

Price Index



Series 2480

Special Features / Options



IPA Qualification Certificate
Air Cleanliness Class ISO Class 3
(at v = 6.56 ft/s) upon request



ESD classification:
Electrically conductive
ESD/ATEX version upon request



Flammability Class
VDE 0304 IIC UL94 HB

Assembly Tips



Insert screwdriver into the slot, using a lever action apply pressure to the screwdriver to release

Other Installation Methods

Vertical, hanging ≤ 131 ft (40 m)

Vertical, standing ≤ 9.84 ft (3 m)

Side-mounted, un_supp. ≤ 3.28 ft (1 m)

Rotary requires further calculation

Usage Guidelines



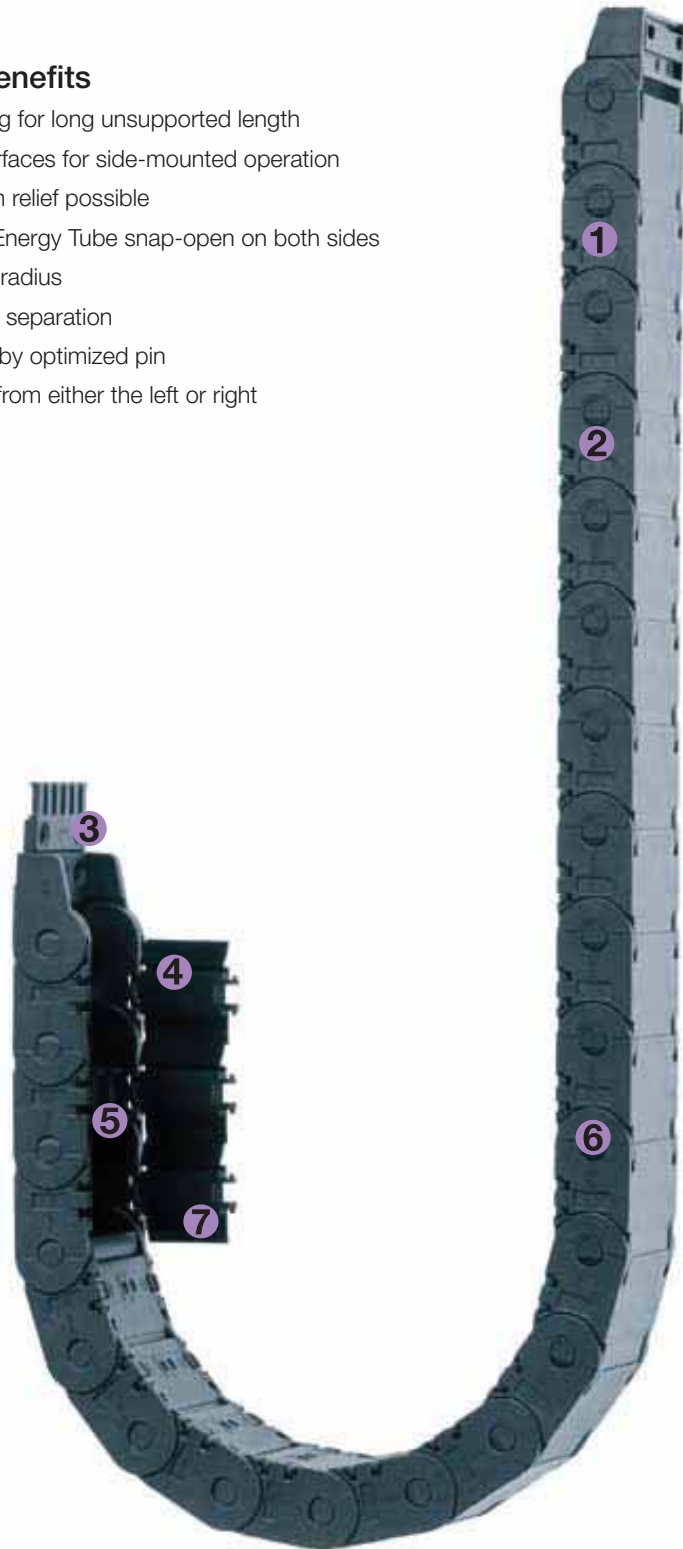
- If hinged, snap-open accessibility along the inner radius is required
- If integrated strain relief is required at the connection point
- If long service life is required
- If chip protection is required
- If easy installation is required



- If particularly quiet operation is required
%o **Series R58 E2 Tubes**
- If snap-open accessibility along both radii is required
%o **Series R770 E4/100**

Features & Benefits

- 1 Double stop dog for long unsupported length
- 2 Lateral glide surfaces for side-mounted operation
- 3 Integrated strain relief possible
- 4 Fully enclosed Energy Tube snap-open on both sides along the inner radius
- 5 Modular interior separation
- 6 Easy assembly by optimized pin
- 7 Rapid opening from either the left or right



Order Example: Complete Energy Chain®

Please indicate chain length or number of links. Example:

9.84 ft (3 m) **2480-10-100-0**



Energy Chain®

With 2 separators **24501** assembled every 2nd link



Interior Separation

1 Set **2100-34PZB+**

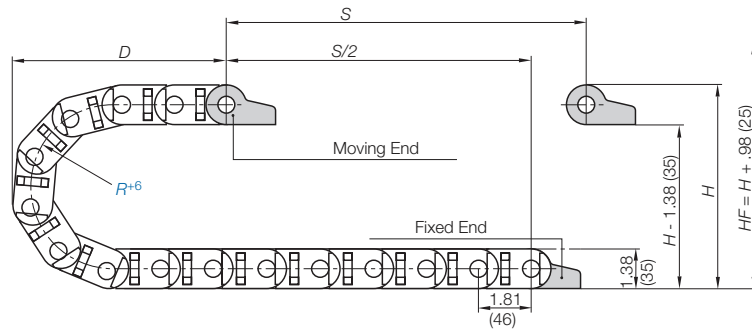
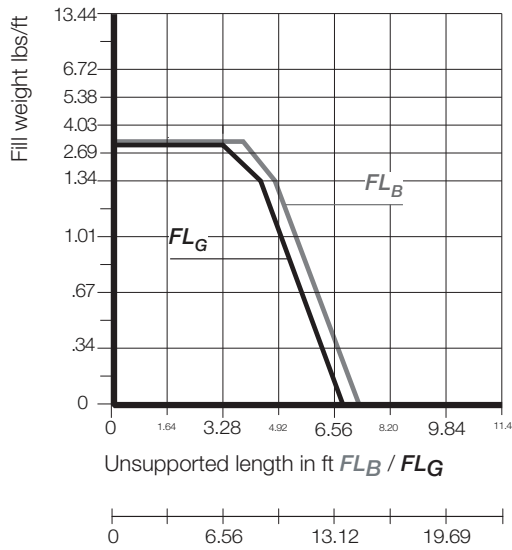
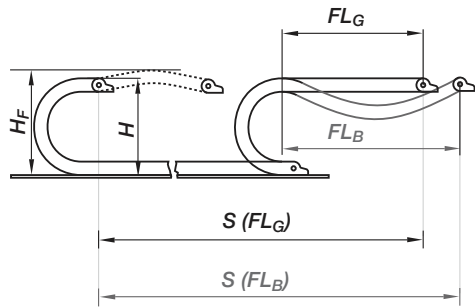


Mounting Bracket

Energy Chain System® E2 Tubes Series R2480 Installation Dimensions

Short travel, unsupported length

- FL_B = unsupported with permitted sag
 - FL_G = unsupported with straight upper run
- Further information % Design, Chapter 1



Pitch per link = 1.81" (46 mm)
Links per ft (m) = 6.71 (22)
For center mount applications:
Chain length = $S/2 + K$

The required clearance height: $H_F = H + .98$ in. (25 mm) (with 1.01 lbs/ft (1.5 kg/m) fill weight).
Please consult igus® if space is particularly restricted.

R	1.38 (055*)	1.50 (075*)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
D	4.92 (125)	5.91 (150)	6.69 (170)	7.68 (195)	8.66 (220)	9.65 (245)	10.63 (270)	11.61 (295)	12.60 (320)
K	10.87 (276)	13.62 (346)	16.30 (414)	19.53 (496)	22.76 (578)	25.98 (660)	29.21 (742)	32.05 (814)	36.22 (920)



R2480

Short Travels - Unsupported

Unsupported Energy Chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height. Please refer to **Installation dimensions** for further details.

Legend

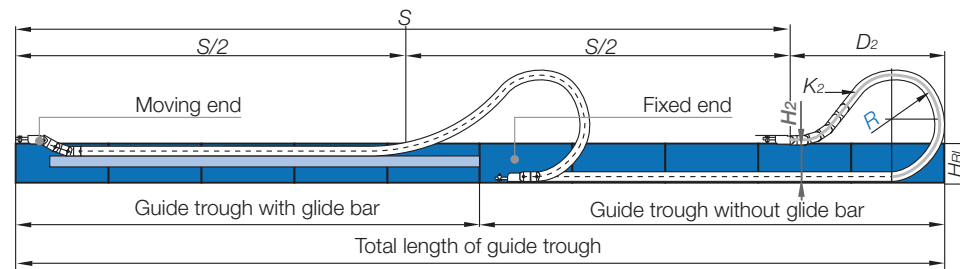
- S = Length of travel
- R = Bending radius
- H = Nominal clearance height
- D = Overlength Energy Chain® radius in final position
- $K = \pi \cdot R + \text{safety buffer}$
- H_F = Required clearance height
- H_{RI} = Trough inner height
- H_2 = *Mounting height
- D_2 = Overlength - long travels, gliding
- K_2 = *Add-on
- *If the mounting bracket location is set lower

For long travels with lowered mounting height

Long travel lengths from 32.8 ft. (10 m) to max. 328 ft. (100 m)

For center mount applications:

Chain length = $S/2 + K_2$



R	1.38 (055*)	1.50 (075*)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H_2	5.71 (145)	7.28 (185)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)	3.94 (100)
D_2^{*25}	4.92 (125)	5.91 (150)	14.96 (380)	17.32 (440)	23.23 (590)	29.72 (755)	37.40 (950)	40.94 (1040)	44.49 (1130)
K_2	10.87 (276)	13.62 (346)	25.35 (644)	28.98 (736)	39.84 (1012)	48.90 (1242)	57.95 (1472)	63.39 (1610)	70.63 (1794)

Long Travels - Gliding

If the unsupported length is exceeded, the Energy Chain®/Tube must glide on itself. This requires a guide trough. **Design, Chapter 1**

*upon request

Speed / acceleration FL_G	max. 65.6 ft/s (20 m/s) / max. 656 ft/s ² (200 m/s ²)
Speed / acceleration FL_B	max. 9.84 ft/s (3 m/s) / max. 19.69 ft/s ² (6 m/s ²)
Gliding speed / acceleration (maximum)	max. 32.8 ft/s (10 m/s) / max. 164 ft/s ² (50 m/s ²)
Material - permitted temperature	igumid G / -40°F (-40°C) up to +248°F (+120°C)
Flammability Class, igumid G	VDE 0304 IIC UL94 HB

Technical Data



Details of material properties
% Chapter 1

PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS



R2480

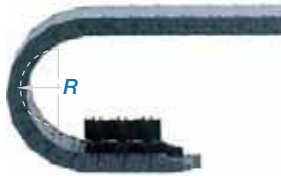
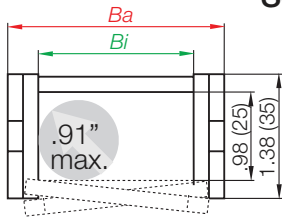


Energy Chain System® E2 Tubes
Series R2480

igus® Energy Chain System®

Telephone 1-800-521-2747
Fax 1-401-438-7270

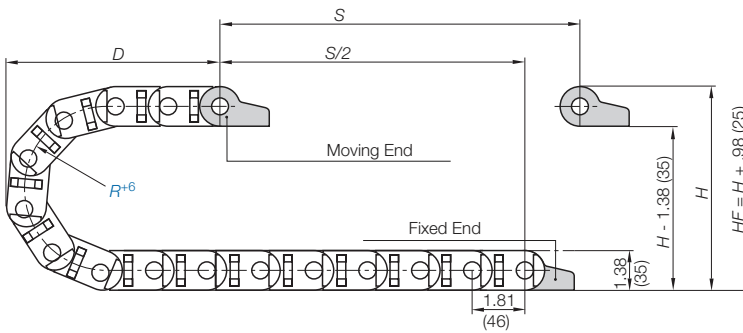
Series R2480 - hinged, snap-open along the inner radius



Part Number Structure



Color - Black
Bending radius
Width
Series



Supplement part number with required radius. Example: 2480-10-100-0
Pitch: 1.81 in. (46 mm) per link links/ft(m) = 6.71 (22)

Part Number.

Snap-open inner radius	<i>Bi</i> in. (mm)	<i>Ba</i> in. (mm)	Weight lbs/ft (kg/m)
2480-03- [] -0	1.50 (38)	2.13 (54)	≈ 0.62 (0.92)
2480-05- [] -0	2.24 (57)	2.87 (73)	≈ 0.69 (1.03)
2480-07- [] -0	3.03 (77)	3.66 (93)	≈ 0.79 (1.17)
2480-09- [] -0	3.50 (89)	4.13 (105)	≈ 0.85 (1.26)
2480-10- [] -0	4.06 (103)	4.69 (119)	≈ 0.90 (1.34)

Choose from the radii below for all of the above sizes

	055*	075*	100	125	150	175	200	225	250
R	1.38 (055*)	1.50 (075*)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
H	5.71 (145)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)	17.13 (435)	19.09 (485)	21.06 (535)
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K	10.87 (276)	13.62 (346)	16.30 (414)	19.53 (496)	22.76 (578)	25.98 (660)	29.21 (742)	32.05 (814)	36.22 (920)

Internet: <http://www.igus.com>
email: sales@igus.com
QuickSpec: <http://www.igus.com/quickspec>

Energy Chain System® E2 Tubes Series R2480 Interior Separation



R2480

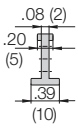
Option 1: Vertical separators

Vertical separators are used if a vertical subdivision of the Energy Tube interior is required. By standard, vertical separators are assembled every other Energy Tube link.



- **Standard separator 24501 for Energy Tubes**

This separator is used for general subdivision of Energy Tubes.

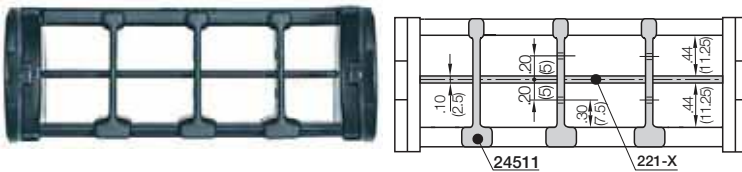


Vertical Separator

Unassembled	Part No. 24501
Assembled	Part No. 24511

Option 2: Full-width shelf

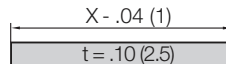
It is ideal for use in applications involving many thin cables with similar or identical diameters. This shelf slides into place and spans the entire width of the chain.



Shelves 220-XX

Shelves can be inserted at 3 different heights in .20" (5mm) increments

Width X in. (mm)	Part No. Unassembled	Part No. Assembled
.98 (25)	220-25	221-25
1.50 (38)	220-38	221-38
2.24 (57)	220-57	221-57
3.03 (77)	220-77	221-77
3.54 (90)	220-90	221-90
4.06 (103)	220-103	221-103
4.92 (125)	220-125	221-125



PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS



R2480

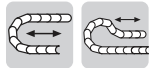


Energy Chain System® E2 Tubes Series R2480 Mounting Bracket - Plastic

igus® Energy Chain System®

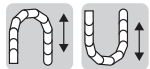
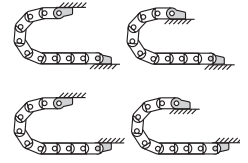
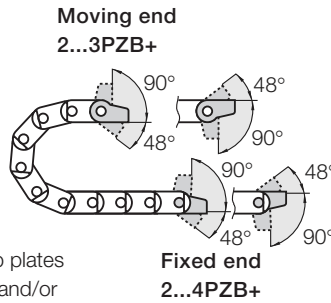
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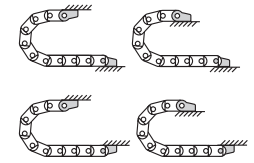
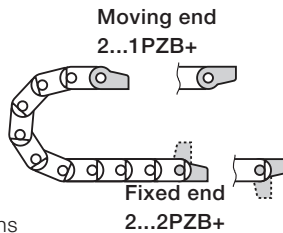
Option 1: pivoting

- For unsupported and gliding applications
- Well suited for tight installation conditions
- Detachable strain relief tiwrap plates
- Can be mounted on the fixed and/or moving end



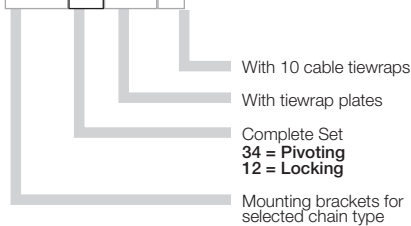
Option 2: locking

- For unsupported and gliding applications
- Extreme speed an/or accelerations
- For height restricted applications
- Can be mounted on the fixed and/or moving end



Part Number Structure

2020- 34 PZB 1



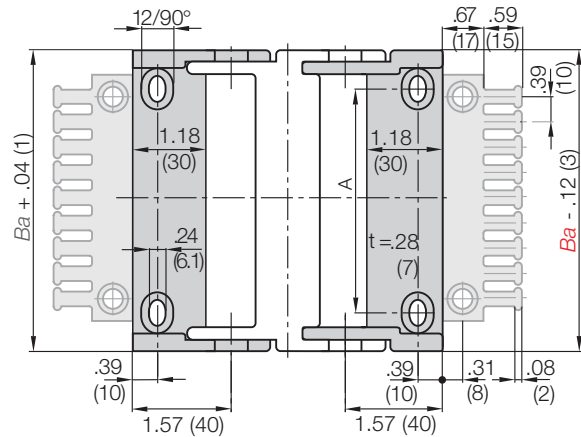
Full set, for both ends:

2020- 34 PZB Full set, each part with pin/bore + tiwrap plate

Single-part order:

2020- 3 PZB Mounting bracket with bore + tiwrap plate

2020- 4 PZB Mounting bracket with pin + tiwrap plate



Part No. Full Set (pivoting)
With Tiwrap Plates
Series 2480:
2020-34PZB

Part No. Full Set (pivoting)
With Tiwrap Plates
+ 10 cable ties
Series 2480:
2020-34PZB1

For Chain Type	Part No. Full set with Tiwrap Plate	Part No. Full Set with Tiwrap Plate + 10 cable ties	Dimension A	
			in.	(mm)
2480-03	2030- <input type="checkbox"/> PZB+	2030- <input type="checkbox"/> PZB1+	.98	(25)
2480-05	2050- <input type="checkbox"/> PZB+	2050- <input type="checkbox"/> PZB1+	1.73	(44)
2480-07	2070- <input type="checkbox"/> PZB+	2070- <input type="checkbox"/> PZB1+	2.52	(64)
2480-09	2090- <input type="checkbox"/> PZB+	2090- <input type="checkbox"/> PZB1+	3.03	(77)
2480-10	2100- <input type="checkbox"/> PZB+	2100- <input type="checkbox"/> PZB1+	3.54	(90)

34 or 12

For pivoting brackets choose 34

For locking brackets choose 12

Example: 2020- 34 PZB

Energy Chain System® E2 Tubes Series R2480 Mounting Bracket - Steel

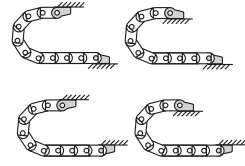
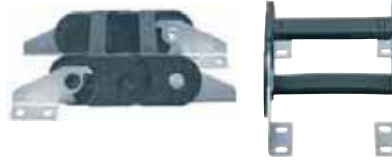
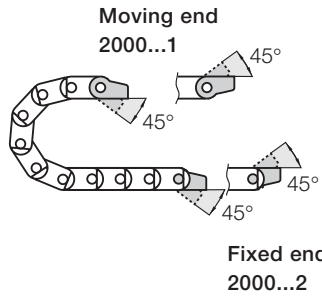


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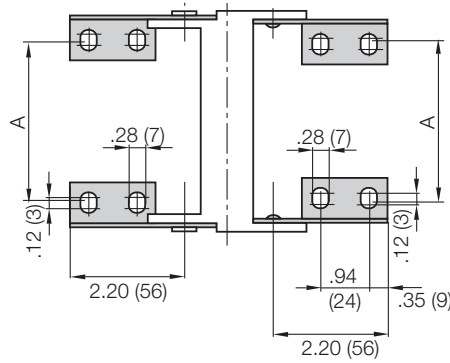
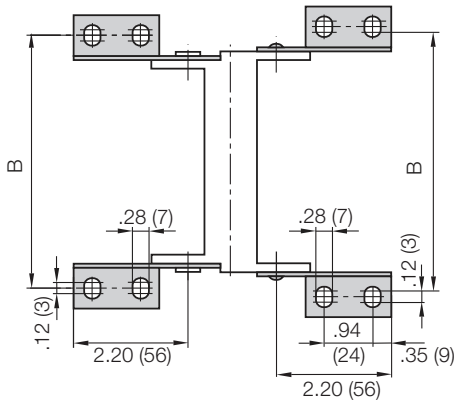


Option 1: Steel

- Pivoting connections
- One part (two-piece) for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible



Possible installation configurations -



Chain Type	Part No. Full Set	Dimension A		Dimension B	
		in.	(mm)	in.	(mm)
2480-03	2000-12	.98	(25)	2.87	(73)
2480-05	2000-12	1.73	(44)	3.62	(92)
2480-07	2000-12	2.52	(64)	4.41	(112)
2480-09	2000-12	2.99	(76)	4.88	(124)
2480-10	2000-12	3.54	(90)	5.43	(138)

Part No. Mounting Brackets Full Set

4 parts, 2 with pin, 2 with bore
Series 2480:
2000-12

Part No. Mounting Bracket Moving End

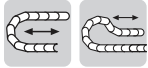
2 parts, 1 left & 1 right
Series 2480:
2000-1

Part No. Mounting Bracket Fixed End

2 parts, 1 left & 1 right
Series 2480:
2000-2

PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS

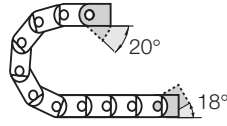




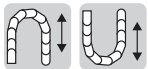
Option 1: pivoting

- For unsupported applications
- Bolted connection outside of chain cross section
- Confined installation conditions
- Attachment points on all sides
- Stackable

Moving end
24801...1



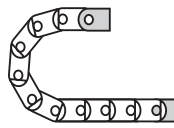
Fixed end
24801...2



Option 2: locking

- For vertical hanging/standing applications
- Bolted connection outside of chain cross section
- For very high speeds and accelerations
- Attachment points on all sides
- Stackable

Moving end
24811...1



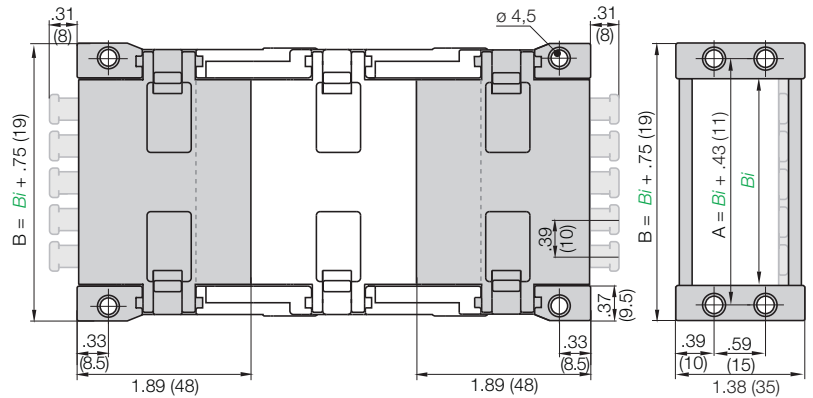
Fixed end
24811...2



Part Number Structure

24801- 02 12 12

- With tiewrap plates
- Complete Set
- Width
- Mounting brackets for selected chain type
24801 = Pivoting
24811 = Locking



Full set, for both ends:

24801- 12 ZB Full set, each part with pin/bore + tiewrap plate

Single-part order:

24801- 1 ZB Mounting bracket with bore + tiewrap plate

24801- 2 ZB Mounting bracket with pin + tiewrap plate

Part No. Full Set (pivoting)

With Tiewrap Plates

Series 2480:

24801-Width-12ZB

Part No. Full Set (pivoting)

Without Tiewrap Plates

Series 2480:

24801-Width-12

For Chain Type	Part No. Full set with Tiewrap Plate	Part No. Full Set without Tiewrap Plate	Dimension A in. (mm)
2480-02	24801-02-12-ZB	24801-02-12	.47 (12)
2480-03	24801-03-12-ZB	24801-03-12	.98 (25)
2480-05	24801-05-12-ZB	24801-05-12	1.73 (44)
2480-07	24801-07-12-ZB	24801-07-12	2.52 (64)
2480-09	24801-09-12-ZB	24801-09-12	3.03 (77)
2480-10	24801-10-12-ZB	24801-10-12	3.54 (90)
2480-12	24801-12-12-ZB	24801-12-12	4.41 (112)

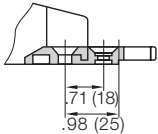
For pivoting brackets choose **24801**
For locking brackets choose **24811**
Example: **24801-02-12-ZB**

Energy Chain System® E2 Tubes Series R2480 Strain Relief

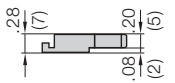


R2480

Tiewrap Plates



Shown assembled



Single tiewrap plate

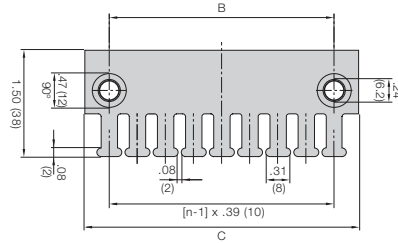


Option 1:

Tiewrap plates as an individual part

Available as an individual component, can be fixed onto a mounting bracket with the use of a profile rail.

Tiewrap Plates	n Number of Teeth	Dimension C	Dimension B
2020-ZB	3	1.18 (30)	.59 (15)
2030-ZB	4	1.57 (40)	.79 (20)
2040-ZB	5	1.97 (50)	1.18 (30)
2050-ZB	6	2.36 (60)	1.57 (40)
2070-ZB	8	3.15 (80)	2.36 (60)
2090-ZB	9	3.54 (90)	2.76 (70)
2100-ZB	10	3.94 (100)	3.15 (80)
2125-ZB	12	4.72 (120)	3.94 (100)



For more information please refer to strain relief section of Chapter 10

Cable tiewraps as individual parts

Cable tiewraps 100 pieces/bag	Width x Length		Maximum Ø		Tensile Strength	
	in.	(mm)	in.	(mm)	lbs	(N)
CFB-001	.19 x 5.91	(4.8 x 150)	1.42	(36)	50	(222)

Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates 20XX-ZB can be also used here. **Details chapter 10**

PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS



R2480



Energy Chain System® E2 Tubes Series R2480 Guide Trough

igus® Energy Chain
System®

Telephone 1-800-521-2747
Fax 1-401-438-7270

Internet: <http://www.igus.com>
email: sales@igus.com
QuickSpec: <http://www.igus.com/quickspec>

5.75

Guide troughs are used with applications where the upper run of the Energy Chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- Full travel length of guide trough
Part Number 92-30
- 1/2 travel length of glide bars
Part Number 92-01
- Installation sets as end connectors
Part Number 92-50-XX

-XX indicates the length of the profile rail on which the guide trough is mounted. The values and part numbers are specified in the table on the left. The standard length of the trough components and glide bars is 6.56 ft (2 m.) The required overall length of the guide trough directly correlates to the length of travel.

Example:
Length of travel 164 ft (50 m)
Center mounted

Required guide troughs:
164 ft (50 m) guide trough
82 ft (25 m) glide bar
= 25 sections of 6.56 ft (2 m) guide trough
Part No. 92-30
= 13 sections of 6.56 ft (2 m) glide bar
Part No. 92-01

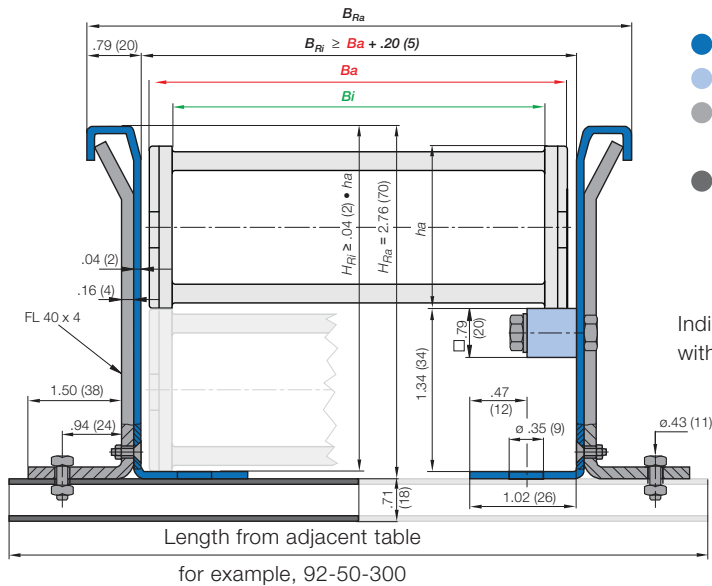
Required number of installation sets:
= Number of guide trough components + 1
= 25 + 1 = 26
Part number of the installation sets

Example: 92-50-400 for 15.75" (400 mm) long profile rail.



Width of Crossbar
2480-05-200-0

	B_{Ri}	Installation Part No.
-02	1.81 (46)	92-50-150
-03	2.32 (59)	92-50-175
-05	3.07 (78)	92-50-175
-07	3.86 (98)	92-50-200
-09	4.37 (111)	92-50-250
-10	4.88 (124)	92-50-250
-12	5.75 (146)	92-50-300



- Guide trough
- Glide bars
- Installation set "Basic"
- Profile rail

Individual attachment without profile rail

* Specialized guide trough available upon request

Energy Chain System® E2 Tubes
Series R2480



R2480

PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS

