



# Innovative Cable Management Systems

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Top 100  
Global  
Innovator  
2021

Clarivate™

Furukawa Electric:

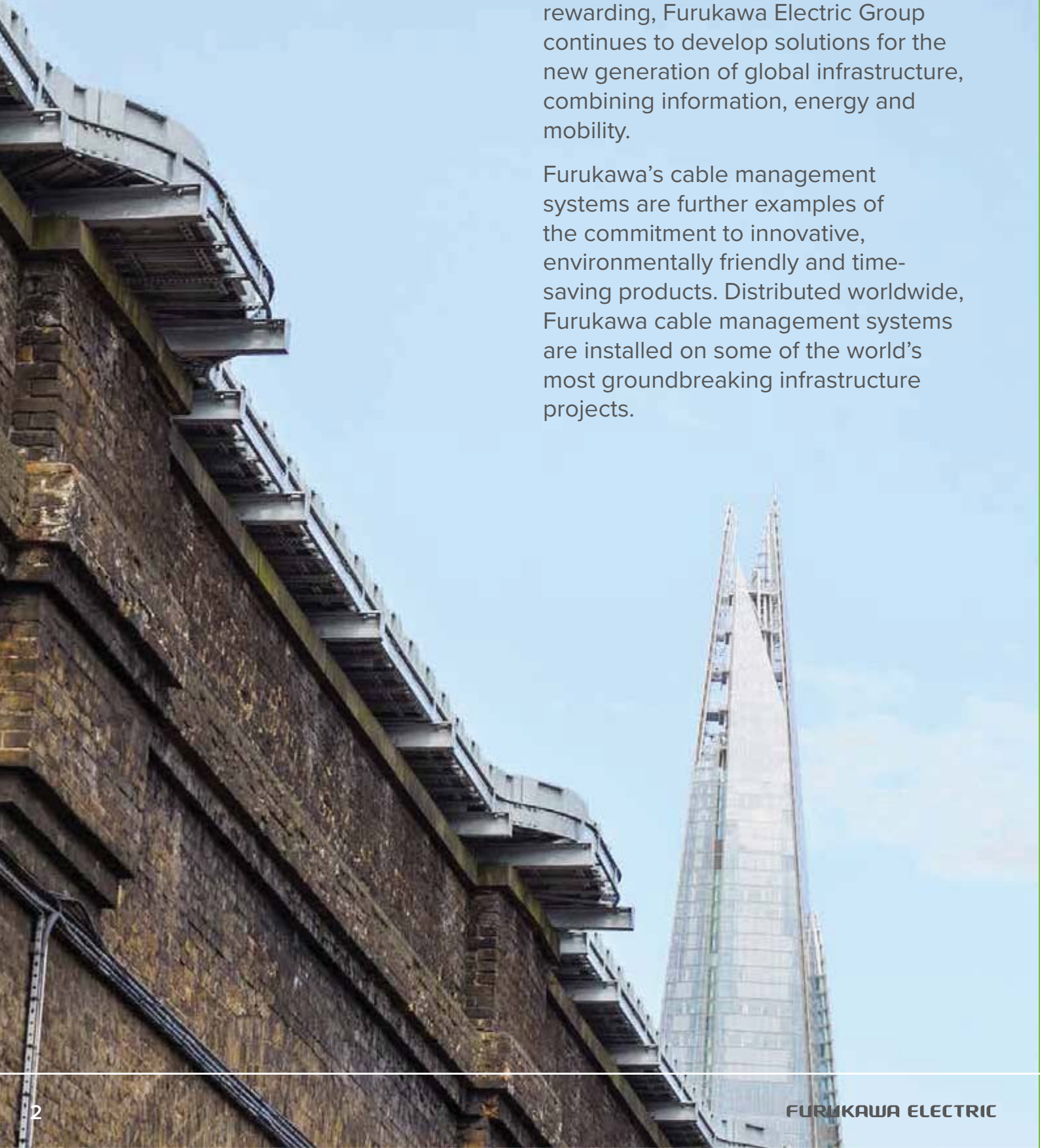
**6X WINNERS**

(2015, 2016, 2018,  
2019, 2020, 2021)

Drawing on more than a century of expertise in the development and fabrication of advanced materials, Furukawa contributes to the realisation of a sustainable society through continuous technological innovation.

In order to build a sustainable world and make life safe, peaceful and rewarding, Furukawa Electric Group continues to develop solutions for the new generation of global infrastructure, combining information, energy and mobility.

Furukawa's cable management systems are further examples of the commitment to innovative, environmentally friendly and time-saving products. Distributed worldwide, Furukawa cable management systems are installed on some of the world's most groundbreaking infrastructure projects.



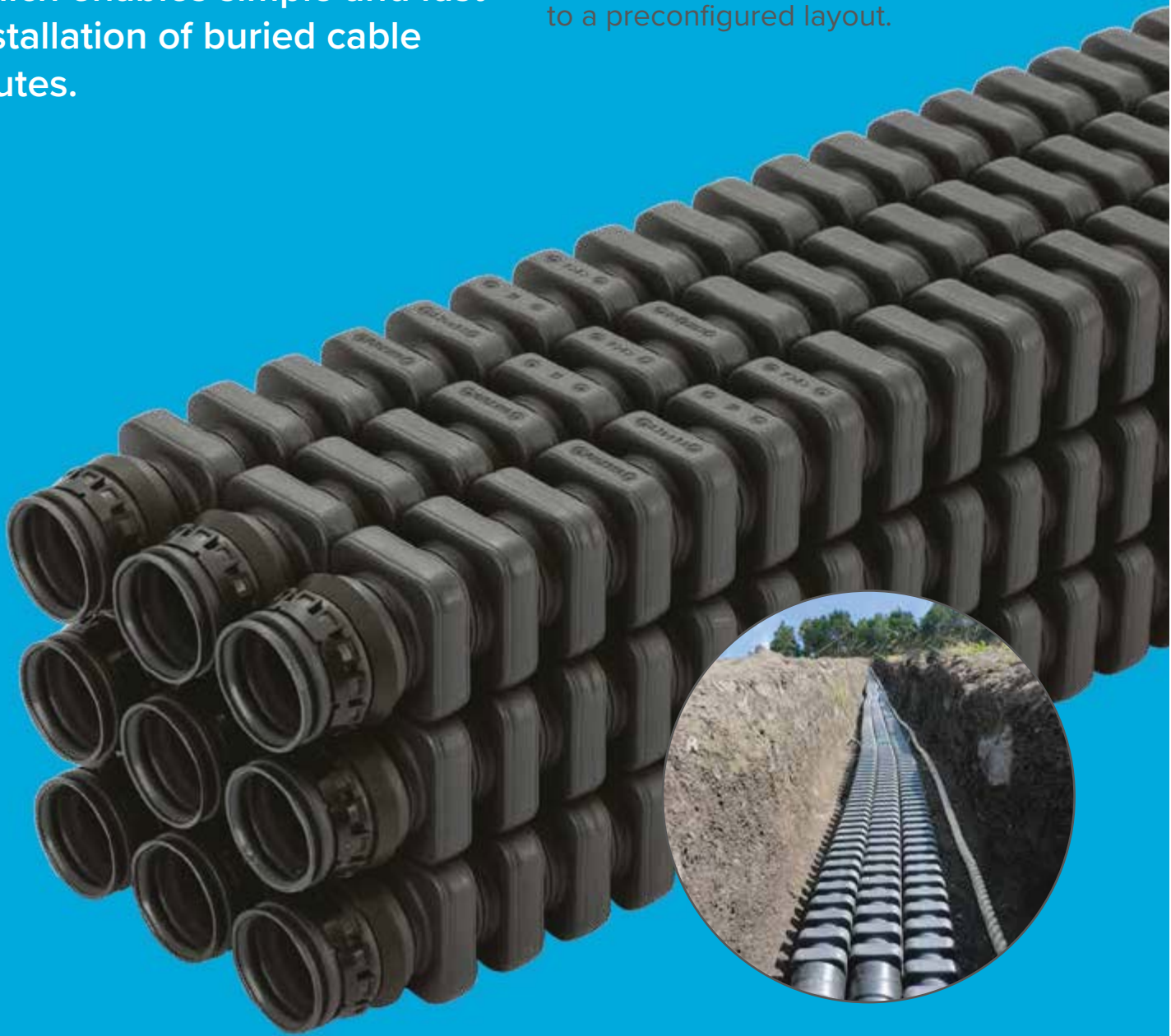


# EFLEX SQUARE

A FURUKAWA ELECTRIC PRODUCT

Available in 5 sizes, with a range of innovative accessories, EFLEX Square is an incredibly versatile system which enables simple and fast installation of buried cable routes.

EFLEX Square is flexible and stackable, removing the need for costly and cumbersome bend pieces. The user is free to configure the cable duct stack to suit the project's specific requirements, rather than being limited to a preconfigured layout.



For details on installation methods and handling of various parts, please refer to the installation instructions for each product.

# SECTORS

EFLEX Square's versatility and innovative range of accessories make it a great choice for any infrastructure project. Requiring shallower burial depths, EFLEX Square can save significant labour time and costs, and its square shape allows more cables to be installed in limited spaces.



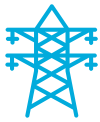
**INDUSTRIAL**



**RAIL/LIGHT RAIL**



**RENEWABLE ENERGY**



**POWER UTILITY**



**TRANSPORTATION**



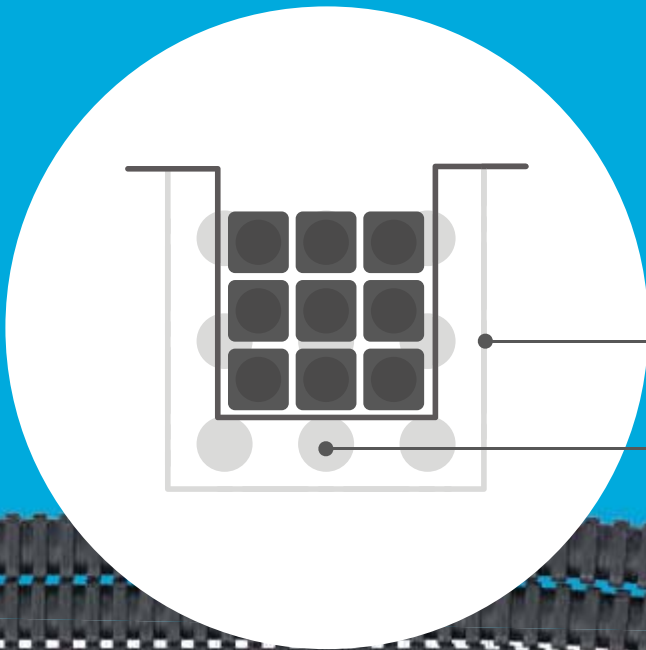
**+ MORE**



# ADVANTAGES OF EFLEX SQUARE

## Space Saving

EFLEX Square units are stackable, resulting in fast and simple installation, even in areas with limited space



Ideal for areas with limited space

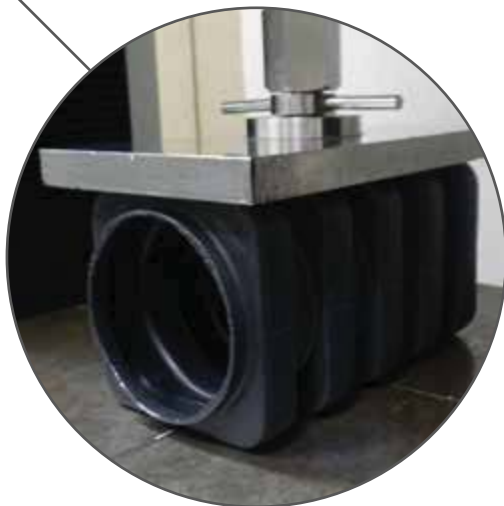
Requires smaller trench & no duct spacers

## Lightweight

A 5.3m 100 series unit weighs only 6.4kg

## Strong

Buried at 300mm, EFLEX Square can handle loads equivalent to that of a 25 tonne truck. The shallower burial depth means a smaller trench is required, further reducing installation time and cost.



## Flexible

Every EFLEX Square unit has a minimum bend radius up to 10 x its inner diameter. No separate bend pieces are required. Bend pieces are usually expensive and only add time and cost to the installation.

## Durable

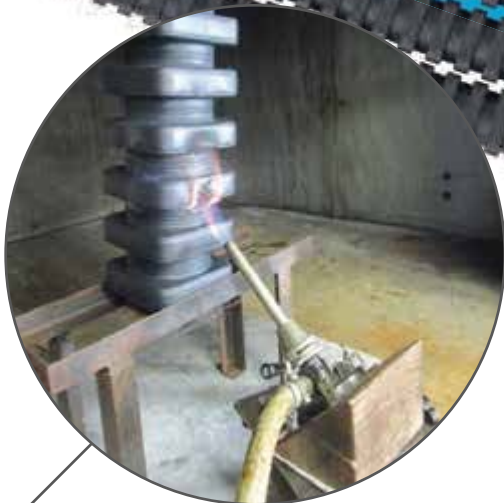
Resistant to chemicals including distilled water, sodium chloride solution, Sulfuric acid, Nitrate and sodium hydroxide solution.

## Versatile

The stack configuration is determined by the user. Available in 5 sizes with built-in watertight push fit connectors. An extensive range of intuitive accessories are also available.



EFLEX Square seamlessly integrates with Green Trough to provide the ultimate cable management pairing



## Flame Resistant

Self extinguishes in under 30 seconds according to JIS C3653.



## Easy to modify with basic hand tools

# EFLEX SQUARE PRODUCTS

The stackable units are supplied in 5.3m lengths with built-in male and female push-fit watertight connectors.



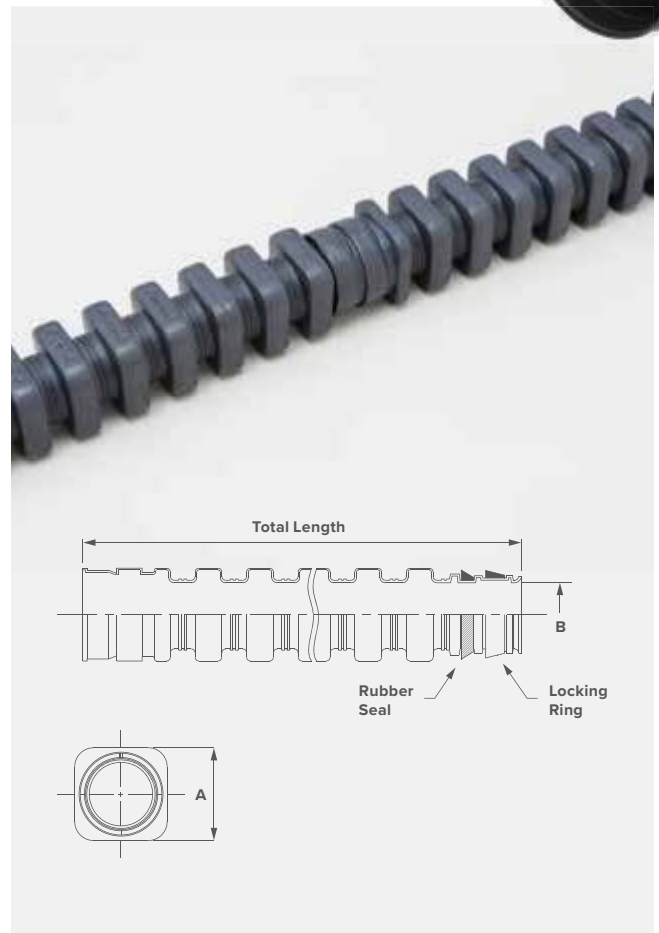
## STANDARD UNIT

Series	mm		Total Length	Effective Length	kg
	A: Outer Diameter	B: Inner Diameter			
50	73	50			2.6
75	100	75			4.5
100	125	100	5,300	5,250	6.4
130	162	130			11.5
150	184	150			14.6

EFLEX Square units feature built-in cutting guides to allow simple length adjustment. Our range of adapters can be used to secure cut pieces of EFLEX Square.



Guides allow for easy cutting



## AQUA SQUARE

Used to connect cut ends of EFLEX Square, when adjusting length.

- Non-woven expanding material for a moisture-activated watertight seal
- Single action locking clips for a quick and secure connection
- No tools required



## AQUA SQUARE MALE ADAPTOR

To connect a cut end of EFLEX Square to a female connector

- Non-woven expanding material for a moisture-activated watertight seal
- Single action locking clips for a quick and secure connection
- No tools required



## MALE TO MALE ADAPTOR

Used to connect two EFLEX Square female connectors.

- Built-in watertight push-fit connectors



## LONG BELL MOUTH

For connecting to chambers.  
Available in 3 lengths.  
Built-in female connectors.



## BELL BLOCK

For connecting to chambers. Available in 1, 2, 3, 4, 5, 6 and 9-way profiles. Built-in female connectors



## AQUA CONNECTOR

- 1-minute install
- Non-woven expanding material for moisture activated watertight seal
- No tools required
- Fits any wall thickness



## BELL MOUTH

Can be used to connect EFLEX to Green Trough

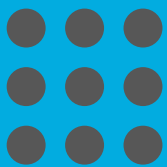


## CONVERTER TO EFLEX ROUND

Required for the Aqua Connector, Bell Mouth and our adaptors for other types of duct (steel, PVC etc.)







# EFLEX

A FURUKAWA ELECTRIC PRODUCT

**Corrugated hard polyethylene pipe for underground cable installation. Available in 9 sizes with a wide variety of accessories.**

EFLEX is a corrugated rigid polyethylene pipe (FEP) used as a protective pipe for burying cables underground. Long and easy-to-bend, EFLEX can reduce labour time and associated costs, shortening the construction period.



For details on installation methods and handling of various parts, please refer to the installation instructions for each product.

# SECTORS

EFLEX has been highly evaluated for its ease of construction and broad product lineup tailored to the construction environment, and has been used in the railway and renewable energy markets as well as many other markets domestically and overseas over a 50-year history.



**ROAD**



**RAIL/LIGHT RAIL**



**RENEWABLE ENERGY**



**INDUSTRIAL**



**TRANSPORTATION**



**+ MORE**



# ADVANTAGES OF EFLEX

## Long Length

Minimum Size  $\phi 30$ : 300 m  
Maximum Size  $\phi 200$ : 40 m  
Reduces number of connections.

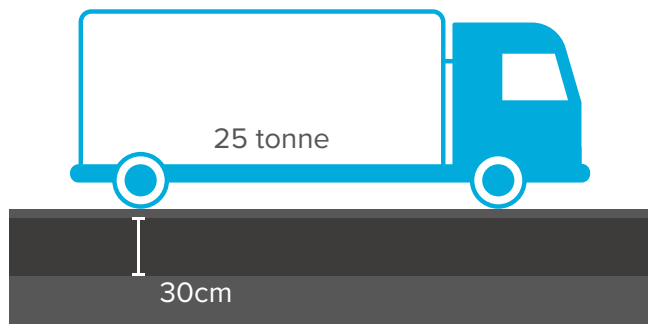
## Lightweight

EFLEX is very light (ex. 1.0kg  $\phi 100$  /m) and is easy to transport and work with.



## Strong

Buried at 300mm, EFLEX can handle loads equivalent to that of a 25 tons truck. The shallower burial depth means a smaller trench is required, further reducing installation time and cost.



## Flame Resistant (NFP)

Flame resistant type is also available(NFP).  
Self extinguishes in under 30 seconds according to JIS C 3653.

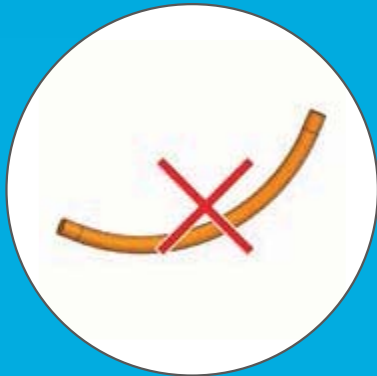


## Versatile

An extensive range of intuitive accessories are also available. For more information, please check the pages 30-31 of this catalog.

## Flexible

EFLEX has a minimum bend radius up to 5 x its outer diameter. No separate bend pieces are required. Bend pieces are usually expensive and only add time and cost to the installation.

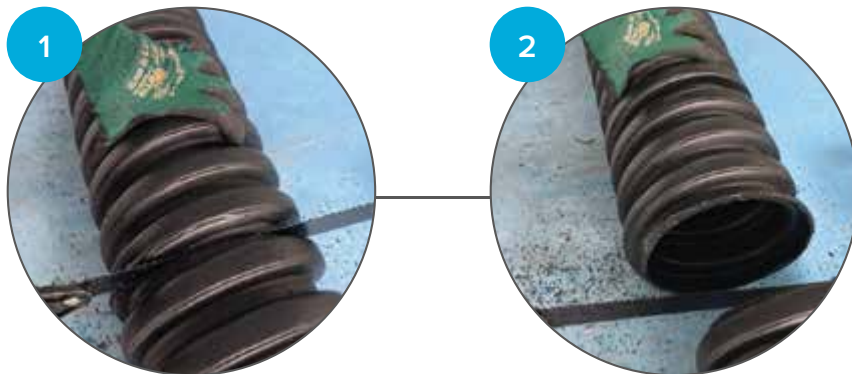


Pilot wire included for cable pulling. A pilot wire has an allowable tensile strength of 490N(50kgf).

## Durable

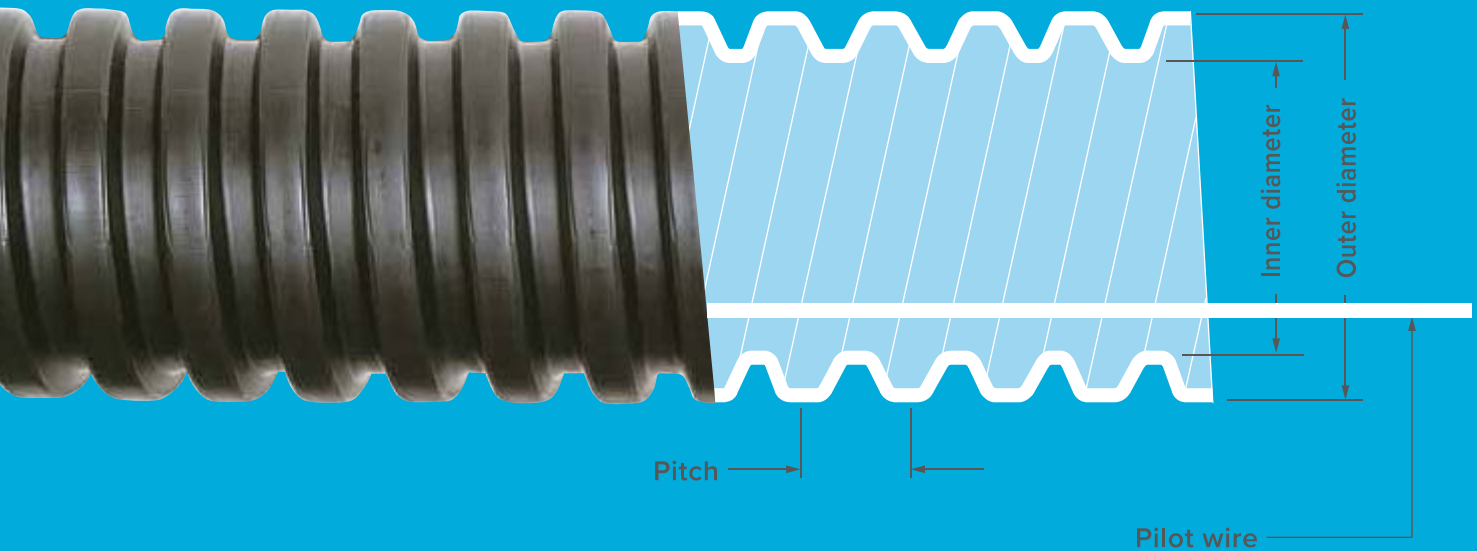
Resistant to chemicals including distilled water, sodium chloride solution, Sulfuric acid, Nitrate and sodium hydroxide solution.

## Easy to modify with basic hand tools



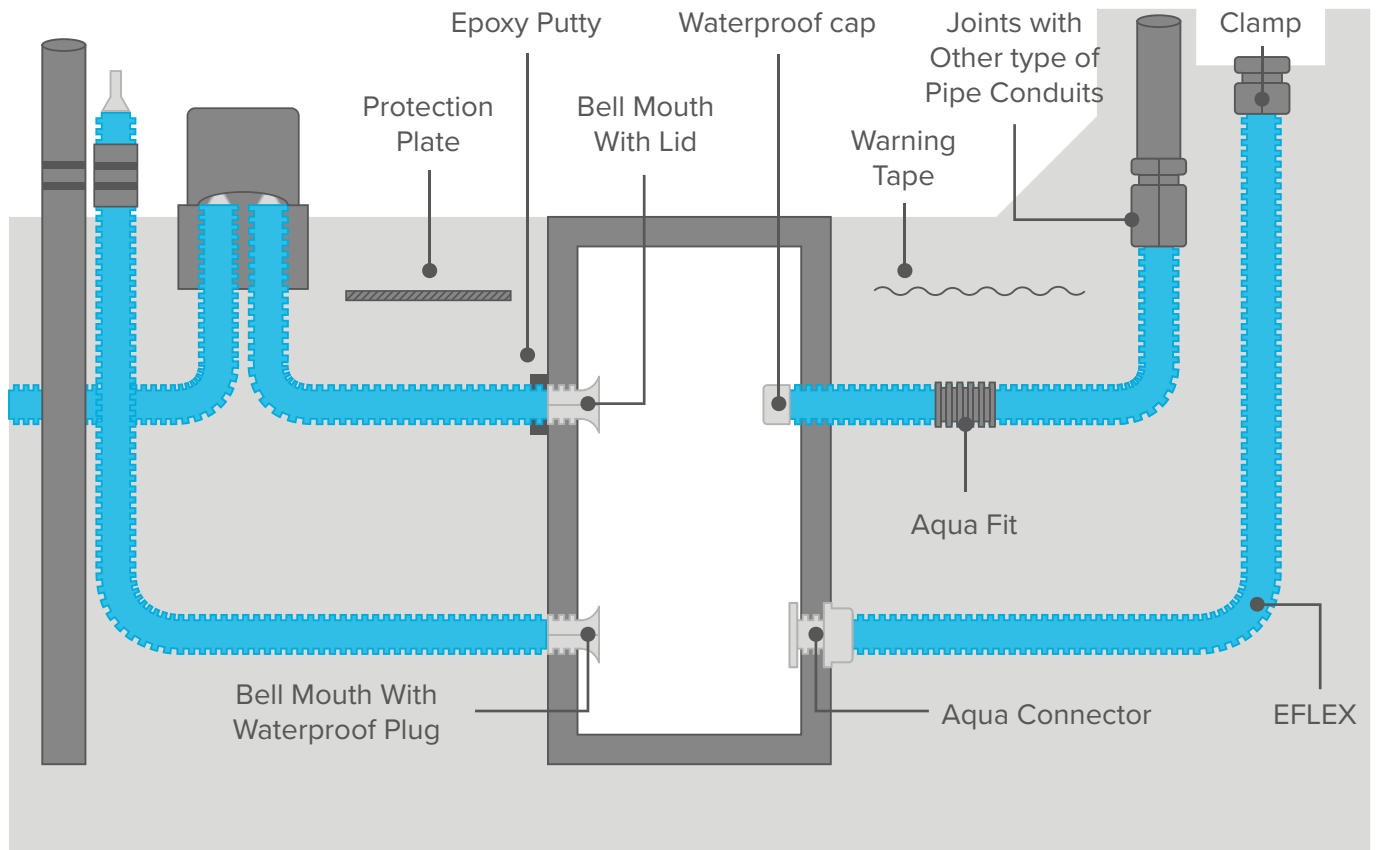
# EFLEX PRODUCTS

EFLEX provides simple installation thanks to its low weight and versatile accessories.

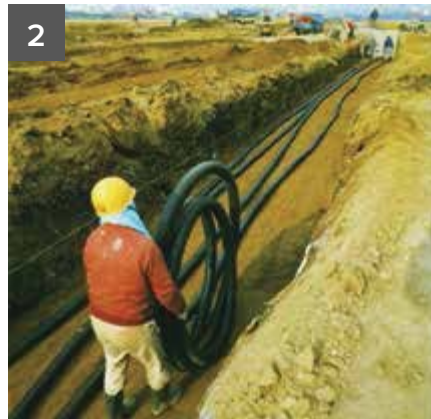


PRODUCT NO	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	PITCH (MM)	REFERENCE WEIGHT (KG/M)	STANDARD LENGTH (M/COIL)	COIL SIZE O.D x W (m)
(N) FP-30	40	30	10	0.2	300	1.2 x 0.5
(N) FP-40	54	42	13	0.3	200	1.5 x 0.65
(N) FP-50	65	50	17	0.4	200	1.6 x 0.7
(N) FP-65	85	66	21	0.6	100	1.6 x 0.65
(N) FP-80	102	80	25	0.7	100	1.7 x 0.7
(N) FP-100	130	100	32	1.0	100	2.0 x 0.8
(N) FP-125	160	125	39	1.5	50	1.6 x 1.2
(N) FP-150	189	150	47	2.0	50	1.8 x 1.3
(N) FP-200	253	200	55	3.5	40	2.25 x 1.1

FP is non-flame-resistant, and NFP is flame-resistant



## HOW TO USE



# AQUA CONNECTOR

How to use  
Aqua Connector



An innovative accessory for easy connection of EFLEX products to chambers

- 1-minute install
- Non-woven expanding material for moisture activated watertight seal
- No tools required
- Fits any wall thickness
- Flame resistance
- Degree of protection(IP67)
- Can be connected to EFLEX Square



## Excellent waterproofing property of non-woven water-expansion material

When the non-woven expanding material comes into contact with water, it expands immediately and stops water ingress.



## BELLMOUTH

- Secures EFLEX to the chamber wall, allowing for safe pulling and positioning of ducts.
- Non-watertight. Please use epoxy putty for water tightness.



## JOINTS WITH OTHER TYPES OF PIPE CONDUITS (AQ-TYPE)

- For connecting EFLEX to other types of pipe conduit.
- Watertight connection with Non-woven expanding material for moisture activated watertight seal



# AQUA FIT

Aqua Fit can be used to connect two pieces of EFLEX. This accessory simply screws onto EFLEX to complete the installation.

- No need for tape winding
- Excellent water retaining property due to water-expandable nonwoven fabric
- It can also be used for flame resistance EFLEX.
- Small and compact size
- Degree of protection (IP67)

How to use  
Aqua Fit



## Cross section before water absorption



## Cross section after water absorption



## WATERPROOF CAP

- Creates a watertight seal at the duct opening.



## WATERPROOF PLUG

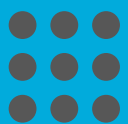
Prevent water from entering the duct by inserting into the Bellmouth.





## Introducing new large diameter EFLEX Straight with built-in connectors. Available in 2 sizes.

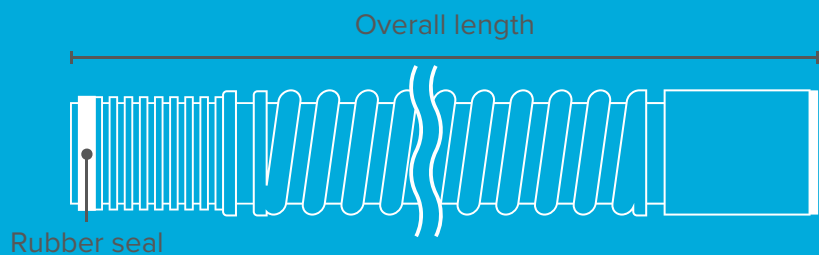
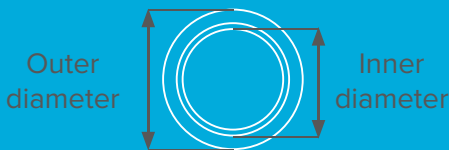
Large diameter pipes require straightening after removal from the reel they are supplied on. EFLEX Straight removes this step and has built-in connectors for faster installation.



# EFLEX STRAIGHT

A FURUKAWA ELECTRIC PRODUCT

How to use EFLEX Straight:



PRODUCTS	NOMINAL DIAMETER (MM)	OUTER DIAMETER (MM)	INNER DIAMETER (MM)	OVERALL LENGTH (MM)	EFFECTIVE LENGTH (MM)	REFERENCE WEIGHT (KG/PCS)
EFLEX Straight FP-150S Flame Resistant Type EFLEX Straight (N)FP-150S	150	189	150	5250	5000	12
EFLEX Straight FP-200S Flame Resistant Type EFLEX Straight (N)FP-200S	200	253	200			19



For details on installation methods and handling of various parts, please refer to the installation instructions for each product.

# ADVANTAGES OF EFLEX STRAIGHT

## No need for dedicated bend pieces

Reducing costs and installation time.

## Easy connection thanks to the built-in connectors

Built-in male and female connectors allow for fast installation without the need for additional components.



## Straight pipes for easy transport

EFLEX Straight makes it easier to transport large size EFLEX $\phi$ 150 and  $\phi$ 200.

# HOW TO USE

1

Apply lubricant to the rubber seal of the male side.



2

Apply lubricant to the inner connecting surface of the female side.

3

Insert the male side into the female side.

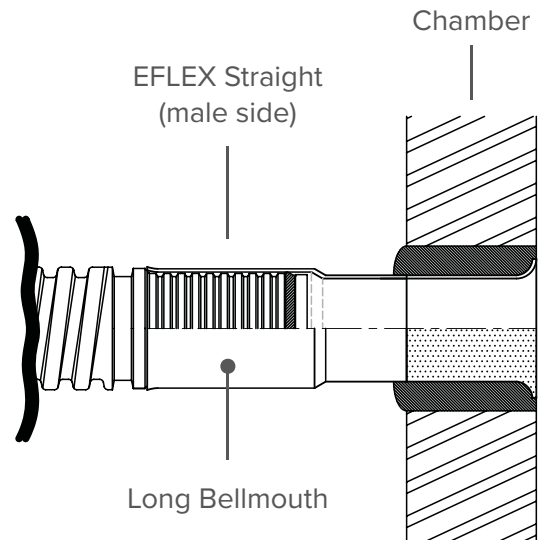


# OTHER ACCESSORIES

New lineup of two components in addition to the conventional EFLEX system

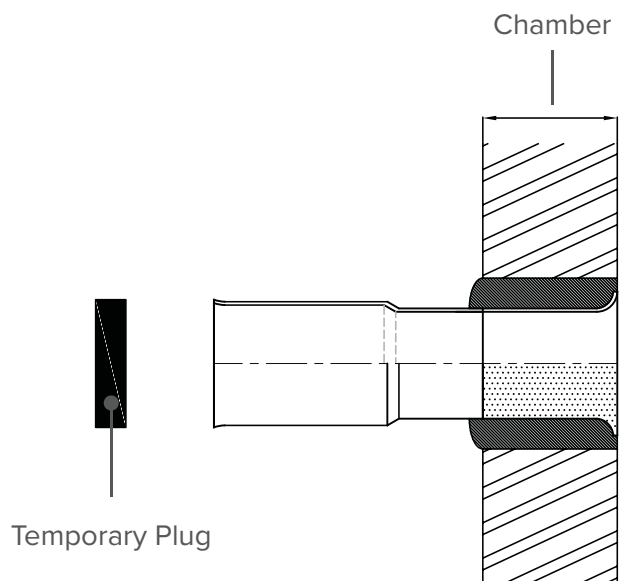
## LONG BELL MOUTH

When connected to a chamber, EFLEX Straight (male side) and chamber do not require EPOXY putty.



## TEMPORARY PLUG

Used to prevent sand and other material from getting into the female side of EFLEX Straight and the female side of the Long Bell Mouth.



## EFLEX SQUARE

	mm (inch)	mm (inch)	mm (inch)	mm (inch)	kg (lbs)
Size	A (Outer Diameter)	B (Inner Diameter)	Total Length	Effective Length	Weight
50	73 (2.9)	50 (2.0)			2.6 (5.7)
75	100 (3.9)	75 (3.0)			4.5 (9.9)
100	125 (4.9)	100 (3.9)	5300 (208.7)	5250 (206.7)	6.4 (14.1)
130	162 (6.4)	130 (5.1)			11.5 (25.4)
150	184 (7.2)	150 (5.9)			14.6 (32.2)

## EFLEX

	mm (inch)	mm (inch)	mm (inch)	kg (lbs)	mm (inch)	m (feet)	m (feet)
Size	Outer Diameter	Inner Diameter	Pitch	Reference Weight	Standard Length (per coil)	Coil Size O.D	Coil size W
(N)FP-30	40 (1.6)	30 (1.2)	10 (0.4)	0.2 (0.4)	300 (11.8)	1.2 (3.9)	0.5 (1.6)
(N)FP-40	54 (2.1)	42 (1.7)	13 (0.5)	0.3 (0.7)	200 (7.9)	1.5 (4.9)	0.65 (2.1)
(N)FP-50	65 (2.6)	50 (2.0)	17 (0.7)	0.4 (0.9)	200 (7.9)	1.6 (5.2)	0.7 (2.3)
(N)FP-65	85 (3.3)	66 (2.6)	21 (0.8)	0.6 (1.3)	100 (3.9)	1.6 (5.2)	0.65 (2.1)
(N)FP-80	102 (4.0)	80 (3.1)	25 (1.0)	0.7 (1.5)	100 (3.9)	1.7 (5.6)	0.7 (2.3)
(N)FP-100	130 (5.1)	100 (3.9)	32 (1.3)	1 (2.2)	100 (3.9)	2 (6.6)	0.8 (2.6)
(N)FP-125	160 (6.3)	125 (4.9)	39 (1.5)	1.5 (3.3)	50 (2.0)	1.6 (5.2)	1.2 (3.9)
(N)FP-150	189 (7.4)	150 (5.9)	47 (1.9)	2 (4.4)	50 (2.0)	1.8 (5.9)	1.3 (4.3)
(N)FP-200	253 (10.0)	200 (7.9)	55 (2.2)	3.5 (7.7)	40 (1.6)	2.25 (7.4)	1.1 (3.6)

## EFLEX STRAIGHT

	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	kg (lbs)
Size	Nominal Diameter	Outer Diameter	Inner Diameter	Overall Length	Effective Length	Reference Weight (per pcs)
(N)FP-150S	150 (5.9)	189 (7.4)	150 (5.9)	5250 (206.7)	5000 (196.9)	12 (26.5)
(N)FP-200S	200 (7.9)	253 (10.0)	200 (7.9)			19 (41.9)