FRP CABLE SUPPORT SYSTEM

Cable Tray / Cable Ladder

D Linee



PT TEKNIK BUDI PERKASA

THE BEST PARTNER



About

PT Teknik Budi Perkasa

PT Teknik Budi Perkasa has been 15 years of shaping the future with innovative FRP (Fiberglass Reinforced Polymer) solutions. Since 2009, we've been a trusted partner, providing high-quality FRP products and exceptional customer service across various industries.

We produce any products within our scope made from FRP material. This refers to the advantages of FRP material, namely high strength, corrosion resistance, and chemical resistance. With these advantages, FRP products are suitable for use in various industries, even in environments with very high hazardous levels.

400+
Success Project

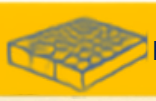
130+
Happy Customer

15+
Years of Experience

20+
Cities Served

WHY CHOOSE FRP ?

FRP (Fiberglass Reinforced Polymer) composite delivers superior performance in the most demanding environments. See how it outperforms conventional steel across key operational factors.

	 CONVENTIONAL STEEL	 FRP COMPOSITE
CORROSION RESISTANCE	Prone to rust and corrosion. Requires coating and protection.	Excellent corrosion resistance. Ideal for harsh environments.
WEIGHT	Heavy and difficult to handle.	Lightweight. Easy to transport and install.
MAINTENANCE	High maintenance. Requires regular inspection and repainting.	Low maintenance. No painting, minimal inspection required.
ELECTRICAL CONDUCTIVITY	Conductive. Requires insulation.	Non-conductive. Inherently electrically insulating.
CHEMICAL RESISTANCE	Susceptible to many chemicals.	High chemical resistance. Suitable for aggressive media.
SERVICE LIFE	Shorter service life. Degrades over time.	Long service life. Built to last for decades.

PT TEKNIK BUDI PERKASA
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01

DLINEE FRP CABLE TRAY

- Corrosion Resistant
- High Strength
- Lightweight
- Non Conductive
- UV Resistant
- Fire Retardant
- Chemical Resistant
- Low Maintenance
- Radio Frequency Transparency

FRP Cable Tray

FRP Cable Tray

FRP Cable Tray is a corrosion-resistant, lightweight, and high-strength cable management solution designed for industrial environments. Engineered for durability and long service life, it ensures safe and efficient cable support in demanding conditions.



Applications

- Power Plants and Industrial Facilities
- Chemical Processing Plants
- Oil and Gas Refineries
- Food and Beverage Processing Plants
- Water Treatment Facilities
- Factory
- Infrastructure
- Marine
- Telecommunication rooms
- Data Centers

FRP Cable Tray

Available Size

Available in a comprehensive range of standard sizes, our FRP Cable Tray system offers both Cover and Straight configurations to meet diverse cable management requirements across industrial applications.

01 FRP COVER CABLE TRAY



W 50mm x L 3000mm
Thickness 3mm

02 FRP COVER CABLE TRAY



W 100mm x L 3000mm
Thickness 3mm

03 FRP COVER CABLE TRAY



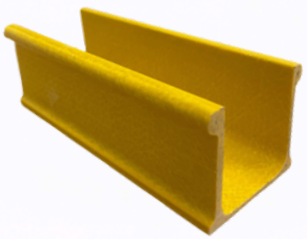
W 200mm x L 3000mm
Thickness 3,5mm

04 FRP COVER CABLE TRAY



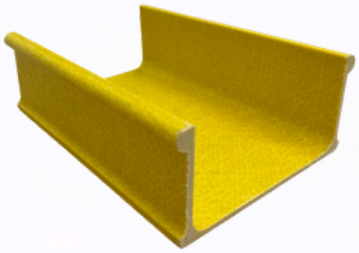
W 300mm x L 3000mm
Thickness 3,5mm

05 FRP STRAIGHT CABLE TRAY



W 50mm x H 50mm x L 3000mm
Thickness 3mm

06 FRP STRAIGHT CABLE TRAY



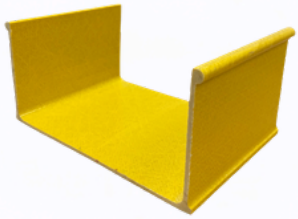
W 100mm x H 50mm x L 3000mm
Thickness 3mm

07 FRP STRAIGHT CABLE TRAY



W 100mm x H 100mm x L 3000mm
Thickness 3,5mm

08 FRP STRAIGHT CABLE TRAY



W 200mm x H 100mm x L 3000mm
Thickness 3,5mm

09 FRP STRAIGHT CABLE TRAY



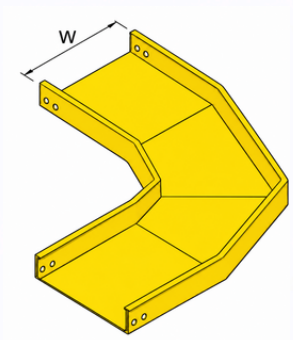
W 300mm x H 100mm x L 3000mm
Thickness 3,5mm

FRP Cable Tray

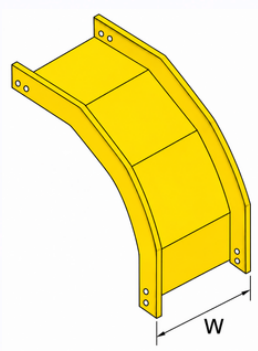
Available Fitting

Available in a wide range of standard configurations, providing reliable connections, flexible routing, and efficient installation for industrial cable management systems.

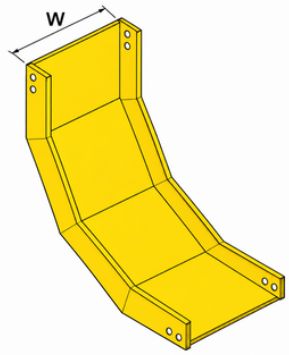
01 90° HORIZONTAL ELBOW TRAY



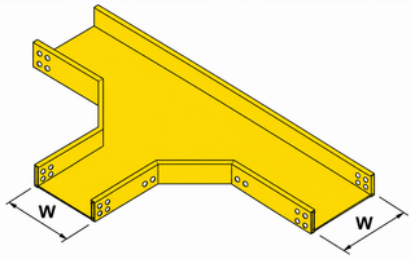
02 90° OUTSIDE VERTICAL ELBOW TRAY



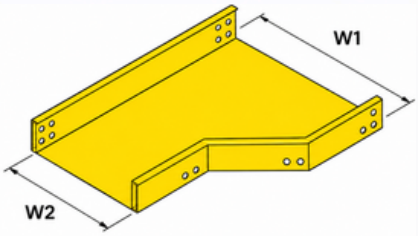
03 90° INSIDE VERTICAL ELBOW TRAY



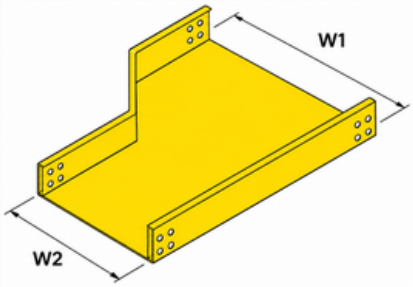
04 HORIZONTAL EQUAL TEE TRAY



05 RIGHT HAND SIDE REDUCER TRAY



06 LEFT HAND SIDE REDUCER TRAY



Available Size

W (mm)	H (mm)	R (mm)
50, 100, 200, 300	50, 100	300 - 900

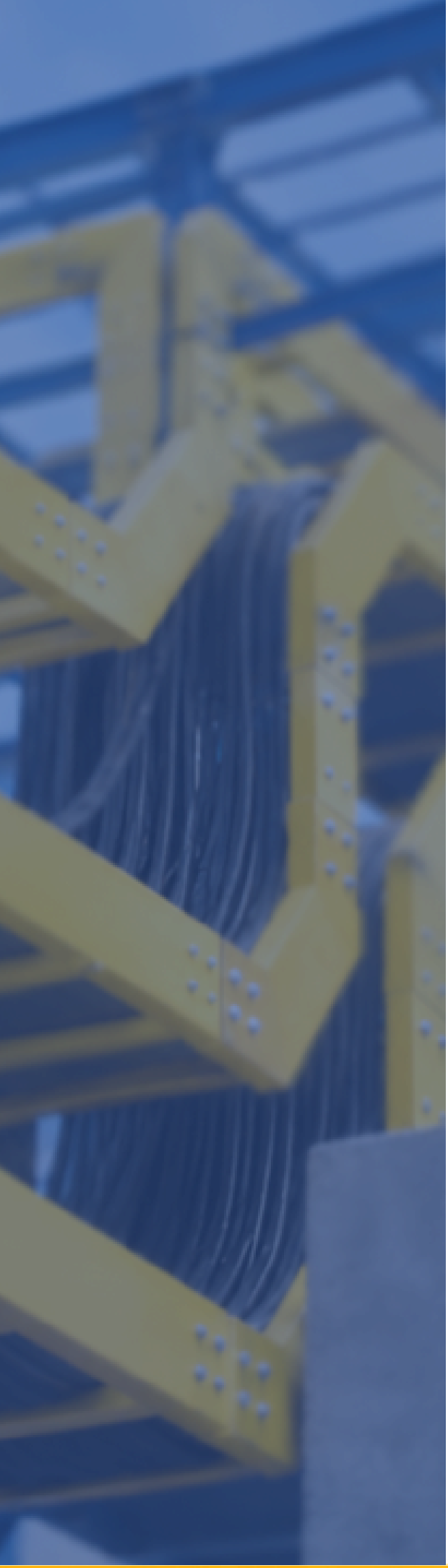
Note : Custom sizes are available upon request. If your required dimensions are not listed above, please contact us for a customized solution.

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THE BEST PARTNER

02

DLINEE
FRP CABLE LADDER

Corrosion Resistant
High Strength
Lightweight
Non Conductive
UV Resistant
Fire Retardant
Chemical Resistant
Low Maintenance
Radio Frequency Transparency



DLINEE

FRP Cable Ladder

FRP Cable Ladder is a corrosion-resistant, lightweight, and high-strength cable management solution designed for industrial environments. Engineered for durability and long service life, it provides secure cable support and reliable performance in demanding applications.

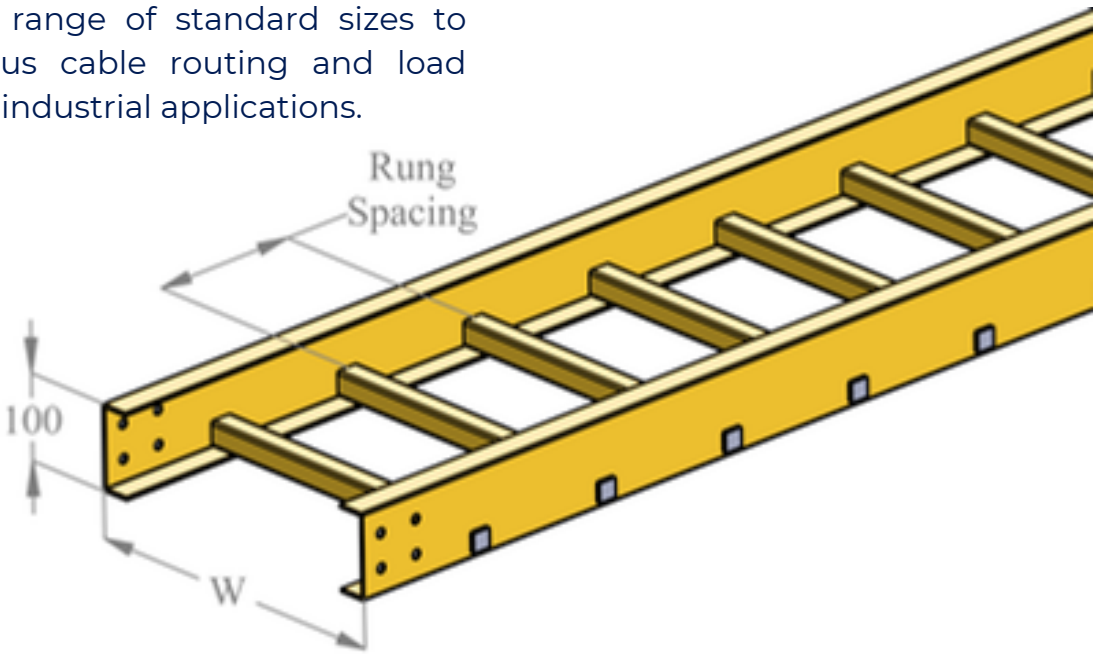
Applications

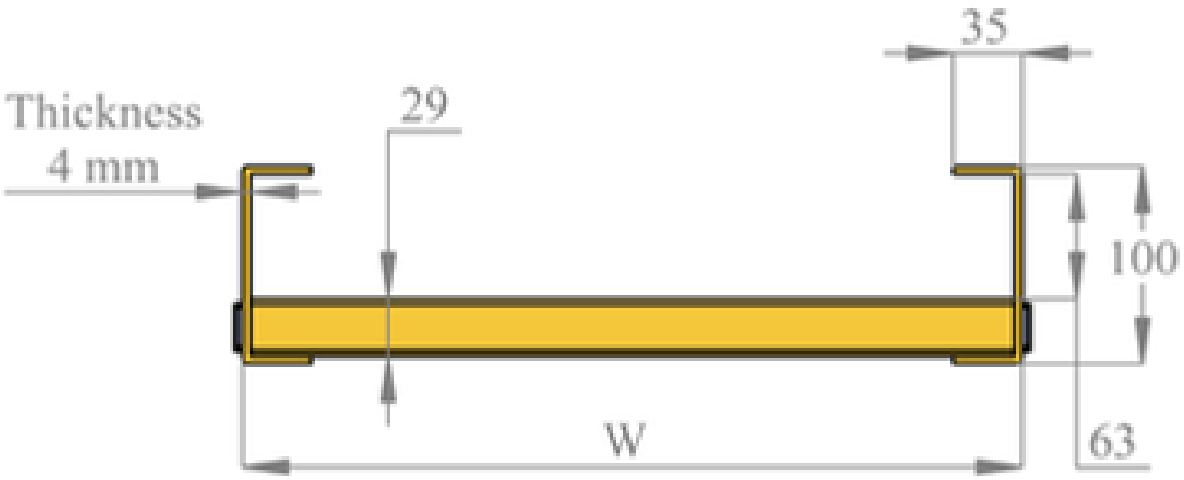
- Power Plants and Industrial Facilities
- Chemical Processing Plants
- Oil and Gas Refineries
- Food and Beverage Processing Plants
- Water Treatment Facilities
- Factory
- Infrastructure
- Marine
- Telecommunication rooms
- Data Centers

FRP Cable Ladder

TYPE 100 : Available Size

Available in a wide range of standard sizes to accommodate various cable routing and load requirements across industrial applications.





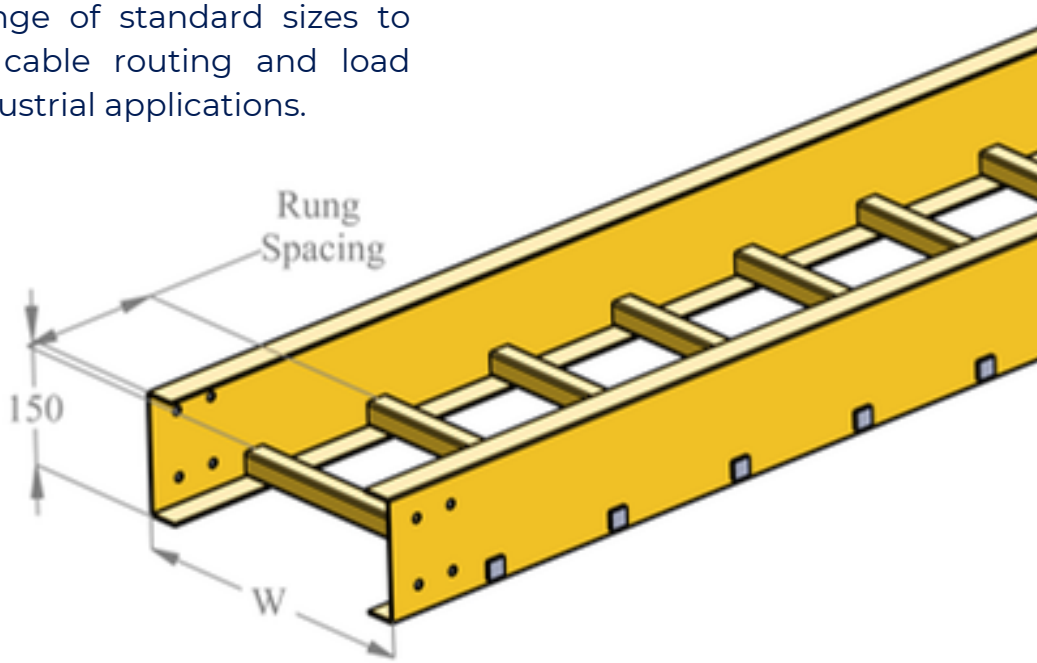
W (mm)	H (mm)	L (mm)	Rung Space (mm)
100, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000	100	3000	150, 200, 300

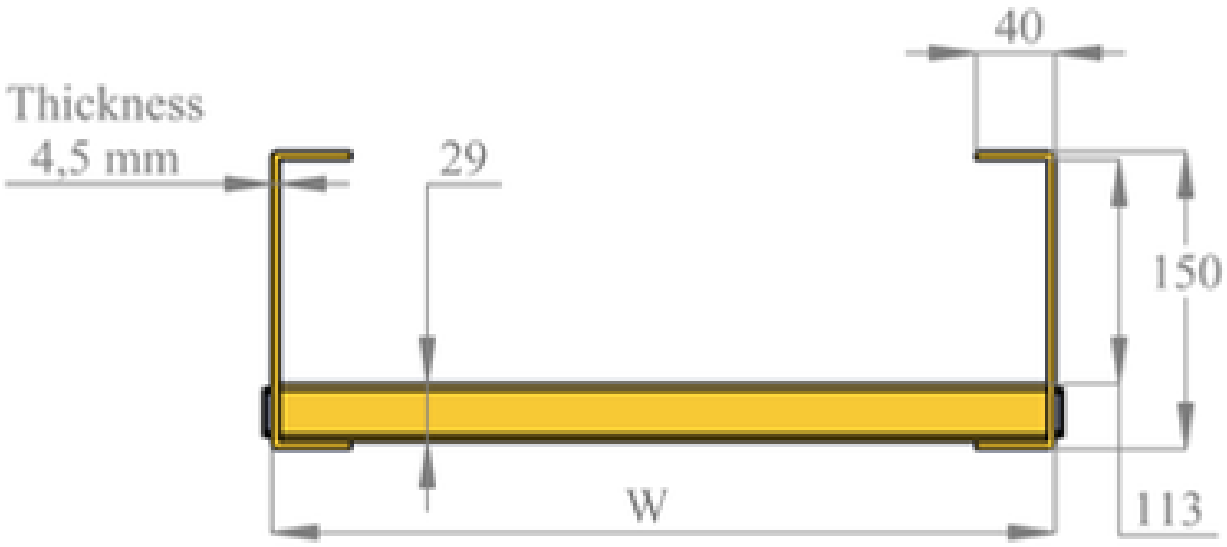
Note : Custom sizes are available upon request. If your required dimensions are not listed above, please contact us for a customized solution.

FRP Cable Ladder

TYPE 150 : Available Size

Available in a wide range of standard sizes to accommodate various cable routing and load requirements across industrial applications.





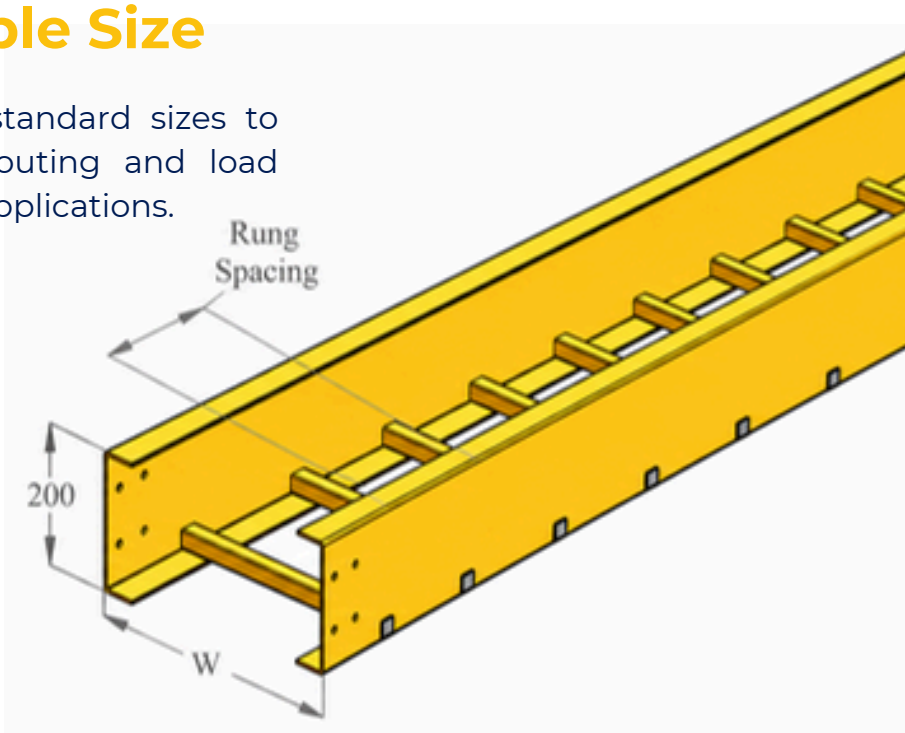
W (mm)	H (mm)	L (mm)	Rung Space (mm)
150, 200, 300, 400, 500, 600, 700, 800, 900, 1000	150	3000	150, 200, 300

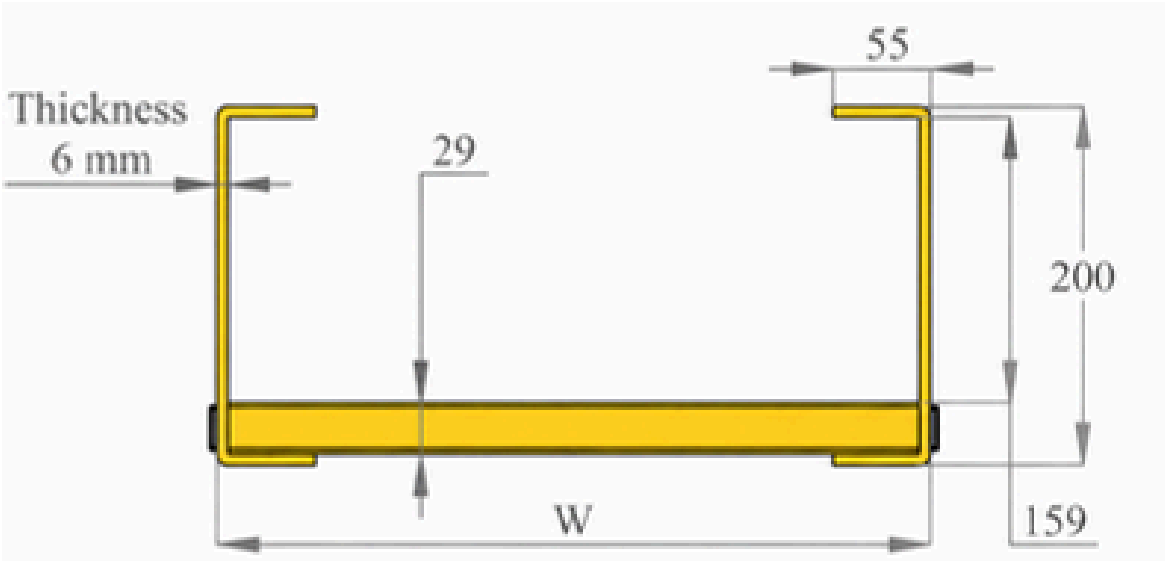
Note : Custom sizes are available upon request. If your required dimensions are not listed above, please contact us for a customized solution.

FRP Cable Ladder

TYPE 200 : Available Size

Available in a wide range of standard sizes to accommodate various cable routing and load requirements across industrial applications.





W (mm)	H (mm)	L (mm)	Rung Space (mm)
100, 150, 200, 300, 400, 500, 600, 700, 800, 900, 1000	200	3000	150, 200, 300

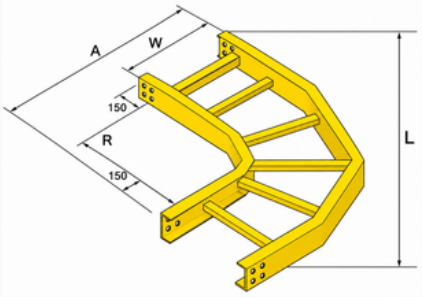
Note : Custom sizes are available upon request. If your required dimensions are not listed above, please contact us for a customized solution.

FRP Cable Ladder

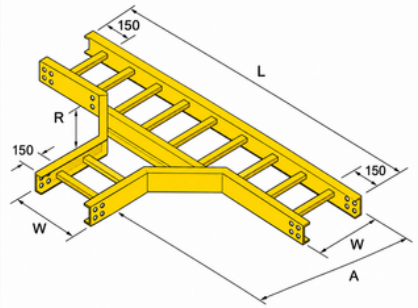
Available Fitting

Available in a wide range of standard configurations, providing reliable connections, flexible routing, and efficient installation for industrial cable management systems.

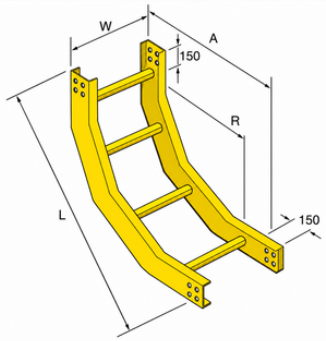
01 90° HORIZONTAL ELBOW LADDER



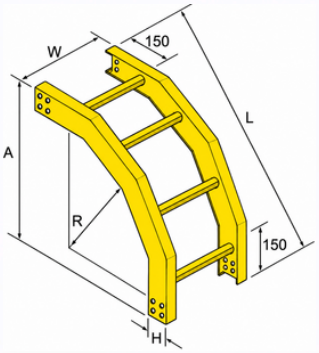
02 HORIZONTAL EQUAL TEE LADDER



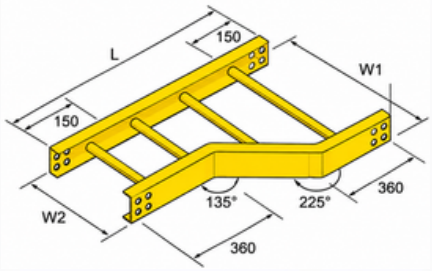
03 90° INSIDE VERTICAL ELBOW LADDER



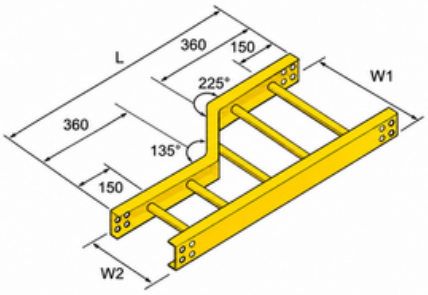
04 90° OUTSIDE VERTICAL ELBOW LADDER



05 RIGHT HAND SIDE REDUCER LADDER



06 LEFT HAND SIDE REDUCER LADDER



Available Size

W (mm)	H (mm)	R (mm)
150, 200, 300, 400, 500, 600, 700, 800, 900, 1000	100, 150	300 - 900

Note : Custom sizes are available upon request. If your required dimensions are not listed above, please contact us for a customized solution.

FRP Cable Ladder

LOAD TESTING : Pass Standard NEMA FG-1 8C

Load testing verifies the structural performance and load-carrying capacity of cable ladder systems. Our FRP Cable Ladder successfully passed the load capacity test in accordance with NEMA FG-1 requirements, demonstrating excellent structural integrity, superior load-bearing performance, and reliable support for cable management systems.

Test Parameter	Value
Standard	NEMA FG-1
Name of Sample	Cabble Ladder
Dimension	W600 x H150 x Rung Spacing 300
Length of Span	2.44 m (as per NEMA FG-1)
Temperature	30 °C
Humidity	-
Test Equipment	Laser waterpass, Ruler, Test load

Graphic Load

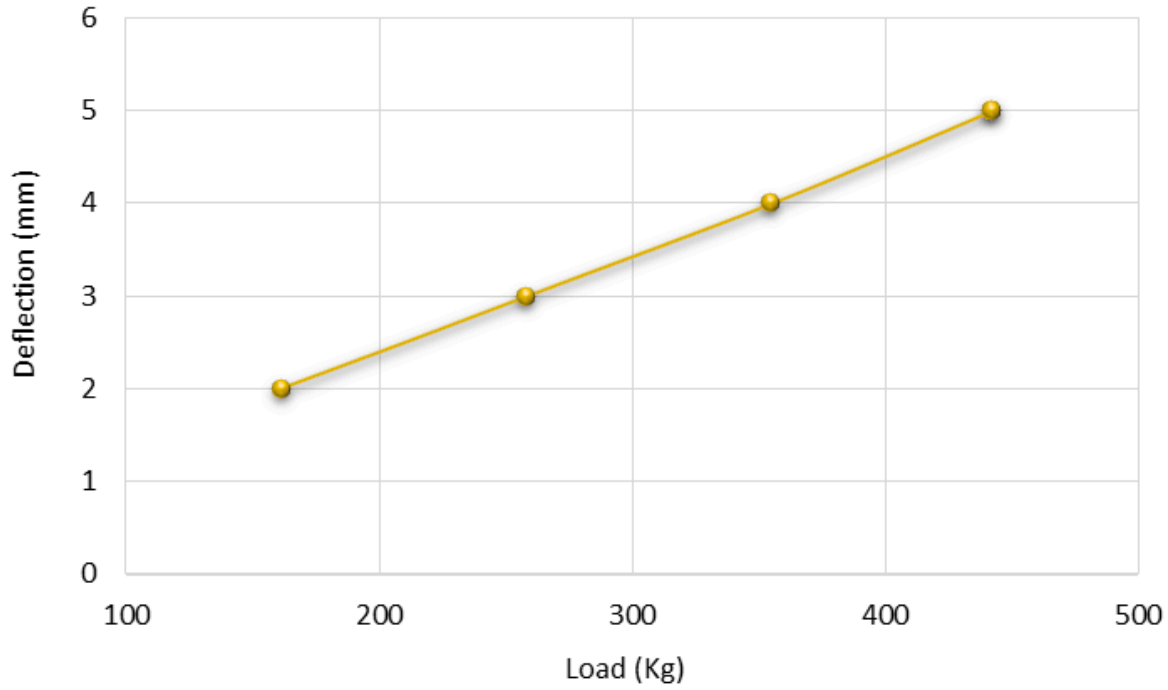




Fig 1. Test setup and steel bars as loading material as per NEMA FG1



Fig 2. Testing process (161.3 Kg)



Fig 3. Final Test Condition (441.9 Kg)

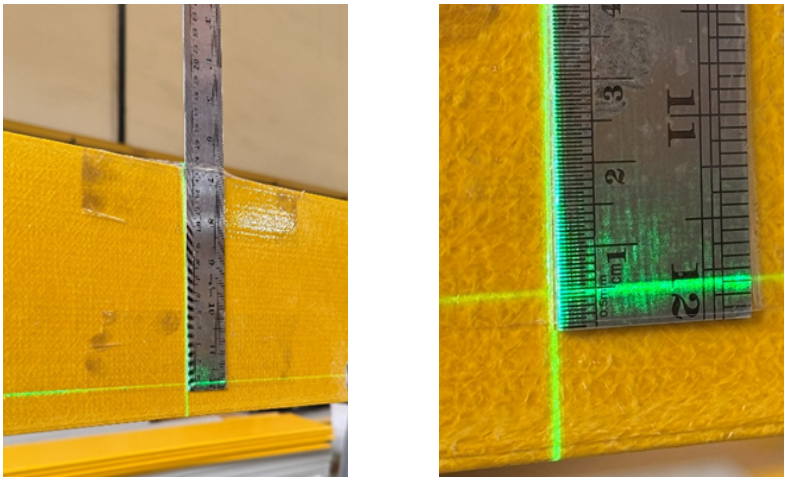


Fig 4. Final deflection measurement (5 mm)

Conclusion

The load test results confirm that our FRP Cable Ladder complies with the highest NEMA FG-1 loading classification, Class 8C, for a 2.44 m test span.

The minimum required uniformly distributed load is 148.8 kg/m. During testing, the specimen successfully sustained a uniformly distributed load exceeding 181.1 kg/m while maintaining structural integrity and without structural failure, confirming excellent load-bearing performance and structural reliability.

Mechanical Test Report

This test uses the following standard :

- **ASTM D3039**
  Tensile Properties of Polymer Matrix Composite Materials
- **ASTM D256**
  Determining the Izod Pendulum Impact Resistance of Plastics
- **SNI 8282:2016**
  Test Method for Indentation Hardness of Rigid Plastics Using Barcol Impressor
- **ASTM D257**
  DC Resistance or Conductance of Insulating Materials

With the following test results :

No	Testing Type	METHOD	Reference limit	FRP (Fibreglass Reinforced Polymer)			
				3 mm	3.5 mm	4 mm	6 mm
1	* Tensile Strength (Mpa)	ASTM D3039	200	688.98 ± 66.69	627.30 ± 89.39	579.33 ± 27.55	450.01 ± 45.17
2	* Nominal Strain at Break (%)	ASTM D3039	1.5 - 2.5	7.10 ± 0.57	7.01 ± 0.94	7.76 ± 0.41	7.58 ± 0.16
3	* Izod Impact Strength (J/m)	ASTM D256	50 - 250	4374.96 ± 795.46	5414.63 ± 609.85	5114.43 ± 754.25	-
4	Hardness Barcol	SNI 8828:2016	35 - 50	57 ± 1	57 ± 2	57 ± 2	61 ± 3
5	Surface Resistivity (Ω)	ASTM D257	10^{11}	$[4.99 \pm 1.31] \times 10^{12}$			

This test uses the following standard :

NEMA FG 1-1993- Fibreglass Cable Tray Systems
EN 13706 : Reinforced plastics composites — Specifications for pultruded profiles (Displacement limit L/200)

CABLE TRAY W300mm x H100mm x T3,5mm

Deflection (mm)	Load (Kg)						Result
	94.5	172.1	241.2	309.8	367.1	424.4	
Solid	1.5	3.5	5.5	6	6.5	8	The load that can be supported is 178 kg/m, which is in class 8C.
Perforated	2	3.5	6.5	7	8.5	9	
Ventilating	2	4	7.5	8	8.5	10	

*Span : 2,44m
Note: deflection maximum 2440/ 200 mm = 12.2 mm

CABLE TRAY W200mm x H100mm x T3,5mm

Deflection (mm)	Load (Kg)						Result
	63.4	126.4	172.9	216.4	262.9	332.9	
Solid	2	3	3.5	4	5	7	The load that can be supported is 136 kg/m, which is in class 8B, but this has not reached the permissible deflection limit due to the limitations of the test area.
Perforated	2	9	3.5	5	6.5	7	
Ventilating	2	3	4	6	7.5	8	

*Span : 2,44m
Note: deflection maximum 2440/ 200 mm = 12.2 mm

CABLE TRAY W100mm x H50mm x T3mm

Deflection (mm)	Load (Kg)							Result
	31,5	63,4	94,2	126,4	149,2	172,4	194,7	
Solid	6	9	12	15	17	19	21	The load that can be supported is 58.68 kg/m,not available for class 8A, 8B, 8C.
Perforated	7,5	10	12,5	15	17,5	19,5	21,5	
Ventilating	8	11	14	17	19	21	22	

*Span : 2,44m

CABLE TRAY W50mm x H50mm x T3mm

Deflection (mm)	Load (Kg)										Result
	6,5	13,4	36,7	59,3	82,5	105,6	128,7	150,8	174,2	187,5	
Solid	2	3	6	8	11	13	15	17	19	21	The load that can be supported is 39.8 kg/m,not available for class 8A, 8B, 8C.
Perforated	2	4	8,5	11	13,5	15	16,5	18	19,5	21	
Ventilating	2,5	4	9	11	14,5	16	17,5	19	20,5	22	

*Span : 2,44m

FRP Cable Ladder

Application Reference













Certified Credentials

and Quality Standards



















TKDN TINGKAT KOMPONEN DALAM NEGERI

Kementerian Perindustrian REPUBLIK INDONESIA

BRIN BADAN RISET DAN INOVASI NASIONAL

ACMA American Composites Manufacturers Association

ASTM INTERNATIONAL

International Organization for Standardization ISO 9001

Lasting Performance

PT Teknik Budi Perkasa is committed to delivering high-quality FRP Roof and Cladding that ensure safety, durability, and efficiency for every industrial application.

Let's Build Together

Partner with us for reliable products, trusted service, and long-term success.

Contact Us

PT Teknik Budi Perkasa

Head Office
Pergudangan 99 Blok R7
Jl. Raya Salembaran, Cengklong
Kosambi – Dadap
Tangerang – 15212

Branch Office - Surabaya
Jl. Rungkut Alang-Alang No.25,
Kali Rungkut, Kec. Rungkut,
Surabaya, Jawa Timur 60293

Plant I
Pergudangan 99 Blok S 6
Jl. Raya Salembaran, Cengklong
Kosambi – Dadap
Tangerang – 15212

Plant II
Pergudangan 99 Blok T 1A - T 1B
Jl. Raya Salembaran, Cengklong
Kosambi – Dadap
Tangerang – 15212

WhatsApp : **0852-1123-6800**

Phone : **021 2255 0092**

Email : **marketing@teknikbudiperkasa.com**

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