1377	GZT1000

Equal Cross

Ref	W (mm)	L (mm)	Cover Ref
GXX150	150	894	GZX150
GXX200	200	944	GZX200
GXX300	300	1044	GZX300
GXX400	400	1144	GZX400
GXX450	450	1194	GZX450
GXX600	600	1344	GZX600
GXX750	750	1494	GZX750
GXX900	900	1644	GZX900
GXX1000	1000	1744	GZX1000

GRP Ladder - Coupler Table

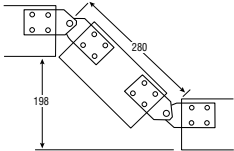
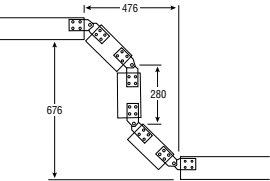
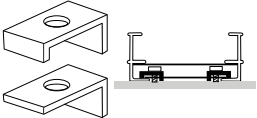
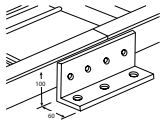
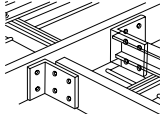
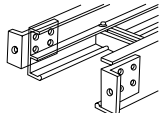
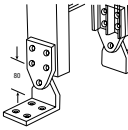
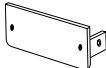
		Material	Profile: GXL H = 69mm
	Straight Coupler	SS GRP	GHCS GHCG
	90° Vertical Angle Coupler	SS	GSCV90S
	45° Vertical Angle Coupler	SS	GSCV45S
	Vertical Hinged Coupler Max Ext Angle = 45° Max Int Angle = 90°	SS	GVHCS
	Variable Angle Coupler	SS	GHHCS
	90° Horizontal Angle Coupler	SS	GSCH90S
	60° Horizontal Angle Coupler	SS	GSCH60S
	45° Horizontal Angle Coupler	SS	GSCH45S
	30° Horizontal Angle Coupler	SS	GSCH30S
Drawings are for illustration purposes only and may vary depending on the profile selected			

Please also see "Fasteners Required" – page 61

Hole diameter on all items is M8 clearance with the exception of GHDC which has M10 clearance

SS = Stainless Steel

GRP = Glass Reinforced Plastic

		Material	Profile: GXL
	Articulated Riser 1 Part (consists of 2 pairs of GVHC, 200mm of GRP ladder with 1 rung attached) *(to create ref number, suffix the ladder type X, followed by the width eg: GR1X1000 for a 1 part riser at 1000mm wide. The 1000 denotes the width of the ladder	SS	GR1*
	Articulated Riser 3 Part (consists of 4 pairs of GVHC, 3 x 200mm of GRP ladder with 1 rung attached) *(to create ref number, suffix the ladder type, ie X, followed by the width eg: GR3X1000 for a 3 part riser at 1000mm wide. The 1000 denotes the width of the ladder.	SS	GR3*
	Ladder Clamp Use M10 size fastener	SS GRP	GHDCS GHDCG
	Coupler Support	GRP	GCS
	T Joint Coupler	GRP	GTJC
	Fixed Support	GRP	GFES
	Hinged End Fixing	GRP	GHEF
	Stop End	SS	Non standard

Fasteners (see couplers) Recommended fastener for cable ladder range MSS8, see page 61

Please note, fasteners (nuts, bolts and washer sets) should be ordered separately, please see page 61.

SS = Stainless Steel

GRP = Glass Reinforced Plastic

Approvals



Standards

Material	Standards
PY2	BS 476 Part 7
	BS EN 60695-2-12:2001
PY1	BS 476 Part 7
	UL 94 – V0
	UL 94 – 5VA
	BS EN 60695-2-12:2001
PY1C	BS476 Part 7
	UL94 – V0
	UL94 – 5VA
	NES713
	BS60079-0
	BS EN 60695-2-12:2001
AC	BS 476 Part 7
	BS 476 Part 6
	NES 713
	BS EN 60695-2-12:2001
MX	BS 476 Part 7
	BS 476 Part 6
	NES 713
	BS 6853 – D8.3
	BS 6853 –D8.4 Cat 1B
	BS 6853 – D8.6
	BS 6853 – Annex B2
	BS EN ISO 4589-2
	BS EN ISO 4589-3
	UL 94 V0
	UL 94 5VA
	BS EN ISO 4589-2
	BS EN ISO 4589-3
	BS EN 60695-2-12:2001
PH	BS 476 Part 7
	BS 476 Part 6
	NES 713

References

Schneider full reference	Schneider quick reference
Polyester Class 2	PY2
Polyester Class 1	PY1
Polyester Class 1 Anti Static	PY1C
Acrylic Class 0	AC
Acrylic Class 0+	MX
Phenolic Class 0	PH

Technical guide

Mechanical Properties

Tensile Strength 20 - 30.6 kgf/mm²
 Compression Strength 20 - 30.6 kgf/mm²
 Flexural Strength 20 - 30.6 kgf/mm²
 Shear Strength 6.1 kgf/mm²
 Impact Strength 60-90 kgfcm/ cm²
 Density 1.7 – 1.9 g/ cm³

Electrical Properties

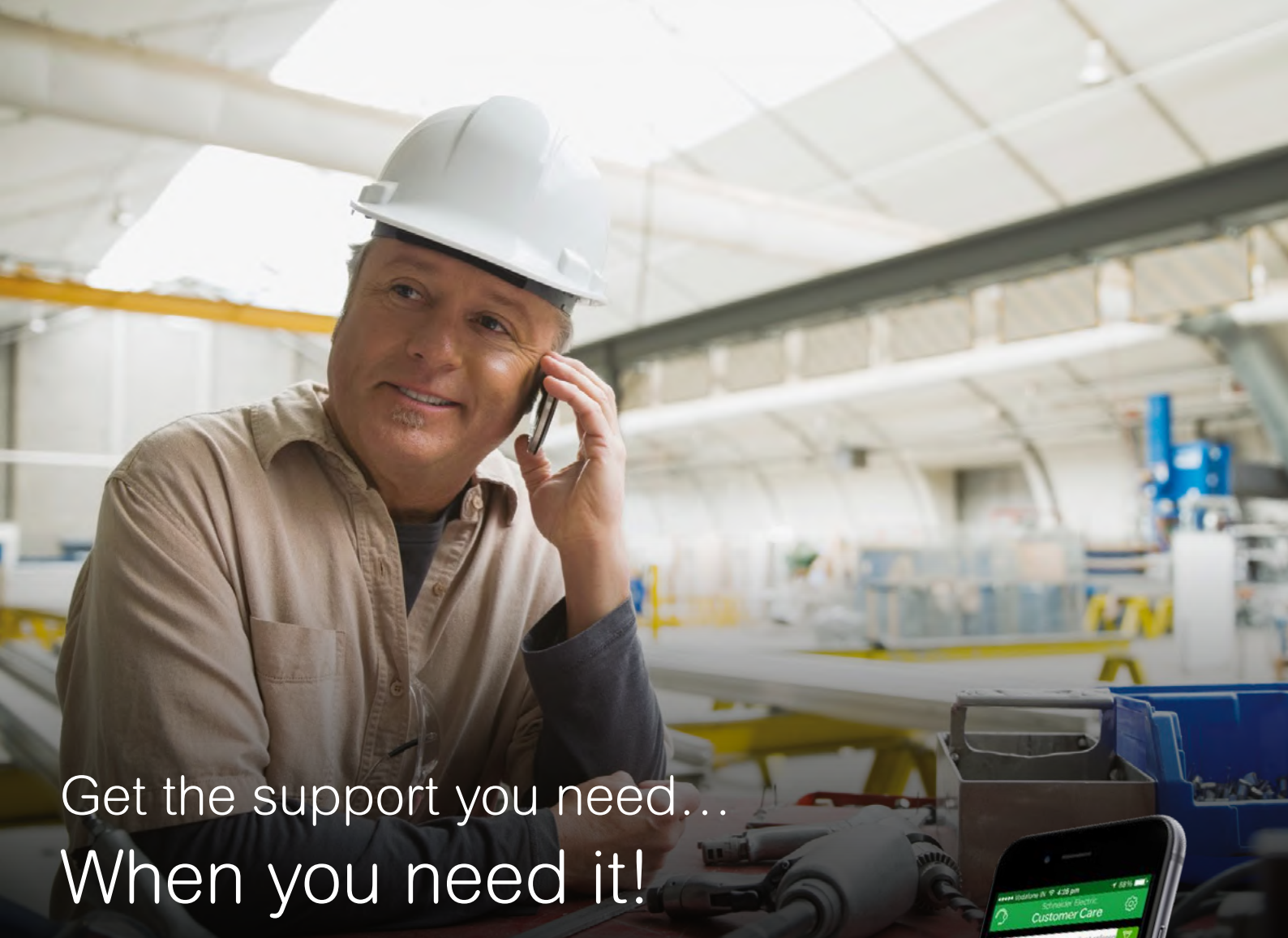
Dielectric Strength 7–15kV/mm
 Insulation Resistance 3.16 x 10¹⁴

Thermal Properties

Thermal Conductivity 0.2 – 0.3 kcal/(mh°C)
 Oxygen Index 42%
 Operating Temperature -140 to + 120°C

Weather Resistance

Water Absorption 24h = 0.15%
 4 days = 0.25%
 Weight Increase After 500h = 0.7%



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Thorne & Derrick
+44 (0) 191 410 4292
www.powerandcables.com

