



Innovative Composites Solution



GRP
Cable Ladders and Trays



GRP
Cable Ladders
and Trays

客戶服務熱線

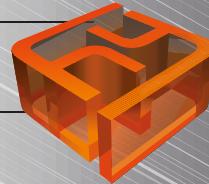
8222 8882

Outstanding at outlasting
in tough environments

YEUNG'S

fiberglass

楊 氏 玻 璃 纖 維 est. 1983



Corrosion resistant

For your heavy industry cabling needs there is one clear winner... glass-reinforced plastic (GRP) cable ladders and trays.

GRP products not only look attractive; they are stronger, last longer and are simpler to install than steel equivalents.

Outstanding at outlasting

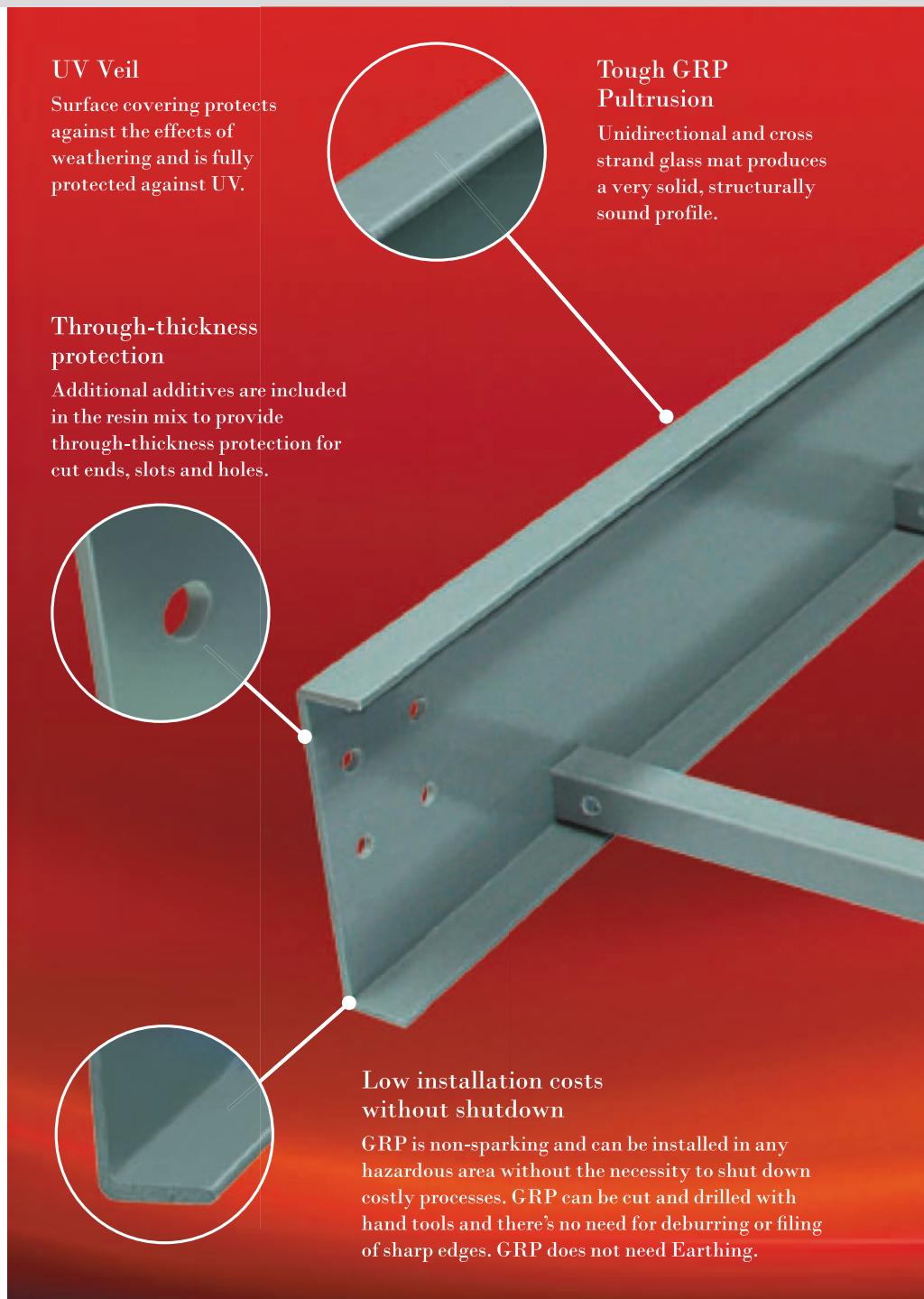
Choosing GRP cable support products ahead of steel variants makes sense when you calculate their significantly longer lifespan; over three times longer than steel alternatives! You can expect up to 30 years of use from our range of GRP cable support products.

Where steel is prone to corrosion within a few years, GRP cable support products are completely corrosion resistant. They're impervious to substances such as saline, chlorine and hydrogen sulphide, which saves you a lot of money on maintenance costs.

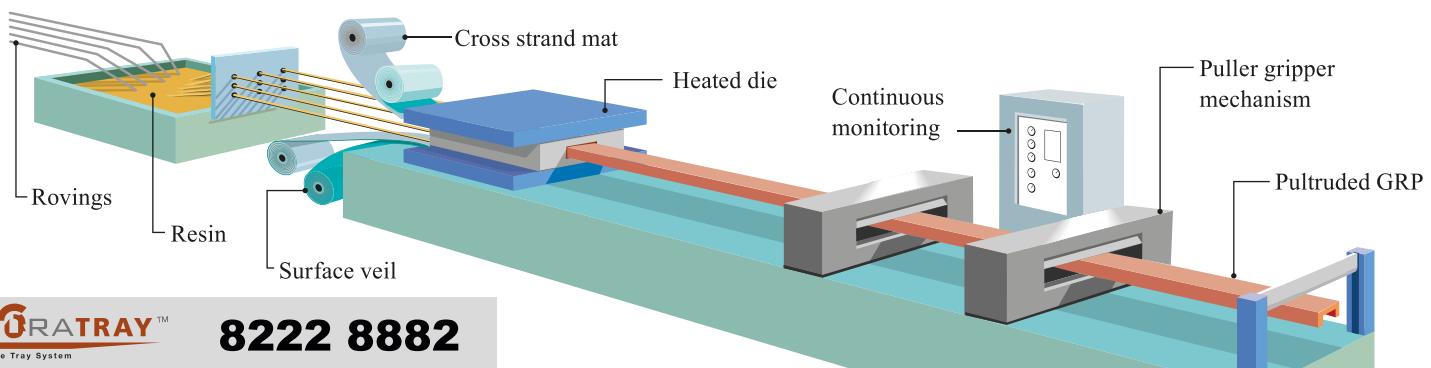
Superior safety performance

GRP cable support products can be safely installed where there are risks associated using steel products. GRP cable support products are 'non-sparking' and can be installed and worked on in any hazardous areas. GRP cable ladders and trays will not conduct heat or the effects of a fire either, as they have a slow rate of heat transfer. Because GRP cable support products have excellent insulation properties they protect the cabling from overheating in extreme heat environments. No Earthing is required because of their high insulation value, which saves time and potentially lives.

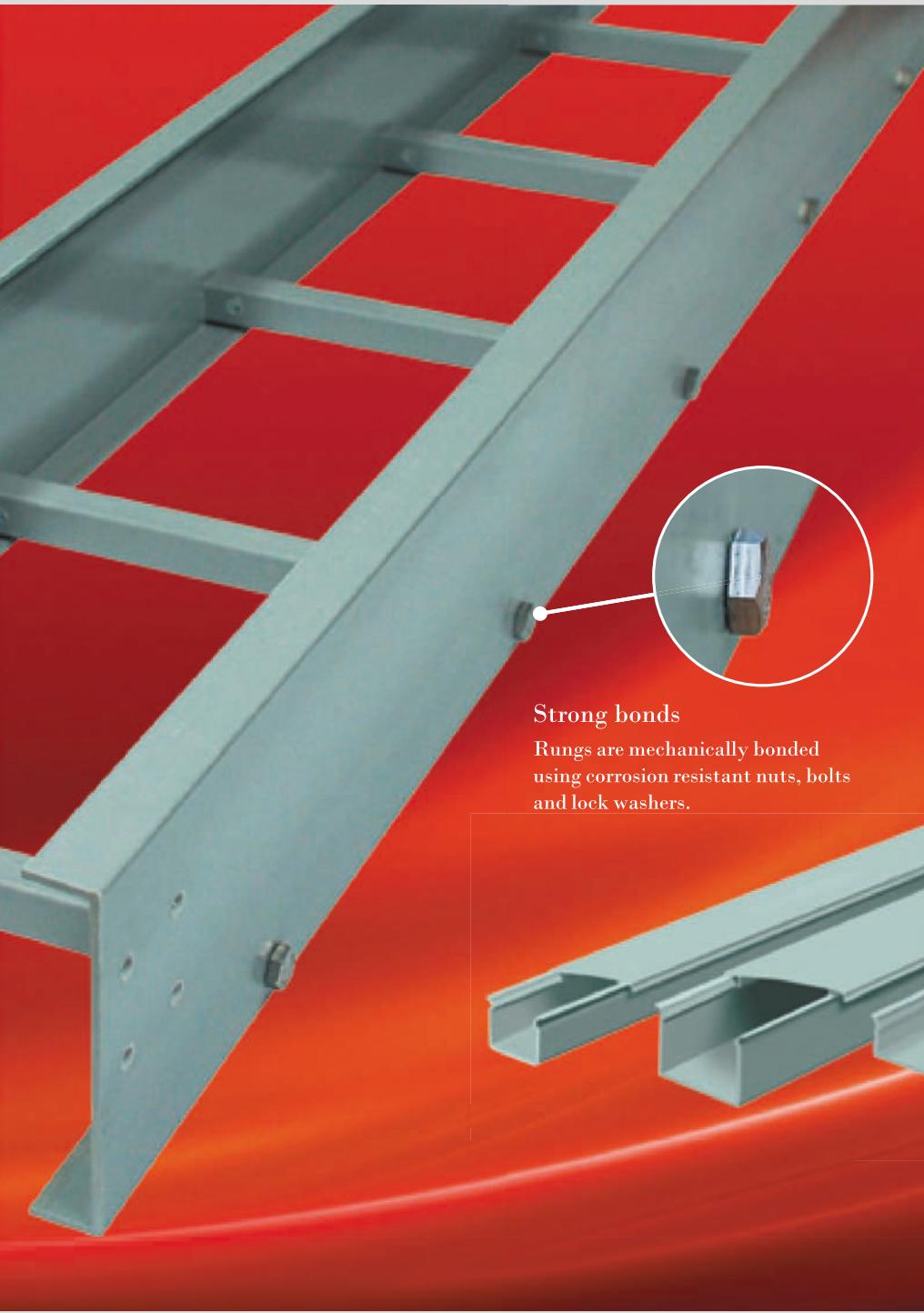
composite technology



P U L T R U D E D G R P



Simply outlasts any other



Strong bonds

Rungs are mechanically bonded using corrosion resistant nuts, bolts and lock washers.

Time saving installation

GRP cable support products are easily cut and drilled with hand tools, accommodating onsite assembly and configuration. In most applications, work can be undertaken without the need for a costly shutdown process. Unlike steel, GRP cable support products do not need to be deburred or require sharp edges to be filed down. And drilled edges do not need repairing with galvanising paint, as you would need to do with steel products. You can cut your installation time up to 40% by choosing GRP cable ladders and trays.

Benefits

Saves you money

- Longer life cycle of product (up to 30 years).
- No need to shut down business operations for installation.
- Faster installation.

Quicker installation

- Easily cut and drilled using metal-working tools.
- Onsite configuration.
- No deburring, painting or Earthing required.

Superior performance

- Superior corrosion resistance compared to stainless steel.
- Does not permanently deform under high loads.
- Excellent insulation to prevent heat transfer.

C O R R O S I O N R E S I S T A N C E

GRP cable support products are produced by means of the pultrusion process. This uses a combination of uni-directional rovings and cross strand glass mat which is resin impregnated and pulled through a heated die to produce a very solid, structurally sound profile.

The material is covered with a surface veil to protect against the effects of weathering and is fully protected against U.V. Additional additives are included in the resin mix to provide through-thickness protection for cut ends, slots and holes.

The strongest construction of the highest quality

Strongest GRP cable support products



Unbeatable construction

GRP cable support products are produced by means of the pultrusion process. This uses a combination of unidirectional and cross strand glass mat, which is resin impregnated and pulled through a heated die to produce a very solid, structurally sound profile.

Lower quality systems may use only unidirectional strand glass, which can set up a weakness in the transverse direction or even short strand glass in a press moulding rather than a pultrusion.

The composite is covered with a surface veil to protect against the effects of weathering and is fully protected against UV.

Additional additives are included in the resin mix to provide mechanical protection for cut ends, slots and holes.

Cable ladder rungs are constructed using corrosion resistant nuts, bolts and lock washers to ensure maximum mechanical strength. Unlike a resin glued system, the rungs will be unaffected by aggressive chemicals or high stresses in the vertical plane.

All environments GRP range



The benefits of pultruded GRP

Whilst simpler GRP manufacturing processes exist, no other procedure offers the ideal combination of properties for cable management like the pultrusion manufacturing process; high load bearing, corrosion resistance, and fire and weathering resistance.

Only the pultruded GRP manufacturing processes offers the structural strength and rigidity required for cable support systems. Pultrusion creates a material of consistently high density, which offers the very best protection against weathering. Pultruded composites remain largely impervious to corrosion regardless of application.

Pultruded composites consist of four or, in some instances, five main elements:

1. Glass rovings (strands) and mats - approximately 50% by weight.
2. Resin - usually polyester.
3. Filler - usually calcium carbonate.
4. UV veil and UV additives .
5. Fire retardants, as required.

Material

DuraTray GRP cable support products are manufactured from polyester isothalic resin. This material displays a good combination of corrosion and fire resistance.

An optional modar resin is available to special order for areas where the following properties are required:

- Improved fire resistance
- Zero halogen and reduced smoke.

All materials can also be supplied in options that provide anti-static properties if required.

Maintenance

As protection against weathering, the products contain UV stabilisers and surface veils, ensuring a long maintenance-free life.

Strength

GRP provides a higher tensile strength-to-weight ratio than equivalent steel products and does not permanently deform under heavy loads.

Thermal conductivity

The low thermal conductivity of GRP means the effects of fire are localised. GRP retains its integrity in situations where many metallic materials have degraded.

GRP can also be effectively used in a wide temperature range from -140°C to +120°C.

GRP Cable Ladders and Trays

GRP Cable Tray and Strut Channel

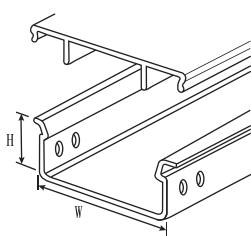
GRP Cable Tray

GS Tray - Slotted base

For areas where extreme corrosion resistance, zero halogen properties or hygiene is the overriding factor.

Clip-on cover
(sold separately)

Slotted base



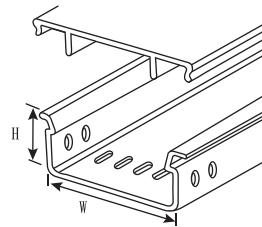
| Cat. Number | Width (mm) | Height (mm) | Weight per length (kg) |
|---------------|------------|-------------|------------------------|
| MDECTGSP100-6 | 100 | 60 | 3.9 |
| MDECTGSP150-6 | 150 | 60 | 4.5 |
| MDECTGSP200-6 | 200 | 60 | 5.8 |
| MDECTGSP300-6 | 300 | 60 | 8.0 |

NOTE: Available 400mm, 500mm and 600mm MTO minimum quantities.

GR Tray - Solid base

Clip-on cover
(sold separately)

Solid base

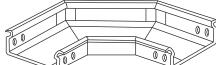


| Cat. Number | Width (mm) | Height (mm) | Weight per length (kg) |
|---------------|------------|-------------|------------------------|
| MDECTGRP100-6 | 100 | 60 | 3.9 |
| MDECTGRP150-6 | 150 | 60 | 4.5 |
| MDECTGRP200-6 | 200 | 60 | 5.8 |
| MDECTGRP300-6 | 300 | 60 | 8.0 |

Accessories

Bends

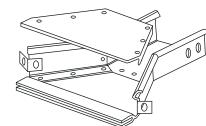
90° Flat Bend



45° Flat Bend

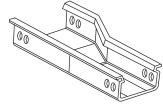


Tee/Cross Unit

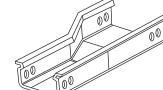


Reducers

Left Hand Reducer

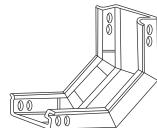


Right Hand Reducer

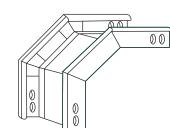


Risers

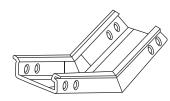
90° Internal Riser



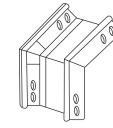
90° External Riser



45° Internal Riser

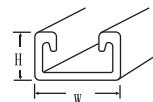


45° External Riser

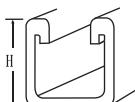


GRP Heavy Duty Strut Channel

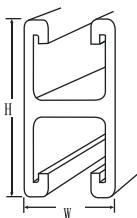
MDE40018256



MDEGS1STRUT



MDE40018257

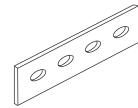


| Cat. Number | Width (mm) | Height (mm) | Weight per length (kg) |
|-------------|------------|-------------|------------------------|
| MDEGS1STRUT | 44 | 41 | 6.56kg |
| MDE40018256 | 44 | 25 | 4.98kg |
| MDE40018257 | 44 | 82 | 14.01kg |

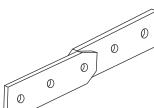
NOTE: Sold in 6m standard lengths.

Stainless Steel Accessories

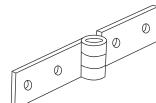
Straight Coupler



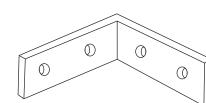
Hinged Coupler



Variable Angle Coupler



Horizontal Angle Coupler 90°

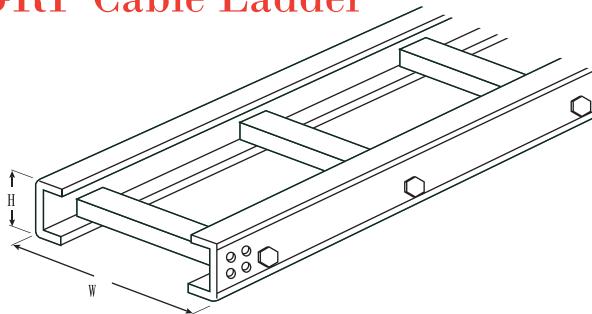


DORATRAY
Cable Tray System

8222 8882

GRP Cable Ladder and Support

GRP Cable Ladder



L Series

Light Duty:
supports less
than 75kg/m
U.D. Load.

* Made to order

| Cat. Number | Width (mm) | Height (mm) |
|----------------|------------|-------------|
| MDECLLDL15083 | 150 | 83 |
| MDECLLDL20083 | 200 | 83 |
| MDECLLDL30083 | 300 | 83 |
| MDECLLDL40083 | 400 | 83 |
| MDECLLDL45083 | 450 | 83 |
| MDECLLDL60083 | 600 | 83 |
| MDECLLDL75083* | 750 | 83 |
| MDECLLDL90083* | 900 | 83 |

A Series - NEMA 20A

| Cat. Number | Width (mm) | Height (mm) |
|-----------------|------------|-------------|
| MDECLGML150100 | 150 | 100 |
| MDECLGML200100 | 200 | 100 |
| MDECLGML300100 | 300 | 100 |
| MDECLGML400100 | 400 | 100 |
| MDECLGML450100 | 450 | 100 |
| MDECLGML600100 | 600 | 100 |
| MDECLGML750100* | 750 | 100 |
| MDECLGML900100* | 900 | 100 |

B Series - NEMA 20B

| Cat. Number | Width (mm) | Height (mm) |
|-----------------|------------|-------------|
| MDECLGNL150150 | 150 | 150 |
| MDECLGNL200150 | 200 | 150 |
| MDECLGNL300150 | 300 | 150 |
| MDECLGNL400150 | 400 | 150 |
| MDECLGNL450150 | 450 | 150 |
| MDECLGNL600150 | 600 | 150 |
| MDECLGNL750150* | 750 | 150 |
| MDECLGNL900150* | 900 | 150 |

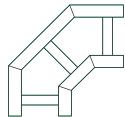
C Series - NEMA 20C

| Cat. Number | Width (mm) | Height (mm) |
|-----------------|------------|-------------|
| MDECLGHL150150 | 150 | 150 |
| MDECLGHL200150 | 200 | 150 |
| MDECLGHL300150 | 300 | 150 |
| MDECLGHL400150 | 400 | 150 |
| MDECLGHL450150 | 450 | 150 |
| MDECLGHL600150 | 600 | 150 |
| MDECLGHL750150* | 750 | 150 |
| MDECLGHL900150* | 900 | 150 |

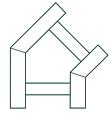
Accessories

Bends

90° Flat Bend

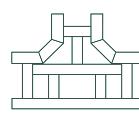


45° Flat Bend



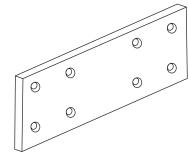
Tee/Cross Units

Equal Tee



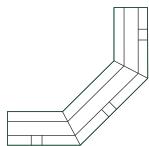
Coupling Kit

Coupling Plates and Fasteners

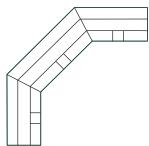


Risers

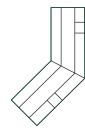
90° Internal Riser



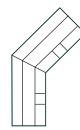
90° External Riser



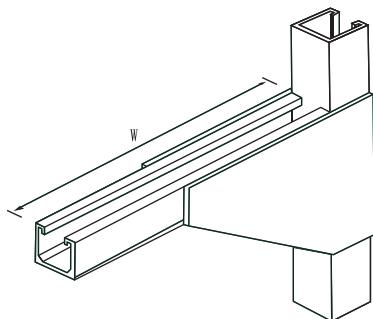
45° Internal Riser



45° External Riser



Heavy Duty Cantilever Arm Support



Cat. Number

| Cat. Number | Width (mm) | Weight (kg) | U.D. Load (kgf) |
|-----------------|------------|-------------|-----------------|
| MDECLCAGSCAH015 | 180 | 1.09 | 227 |
| MDECLCAGSCAH020 | 230 | 1.22 | 229 |
| MDECLCAGSCAH025 | 280 | 1.35 | 196 |
| MDECLCAGSCAH030 | 330 | 1.47 | 171 |
| MDECLCAGSCAH035 | 380 | 1.60 | 151 |
| MDECLCAGSCAH040 | 430 | 1.73 | 136 |
| MDECLCAGSCAH045 | 480 | 1.85 | 124 |
| MDECLCAGSCAH050 | 530 | 1.98 | 113 |
| MDECLCAGSCAH055 | 580 | 2.11 | 104 |
| MDECLCAGSCAH060 | 630 | 2.23 | 97 |
| MDECLCAGSCAH065 | 680 | 2.36 | 90 |
| MDECLCAGSCAH075 | 780 | 2.62 | 79 |
| MDECLCAGSCAH080 | 830 | 2.74 | 75 |
| MDECLCAGSCAH090 | 930 | 3.00 | 67 |
| MDECLCAGSCAH095 | 980 | 3.13 | 64 |
| MDECLCAGSCAH100 | 1030 | 3.25 | 61 |

GRP cable support products Resistance to chemical agents**Mechanical specifications**

Isothalic thermoset polyester resin with unidirectional 'E' glass core, sandwiched between inner and outer layers of 450 gms/sq m 'E' glass continuous filament material.

All surfaces covered with polyester veil to provide chemical and UV protection.

Flame-retardant, halogen-free GRP

GRP is a non-halogenated resin and includes flame retardant additives. GRP does not contain any chlorine or bromine. No toxic halogens are released at high temperatures or in the case of a fire.

Ideal for use in the food and petrochemical industries.

Resistance to chemical agents

| Chemical agent | Concentration | Temp °C | Resistance |
|-----------------------|---------------|---------|------------|
| Acetic Acid | 5% | 65 | + |
| Aluminium Sulphate | | 95 | + |
| Ammonium Nitrate | 100% | 95 | + |
| Beer | | 20 | + |
| Benzene | | 20 | + |
| Calcium Chloride | | 95 | + |
| Chlorine Gas/Water | | 20 | + |
| Chromic Acid | 5% | 95 | + |
| Copper Sulphate | | 95 | + |
| Ethylene Chlorohydrin | | 65 | + |
| Ethylene Glycol | | 95 | + |
| Ferrous Sulphate | | 95 | + |
| Fatty Acids | 100% | 95 | + |
| Hydrochloric Acid | 1% | 95 | + |
| Hydrochloric Acid | 10% | 65 | + |
| Hydrochloric Acid | 37% | 25 | + |
| Kerosene | | 95 | + |
| Magnesium Chloride | | 95 | + |
| Naphthaline | | 95 | + |
| Nitric Acid | 30% | 20 | + |
| Phosphoric Acid | 10% | 95 | + |
| Phosphoric Acid | 10% | 95 | + |
| Phosphoric Acid | 85% | 65 | + |
| Salt Water | | 65 | + |
| Sodium Bicarbonate | | 65 | + |
| Sodium Bisulphite | | 25 | + |
| Sodium Carbonate | | 25 | + |
| Sodium Chloride | | 95 | + |
| Sodium Hypochlorite | 5% | 65 | + |
| Sodium Nitrate | 100% | 95 | + |
| Sodium Silicate | | 25 | + |
| Sodium Sulphate | | 95 | + |
| Sulphuric Acid | 1% | 95 | + |
| Sulphuric Acid | 5% | 65 | + |
| Sulphuric Acid | 10% | 76 | + |
| Sulphuric Acid | 30% | 25 | + |
| Trisodium Phosphate | | 25 | + |
| Water Sea/Tap | 100% | 50 | + |
| Zinc Sulphate | | 65 | + |



Innovative Composites Solution

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ISO 9001:2008 CERTIFIED
國際品質管理體系標準認可

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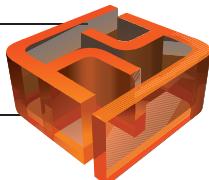


Certificate No: Q173

YEUNG'S

fiberglass

楊氏玻璃纖維 est. 1983



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Web: www.fiberglass.com.hk

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Water Supply Department
APPROVED PRODUCT