

Dynarail® Safety Ladders & Cages



Building the World to Last™

HIGH PERFORMANCE COMPOSITE SOLUTIONS



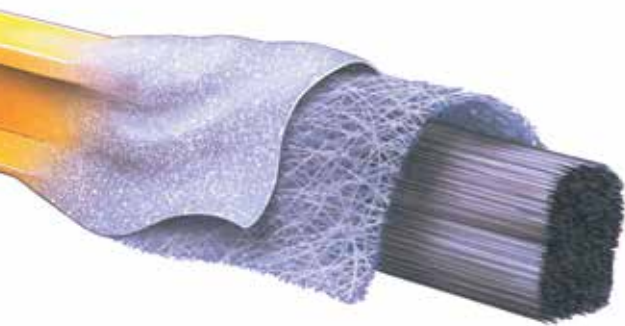
Dynarail® Safety Ladder & Cages



Combining corrosion resistance, long life and a low maintenance design, Dynarail® ladder systems are superior to conventional metallic systems. These advanced systems are designed and manufactured to be easily installed with no guesswork involved. Components are lightweight and easy to fabricate. Savings on labor and equipment often make the total installed cost of Dynarail comparable to that of steel. Combining its low cost of installation with low maintenance and long life, Dynarail offers a life cycle cost that is significantly lower than that of its counterparts.

The Dynarail ladder line includes ladders, standard walk-thrus and safety cages. Fibergrate's complete line of Dynarail products offer a variety of solutions for most applications.

Dynarail components, including the railing, kickplate and ladder rungs, are manufactured using the proven Fibergrate pultrusion process. In this process, continuous fiber rovings and mat as well as a synthetic veil are mechanically drawn through a resin bath and shaped through a series of forming guides, then pulled through a heated die.



Dynarail Benefits



Corrosion Resistant: Dynarail® fiberglass ladder systems are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.



Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.



Low Install Cost: Due to ease of fabrication and lightweight, FRP ladders eliminate the need for heavy lifting equipment. Components are also labeled with tags that correspond to engineering drawings to ensure time-efficient and accurate installation.



Slip Resistant: Ladder rungs include heavily serrated flutes for positive, slip resistant footholds; also ungritted rungs are easy on the hands, while still ensuring safety.



Low Maintenance: The corrosion resistant properties of Fibergrate's FRP products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.



UV Protection: UV inhibitors in the resin matrix, along with a synthetic surfacing veil, provide optimum protection from the effects of UV weathering. *(An optional UV coating is required for installations with intense UV exposure.)*

Resin Systems

- **ISOFR**

Isophthalic polyester resin formulation with a low flame spread rating of 25 or less designed for applications where there is moderate exposure to corrosive elements.

- **VEFR**

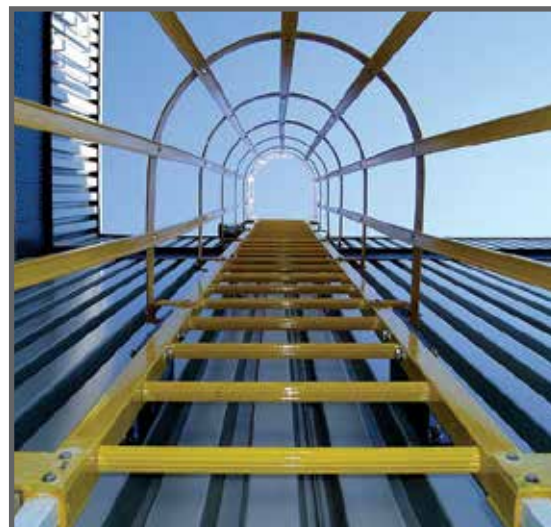
Vinyl ester resin system with a flame spread of 25 or less for dependable resistance to both acidic and alkaline environments.

Dynarail® FRP Safety Ladders

The innovative Dynarail® fiberglass reinforced plastic (FRP) safety ladder and cage system meets or exceeds OSHA requirements. Dynarail cage components are shipped in compact kit form - not large, bulky units prone to damage. The safety cage is ready for field assembly with predrilled hoops for fast and easy attachment to the ladder and vertical safety bars.

Ladders are stocked in standard heights of 8', 10', 12', 14', 16', 18', 20' and 24' and are available in taller heights using splice kits. Ladders may be ordered with or without safety cage kits.

Safety features are built-in from the ground up. Special clip angles have been developed to securely anchor the ladder. Intermediate stand-off brackets laterally stabilize the ladder to the supporting structure on 6' centers. Ladder rungs include heavily serrated flutes for slip resistant footholds.



Technical Data (Except where noted, all materials are yellow vinyl ester, fire retardant - VEFR)

LADDER:

Maximum length without splice	24'-0"	Outside Diameter of rung	1-1/4"
Maximum ladder length with cage <i>(30' to step off plus 3'-6" extension)</i>	33'-6"	Inside Diameter of rung	7/8"
Clear inside width (inside rail to rail)	18"	Rail - outside width	1-3/4"
Outside width (outside rail to rail)	21-1/2"	Rail - wall thickness	1/4"
Rung Spacing (center to center)	12"	Weight per foot (approximately)	2.7 lbs.

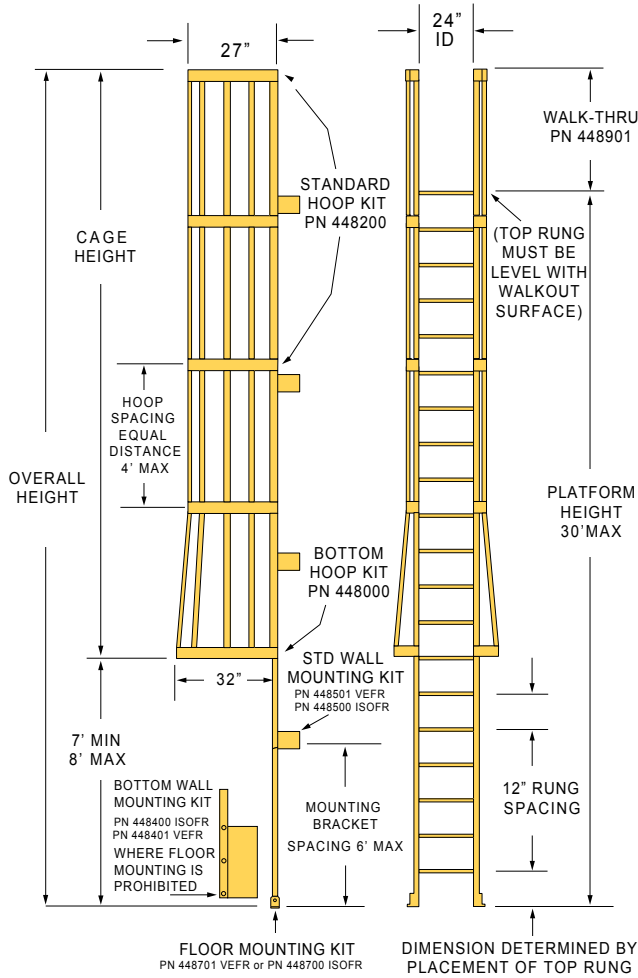
CAGE:

Product	Description
Standard Hoop Kit (PN 448200)	27" from center line of ladder rung to inside of hoop 3" wide x 1/4" thick hand layout Predrilled holes <i>(with necessary bolt assemblies)</i>
Bottom Hoop Kit (PN 448000)	31" from center line of ladder rung to inside of hoop 3" wide x 1/4" thick hand layout Predrilled holes <i>(with necessary bolt assemblies)</i>
Hoop Brackets (Included with hoop kits)	1/4" thick, "U" shaped hand layout Predrilled holes <i>(with necessary bolt assemblies)</i>
Vertical I-Bars (PN 446211 - 10 ft; PN 446210 - 20 ft)	I-Bar, 1-1/2" deep x 5/8" flange x 1/8" thick
Bottom Wall Mount Bracket Kit* (PN 448400 ISOFR Dk Gray, PN 448401 VEFR Beige) <i>Required when ladder cannot be floor mounted</i>	2-3/16" x 8" x 3/8" angle, 18" long Two per set <i>(with necessary bolt assemblies)</i>
Wall Mount Bracket Kit* (PN 448500 ISOFR Dk Gray, PN 448501 VEFR Beige)	2-3/16" x 8" x 3/8" angle, 6" long 7" from wall to center of rung Two per set <i>(with necessary bolt assemblies)</i>
Floor Mount Clip Kit* (PN 448700 ISOFR Dk Gray, PN 448701 VEFR Beige)	4" x 4" x 3/8" angle, 2-3/4" long Two per set <i>(with necessary bolt assemblies)</i>

***NOTE:** Wall mount brackets and floor mount clips are predrilled with 9/16" diameter holes for 1/2" diameter anchor bolts only. **Anchor bolts not included.**

Dynarail® FRP Safety Ladders

Dynarail® Ladder System Data



Component Selection Guide

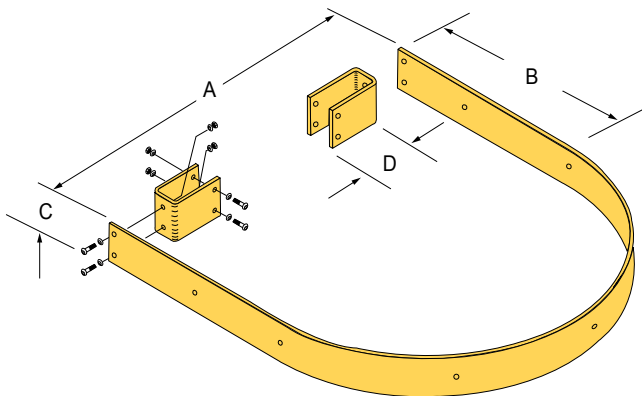
Cage Assembly Components

Cage Height	Hoops Required		Vertical I-Bars Required	
	Standard Hoop Kit PN 448200	Bottom Hoop Kit PN 448000	10' Vertical I-Bar PN 446211	20' Vertical I-Bar PN 446210
3' 0"	1	1	3	0
3' 6" to 4' 0"	1	1	1	1
4' 7-1/2"	1	1	4	0
4' 7-1/2" to 5' 3"	2	1	4	0
5' 6"	2	1	4	0
6' 0" to 6' 6"	2	1	0	2
7' 0"	2	1	2	2
7' 6"	2	1	0	3
8' 0" to 8' 10-1/4"	2	1	7	0
8' 10-1/4" to 10' 0"	3	1	7	0
10' 6" to 13' 1"	3	1	0	5
13' 1"	4	1	0	5
13' 6" to 14'	4	1	3	4
14' 6" to 17' 3-3/4"	4	1	0	7
17' 3-3/4" to 20' 0"	5	1	0	7
20' 0"	5	1	0	7
20' 6" to 21' 7/12"	5	1	1	8
21' 7/12" to 22' 6"	6	1	1	8
23' 0" to 24' 0"	6	1	4	7
24' 6" to 25' 10-1/2"	6	1	1	10
25' 10-1/2" to 26' 6"	7	1	1	10

Ladder Mounting Accessories

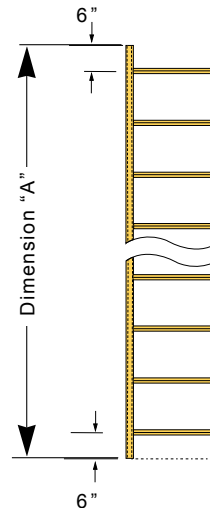
Ladder Height	Floor Mount Kits Required ISOFR - DK GRAY VEFR - BEIGE PN 448700 ISOFR PN 448701 VEFR	Bottom Wall Mount Kits PN 448400 ISOFR PN 448401 VEFR	Wall Mount Kits Required PN 448500 ISOFR PN 448501 VEFR
0" to 6"	1	1	1
6' 6" to 12' 0"	1	1	2
12' 6" to 18' 0"	1	1	3
18' 6" to 24' 0"	1	1	4
24' 6" to 30' 0"	1	1	5
30' 6" to 36' 0"	1	1	6

Dynarail® Hoop Data



Hoop Kit	PART NUMBER	A	B	C	D
Bottom	448000	35"	16"	3"	8.5"
Standard	448200	27"	16"	3"	4.5"

Ladder and Accessories



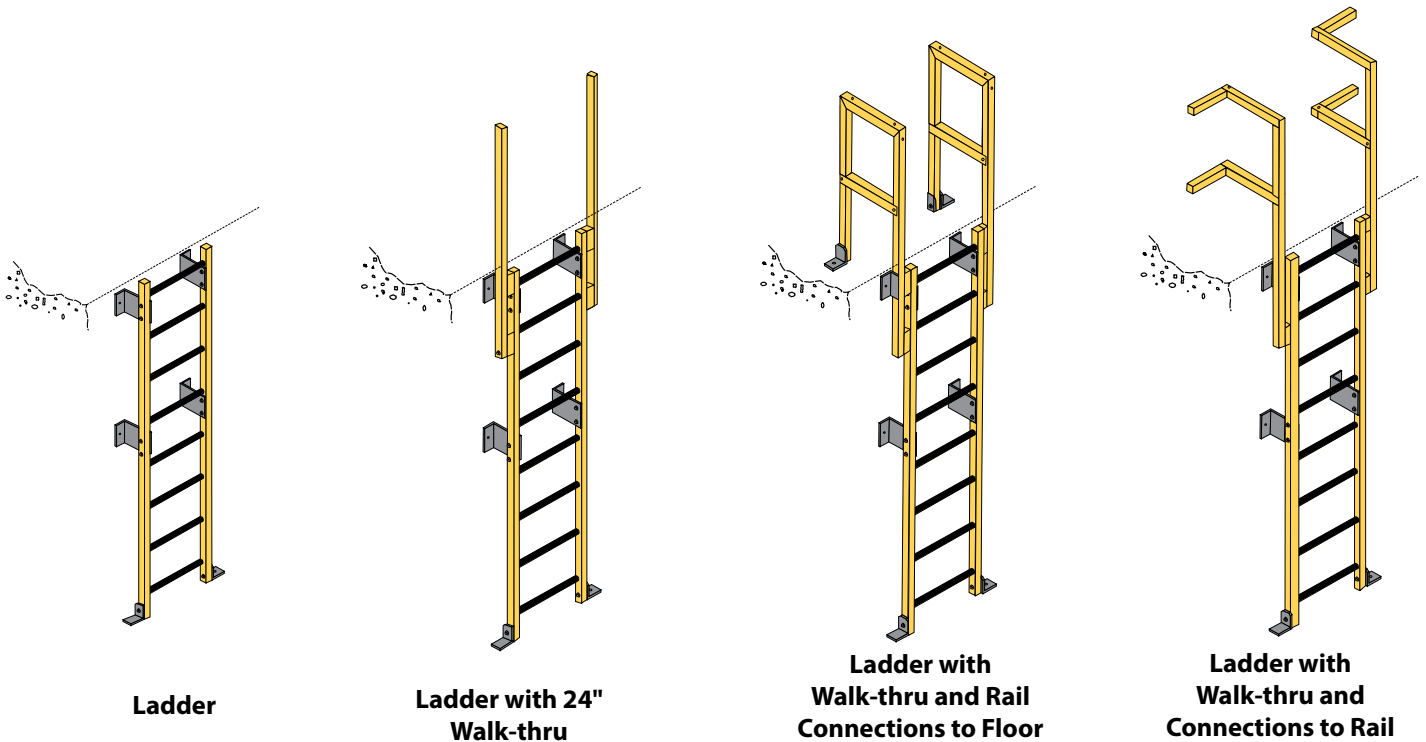
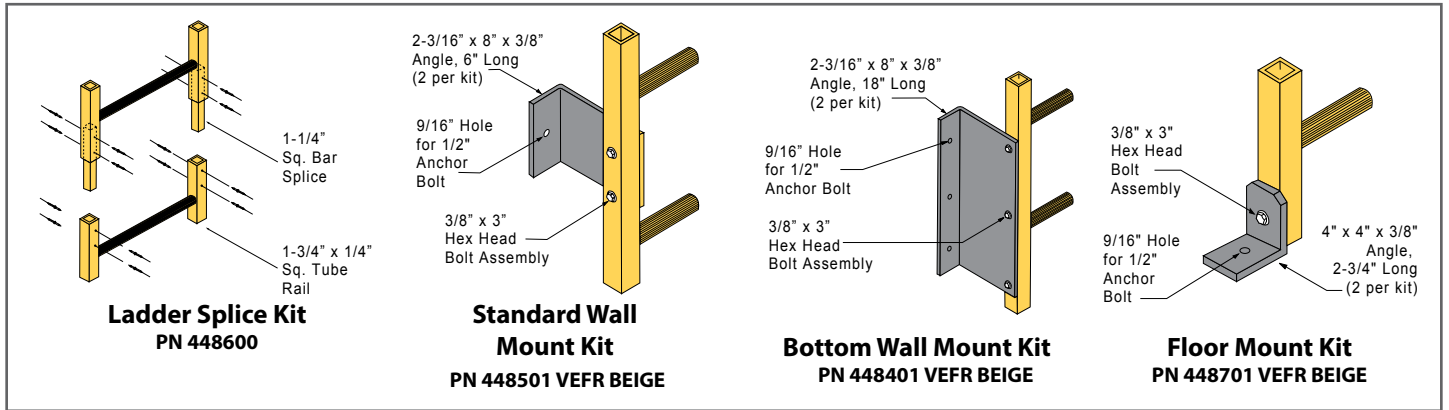
Ladders ("A" dimension = stock length)	
Length*	Part Number
8'	444508
10'	444510
12'	444512
14'	444514
16'	444516
18'	444518
20'	444520
24'	444524
Accessories	
Description	Part Number
Ladder Rail Splice Kit	448600
24" Wide Walk-thru Kit	448901

*Field Cut to size

Note: Top rung step-off must be even with upper walking surface

Dynarail® FRP Safety Ladders

Assembly & Mounting Details



Fibergrate Products & Services



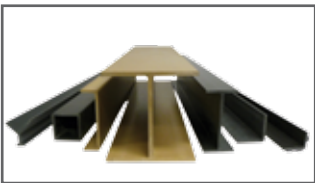
Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.



Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.



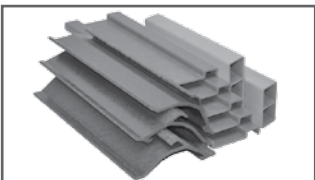
Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.



Dynarail® & DynaRound® Guardrail, Handrail & Ladder

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail square tube and DynaRound round tube railing systems and Dynarail safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.



Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.



Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.



Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

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Printed in the USA