

# Innovative Cable Management Systems

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 **GREEN TROUGH** **EFLEX SQUARE**

Derwent  
Top 100  
Global  
Innovator  
2020

Clarivate  
Analytics

Furukawa Electric:  
**5X WINNERS**

(2015, 2016, 2018,  
2019, 2020)

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.



**GREEN TROUGH**  
A FURUKAWA ELECTRIC PRODUCT

The world's most versatile  
cable trough system.  
Available in 6 sizes.



4,000 tonnes of recycled household plastic waste is used to make Green Trough in one year. Equivalent to 268 million average-sized plastic bottles/containers.



# ADVANTAGES OF GREEN TROUGH

## Secure Lid

A variety of lid fixings are available to suit security and access requirements.

## Versatile

Straights, bends, gradients and t-junctions all available in an extensive range of sizes, together with accessories and an elevated system.

## Intuitive Joint

Joint system allows for obstacles to be avoided without the need for additional accessories. Units can deviate up to 5 degrees vertically and horizontally.



## Load Bearing

Green Trough can withstand a vertical load of 10kN/m and is safe to walk on.



## Extremely Durable

50+ year resistance to UV according to Furukawa's accelerated UV exposure test. Safe installation temperature range -40°C to 80°C. Green Trough's unique design allows for thermal expansion and contraction. Resistant to salt/snow melting agents and acid rain.



## Impact Resistant

Green Trough sustains only superficial damage when dropped from a height of 0.7m. It can still be used even if dropped during installation as it will not crumble like concrete alternatives.

## Lightweight

Approximately 70% lighter on average than conventional concrete alternatives. All Green Trough units are a 'one-man lift' for fast and safe installation.



## Flame Resistant

Halogen free and complies with IEC 61084-1 'Non-flame propagating' standard. K1 according to DIN 53438.

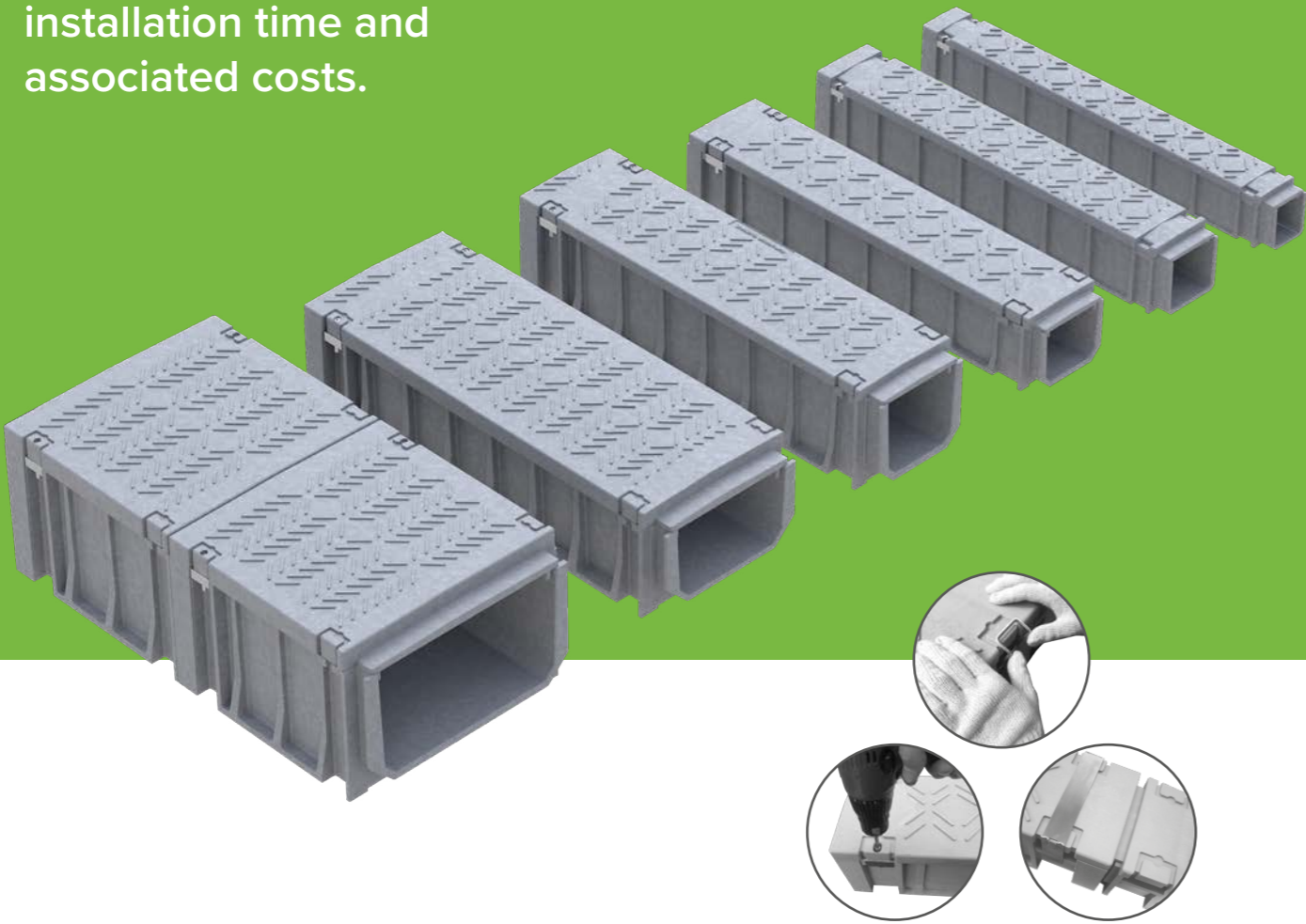
## Adjustable

Most Green Trough units can be manually shortened whilst still retaining an interlocking connection. Units can be processed on site using basic hand tools, with no dust.



# GREEN TROUGH PRODUCTS

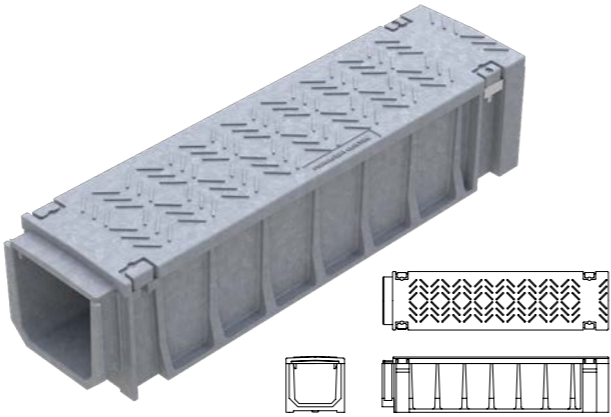
A market leading range of cable troughs and accessories, to reduce installation time and associated costs.



Each Green Trough series is available with a clasp, screw or band type lid fixing, to suit a variety of installations.

## STRAIGHT (Standard)

Series	mm				Length	Total Weight
	Width (Internal)	Width (External)	Height (Internal)	Height (External)		
G90	90	120	100	136	1000	7
G135	135	170	125	170	1000	10
150B	160	210	135	190	1000	13
200B	200	270	185	255	1000	21
300B	300	390	175	265	1000	29
430C	450	540	255	360	500	24



## (With Divider Holders)

Series	mm				Length	Total Weight
	Width (Internal)	Width (External)	Height (Internal)	Height (External)		
G135	135	170	125	170	1000	10
150B	160	210	135	190	1000	13
200B	200	270	185	255	1000	21
300B	300	390	175	265	1000	29
430C	450	540	255	360	500	24

\*Dividers sold seperately

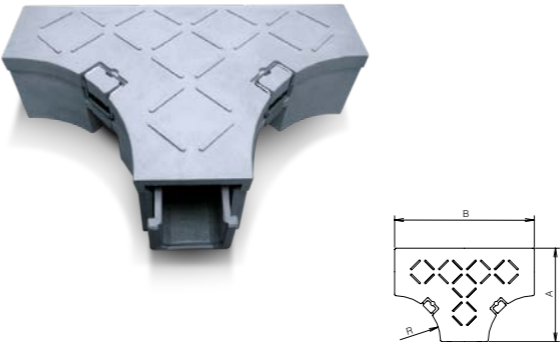
## 45 DEGREE BEND UNITS

Series	mm		degrees		mm		kg
	A		α		R	Weight	
G90	120		45		350	2	
G135	170		45		350	4	
150B	210		45		350	5	
200B	270		45		350	8	
300B	390		45		350	13	
430C	540		45		350	19	



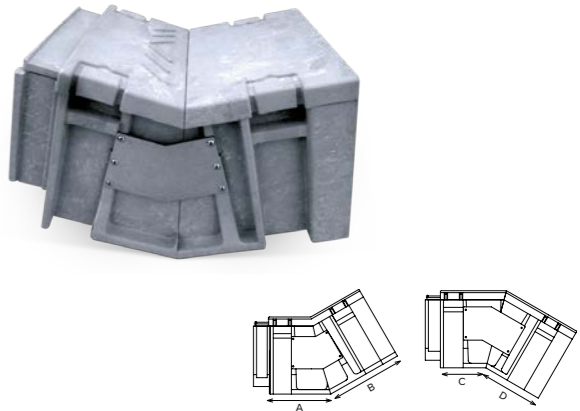
## T-JUNCTION UNITS

Series	mm			kg
	A	B	R	
G90	360	600	190	6
G135	385	600	165	8
150B	355	500	145	9
200B	385	500	115	13
300B	495	600	105	21
430C	635	730	80	32



## GRADIENT UNITS (Up or Down)

Series	mm		kg		mm		kg	
	A (Up)	B (Up)	Weight (Up)		C (Down)	D (Down)	Weight (Down)	
G90	300	350	4		250	300	4	
G135	300	350	7		250	300	7	
150B	300	350	8		250	300	8	
200B	200	250	10		150	200	11	
300B	200	250	13		150	200	14	
430C	200	250	17		100	150	18	



# SECTORS

Green Trough is approved for numerous applications worldwide

Green Trough’s extensive product range together with its excellent mechanical properties make it ideal for a wide range of installations and cable types.



HIGHWAYS



RAIL/LIGHT RAIL



ENERGY



STADIUMS



AIRPORTS



+ MORE



# ANTI-SLIP WALKWAY

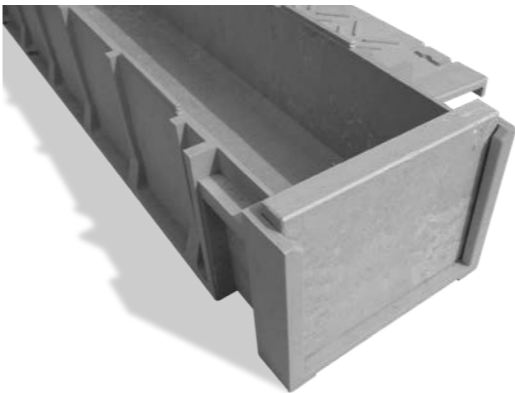
A combined cable trough and hard-wearing safe walkway developed in collaboration with our UK partner Trough-Tec Systems.

Green Trough walkway comprises of two units joined in parallel pairs to form a 780mm wide surface.

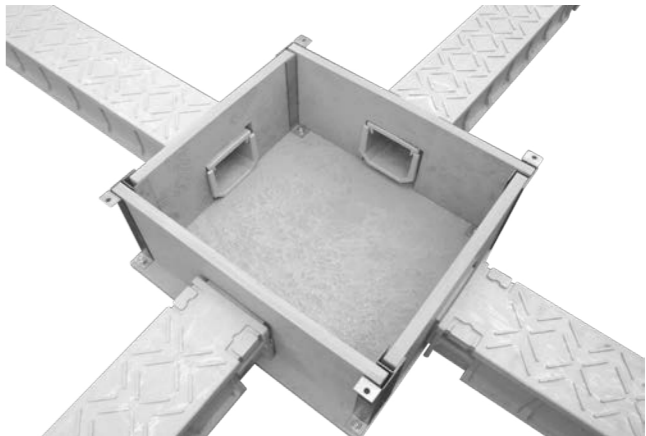


# OTHER ACCESSORIES

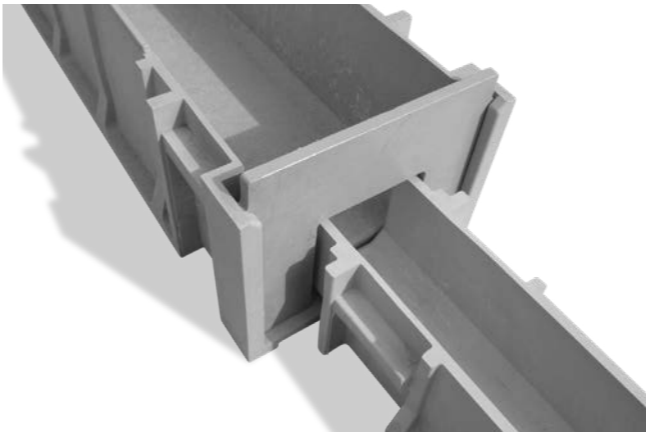
END PLATE



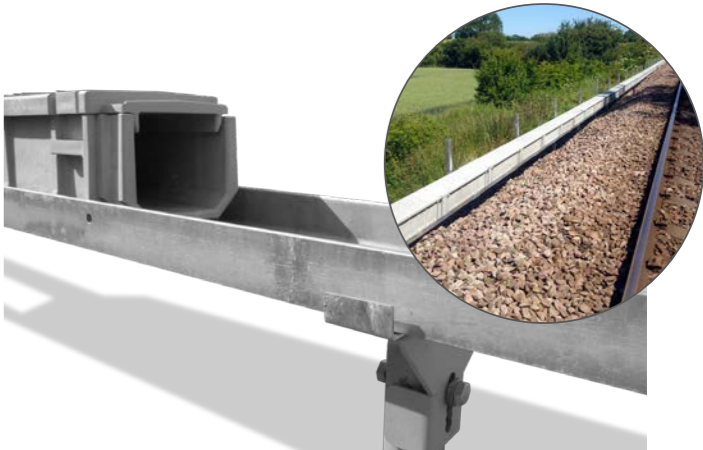
JUNCTION BOX



JOINT PLATE/REDUCER



ELEVATED BRIDGE





# 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.



## 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.



**HIGHWAYS**



**RAIL/LIGHT RAIL**



**ENERGY**



**STADIUMS**



**AIRPORTS**



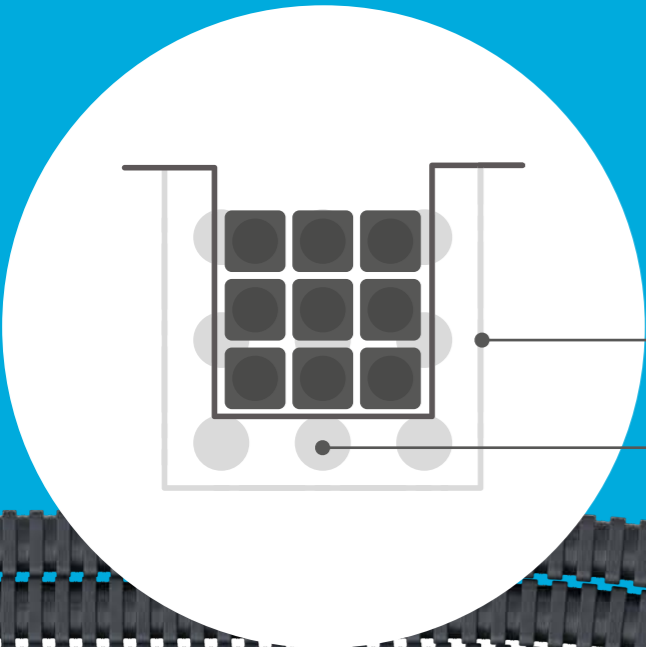
**+ MORE**



# ADVANTAGES OF EFLEX SQUARE

## Space Saving

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

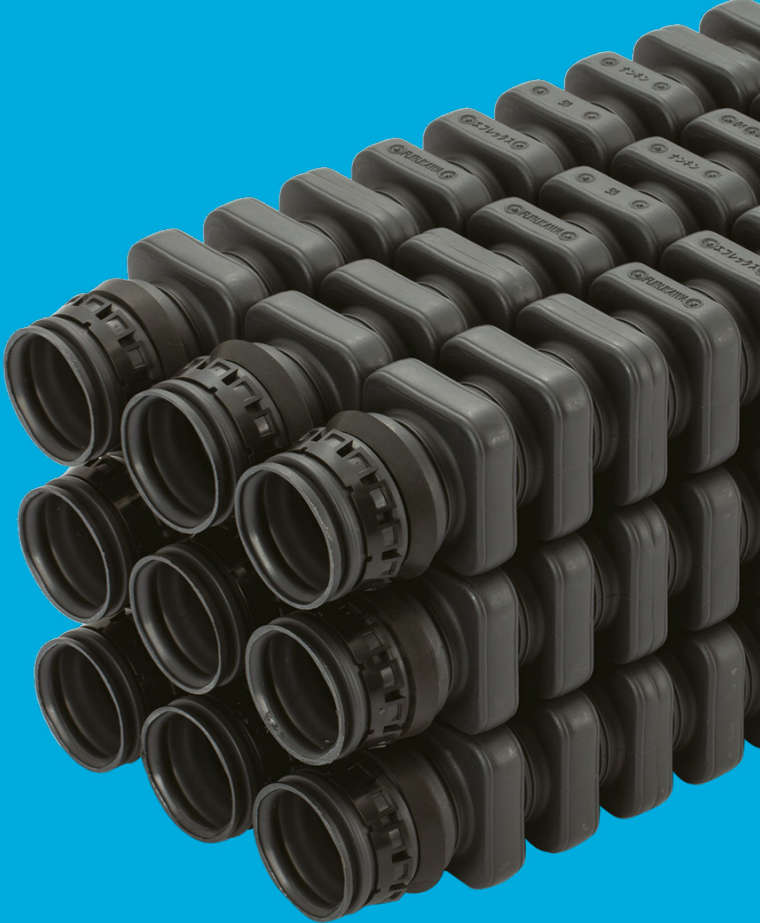
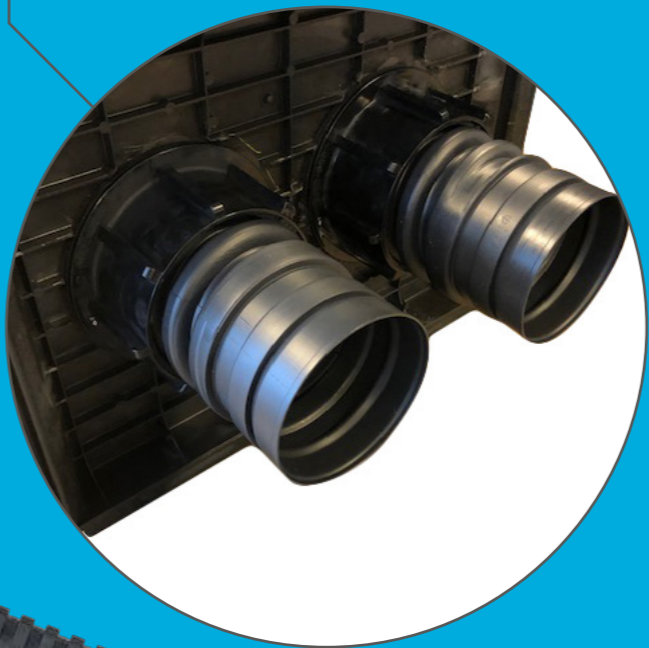


Ideal for areas with limited space

Requires smaller trench  
& no duct spacers

## 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.



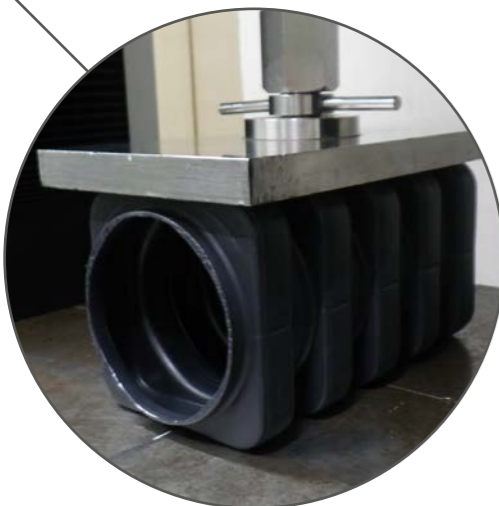
EFLEX Square seamlessly integrates with Green Trough to provide the ultimate cable management pairing

## 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.

## Flame Resistant

Self extinguishes in under 30 seconds according to JIS C3653.

## Environmentally Friendly

EFLEX Square is made from High Density Polyethylene and is fully recyclable.



# EFLEX SQUARE PRODUCTS

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



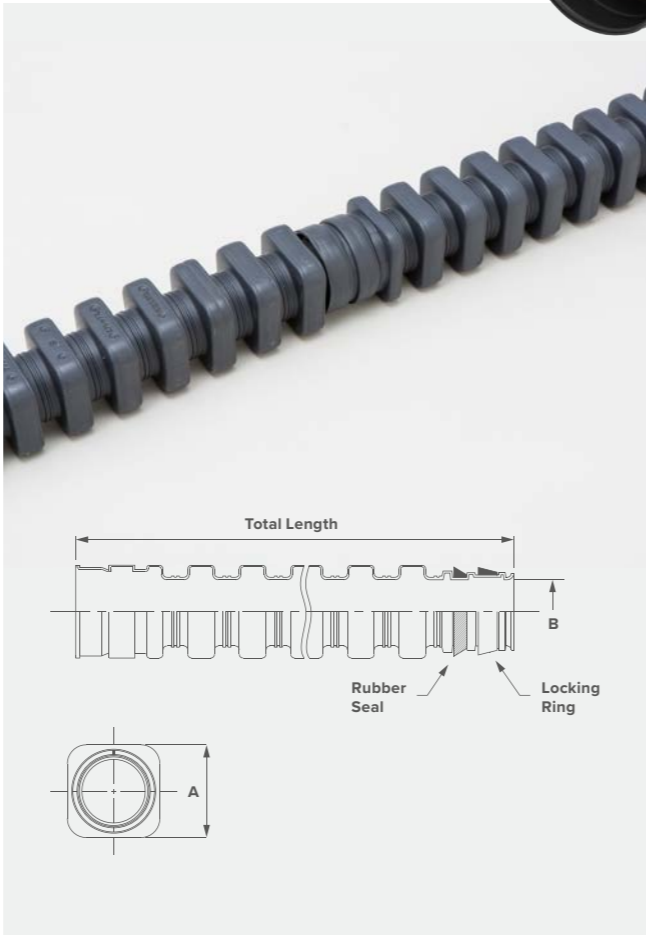
## STANDARD UNIT

Series	mm		Total Length	Effective Length	Total Weight
	A: Outer Diameter	B: Inner Diameter			
50	73	50	5,300	5,250	2.6
75	100	75			4.5
100	125	100			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.)



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