

CABLE BASKET TRAYS

CATALOGUE

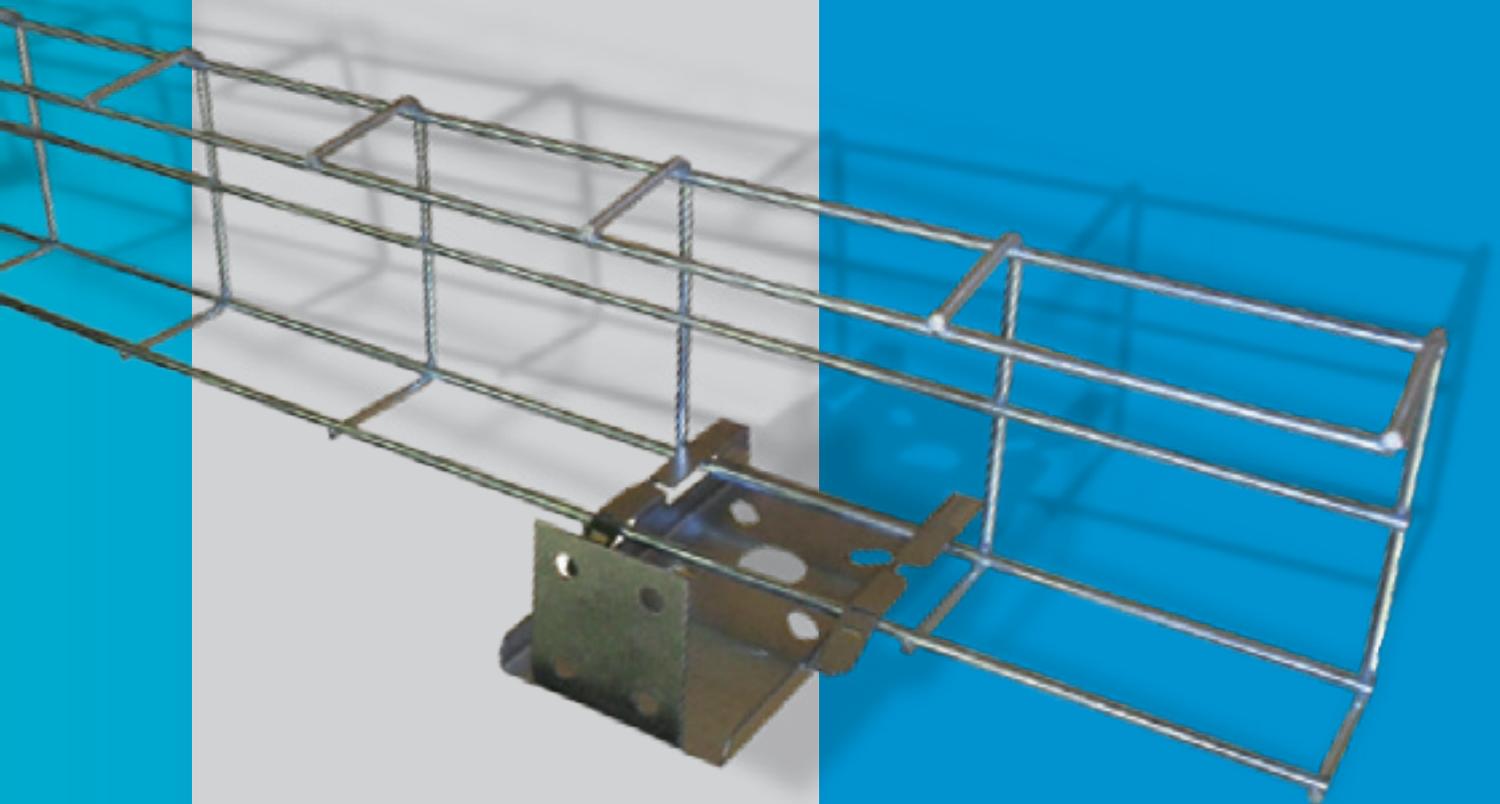


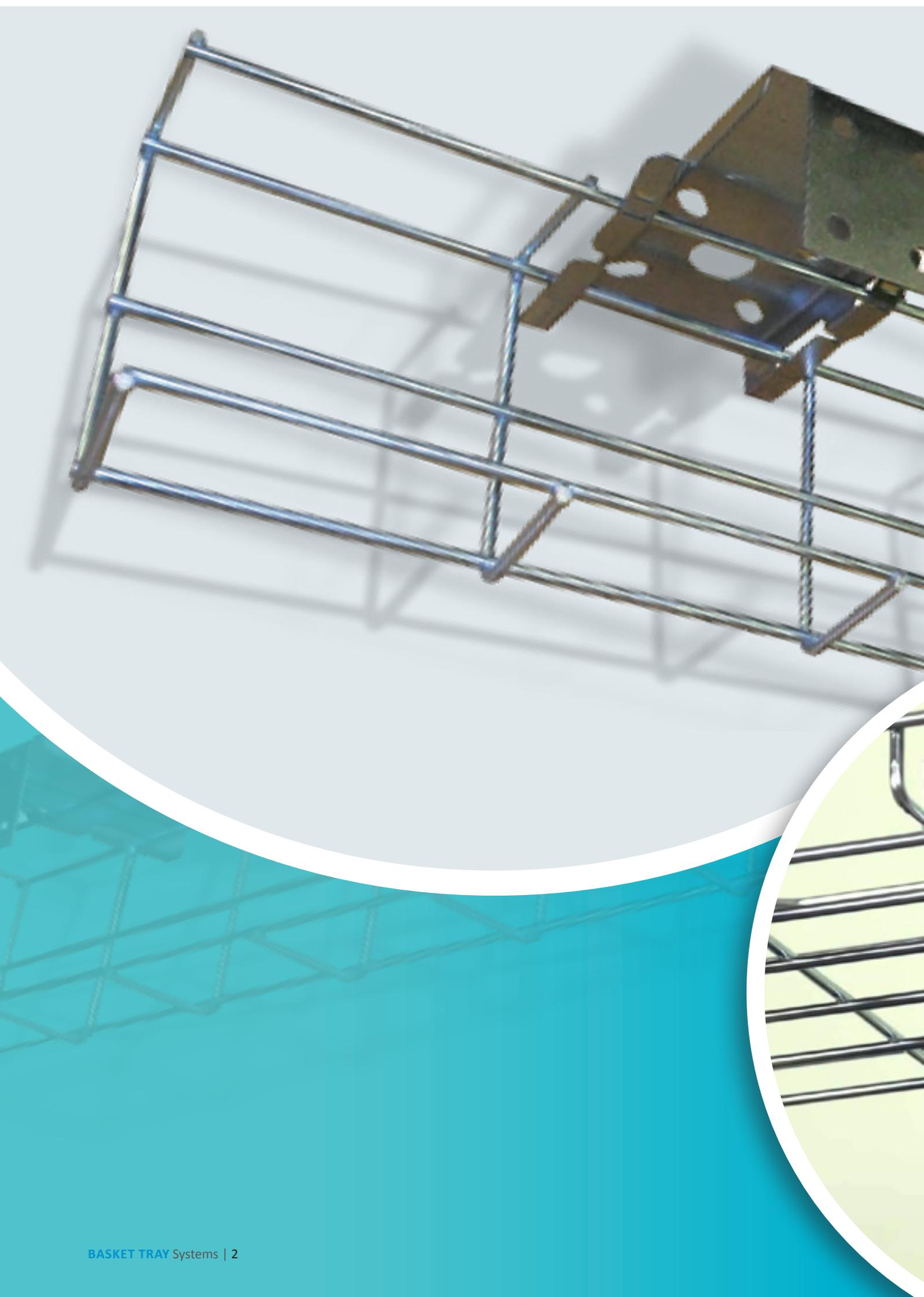
SFSP
Specialized Factory
for Steel Products /s.a.r.l
www.sfsp-lebanon.com

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Cable Basket Trays Catalogue

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**ABOUT
SFSP**



SFSP
Specialized Factory
for Steel Products /s.a.r.l
www.sfsp-lebanon.com

Specialized Factory for Steel Products is a leading factory in Lebanon, established in the year 2011 to serve the steel construction products industry in Lebanon and the region.

Production at the factory is observed using modern practices of manufacturing methods in the steel construction industry with a definite compliance to international standards of fabrication.

SFSP adapts quickly and easily to market demands and requirements. The factory is operating a top of the line production machinery, automated with high technology to ensure quality and maintain speed with delicacy.

Quality at SFSP is uncompromised; the factory is working as per ISO 9001: 2008 Quality Management System, with care for the safety of its workers and clients as well as the welfare of its society by acknowledging the environmental key issues, trying to maintain a pollution-free production facility

TECHNICAL SERVICES

A crucial factor in the job of a factory is to provide continuous technical services and consultations.

That's why SFSP has invested in a professional team of researchers and specialists.

SFSP has recruited brilliant graduates and experienced engineers having the appropriate knowhow on the on latest technology changes and development in the steel building materials industry.

The product range is developed and updated according to the relevant standards of fabrication across markets, whilst the business processes are evaluated to achieve maximum efficiency.

SFSP R&D Core Objectives

- Carry out responsibilities effectively in a safe and healthy work environment.
- Develop and implement research programs relevant to the products and solutions introduced and ensure that the results are communicated clearly in-house and among the clients , concisely and accurately.

SOCIAL RESPONSIBILITY

Being socially responsible is a part of who we are and how we do our business. We aim to provide useful products and services, to provide jobs and development opportunities for our communities, and to gain satisfaction through meaningful work.

We make a difference by acting on the values and principles of our societies and we inspire others to do so. At SFSP, we anticipate and reduce threats caused by environmental changes or natural disasters, and we are well adapted to significant social changes.

We contribute to a more sustainable society by means of value and support to our consumers, supply chains, and stakeholders. We are keen to identify ways they can improve our impacts on the people and places we work and live in, and thereby become more valuable and valued members of society.

- Organizational governance: We promote accountability and transparency at all levels, thus, promoting responsibility
- Human care: We treat individuals with respect; and make efforts to help members of vulnerable groups
- Labor practices: We provide just, safe and favorable conditions to workers
- Environment: At SFSP, we identify and improve environmental impacts of our operations, including the resource use of natural resources and waste disposal.
- Fair operating practices: Practicing accountability and fairness in dealings with other businesses

At SFSP, we are committed to continuous improvement ongoing learning, process review and innovative thinking that foster new initiatives; and better practices. Our environmental programs evolve to meet today's changing needs while; protecting resources for future; generations.



ENVIRONMENTAL AWARENESS

SFSP is committed to the following:

- Compliance with all statutory and regulatory requirements related to its activities, products and services and the environmental aspects.
- Identifying quality and environmental objectives by review and audit of the processes both in-house and on-site.
- Formally setting objectives based on the results of the process reviews and their significance in relation to their impact on the environment and the continual improvement of the quality and environmental management system.
- Implementing management programs to achieve these objectives.
- Investing in a well-trained and motivated workforce.
- Working closely with suppliers and customers to ensure mutual understanding and benefits of the environmental aspects consideration.
- Reviewing our policy and objectives as part of the Management Review Process.
- Communicating this policy to all persons working for or on behalf of the organization.
- Preventing and minimizing Pollution to the environment.



LOCATION

SFSP / Lebanon

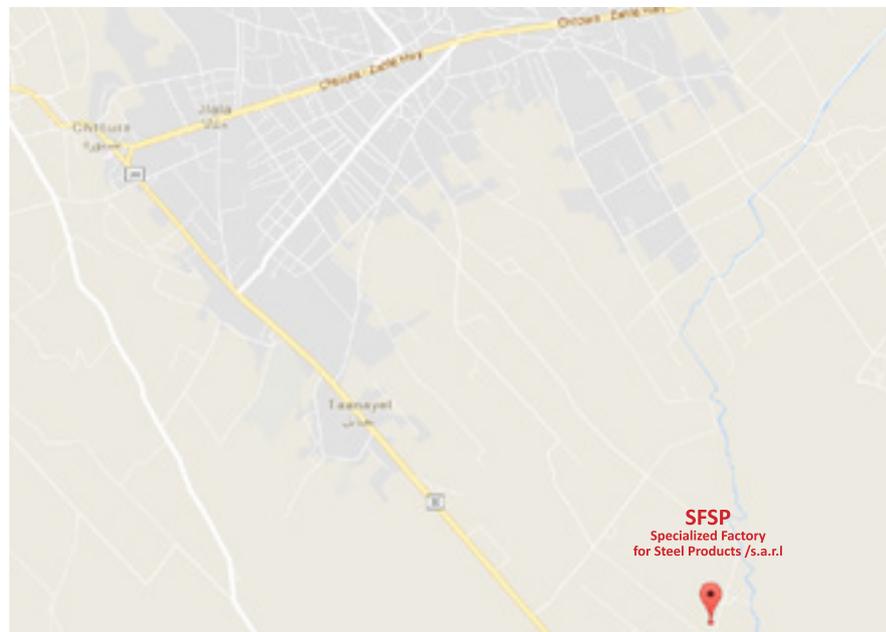
management@sfsp-lebanon.com

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HEALTH AND SAFETY

The Factory Management regard the health and safety of the employees, clients and all others that may be affected by their operations to be of a major importance.

In support of this, the management promotes health and safety throughout the Factory's operations and endeavour to engender a positive attitude in all employees towards the prevention of accidents and maintenance of healthy working arrangements.

The Factory satisfies the requirements of the Health, Safety and related legislation by setting out the responsibilities of all levels of staff and the arrangements for carrying out those responsibilities and in particular do what is reasonably practicable to:

1. Maintains safe & healthy working conditions.
2. Ensures that all facilities and equipment are safe and properly maintained.
3. Provides products that can be applied and used safely and without risk to health.
4. Provides and maintain working procedures, that are safe and without risk to health, throughout the its operations in respect of:
 - The use, handling, storage, transports and disposal of materials and substances.
 - The use of factory equipment.
 - Potential emergency situations, including first aid, fire and escape of substances.
5. Ensure the competence of employees.



SFSP facilities are equipped with advanced machinery amongst are Cable Management Production Lines, Steel cladding systems production lines, metal lathes and blockwork production line, garbage and linen chutes production line, and also partition and ceiling profiles production capacity, and Computerized Numerical Cut machines to ensure delicacy and speed of delivery.



SFSP PRODUCTS

SFSP produces a variety of products ranging from cable management systems; cable trays, cable ladders, basket trays, trunkings and support systems, to mechanical cladding fixations, steel lintels and block work accessories, plasterers' beads, expanded metal and block work reinforcement, strut channel systems, pipe clamps & hangers, gypsum profiles as well as garbage and linen chutes. With the introduction of new machines and the enhancement of production methods, SFSP continues to develop its production methods systematically as well as thoroughly.

CABLE TRAYS & ACCESSORIES

Cable Trays are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrications and finishes.



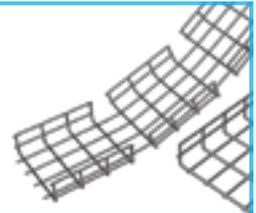
CABLE LADDERS (WELDED & SWAGED)

Cable Ladders of different side heights are available upon request.



BASKET TRAYS & ACCESSORIES

SFSP's Basket Tray systems make connections fast and simple with limited need for tools. Its design allows for continuous airflow, and prevents heating up of cables. SFSP's Basket Tray comes in a full range of sizes and is made with high-strength welded steel wires.



CABLE TRUNKINGS

Cable Trunkings and Accessories are offered in a comprehensive range. Mill galvanized, hot-dip galvanized, and powder coated are the various finishes produced in our factories.



UNDERFLOOR TRUNKING

Underfloor Trunking Systems solutions incorporate a range of products for the distribution of power and data services , it is a coordinated set of containments that protect, segregate, contain, and route cables within a given environment.



CABLE MANAGEMENT SUPPORT SYSTEMS

Cable Support Systems are well designed to provide necessary support for cable trays, cable ladders and trunkings. Cable supports are manufactured according to common standards from high quality raw materials.



C-CHANNEL STRUT SYSTEMS

SFSP's Metal Framing Systems provide an economical solution for electrical, mechanical and industrial supports with a wide variety of applications in the construction industry. Applications: - Pipe and Conduit Supports - Tunnel Pipe Stanchions - Racks and Shelvings - Wall Framings.



EXPANDED METALS, PLASTERERS' BEADS

Expanded Metals help the formation of joints, protection of corners and resistance against cracks, chips and impact damage.

BLOCK LADDER REINFORCEMENT

SFSP ladder and truss types are used for the reinforcement of brick and block masonry to give improved tensile strength to walls subjected to lateral loading e.g. wind and seismic. SFSP block reinforcements reduces the risk of cracking either at stress concentration around opening.

STEEL LINTELS & BLOCK WORK ACCESSORIES

Steel Lintels provide a combination of strength and light weight, resulting in efficient load bearing performance and increased productivity on site. They are characterized by their ease of installation in addition to time as well as money saving.



PIPE CLAMPS & HANGERS

Pipe Clamps and Hangers from SFSP used in the support of pipes and equipments are manufactured according to the highest standards of fabrication. A diversified choice of Pipe Hangers, Pipe Clamps, EMT Straps, Omega Clamps, Beam Clamps, J and U-Bolts and Threaded Accessories.



MARBLE & GRANITE FIXINGS

Stangle Cladding Fixation includes design, calculation and production of several types of mechanical fixings and accessories used for cladding purposes. Stainless and galvanized steel are among the various materials used in the fabrication.



DRY WALL & CEILING PROFILES

SFSP provides a complete product range for dry wall and ceiling constructions. Studs, Runners, Furring Channels, Ceiling Channels and Wall Angles are among the range of products produced to service the dry wall installers.



GARBAGE & LINEN CHUTES

Chutes from SFSP are very convenient, simple and low cost method of controlling and disposing of refuse and linen. Chutes meet the most stringent requirements of environmental health and safety. Chutes are used as original equipment in new buildings, such as : Hotels, Hospitals, High Rises and Residential Towers.



EXPANSION JOINTS COVERS

SFSP manufactures architectural lines of thermal, seismic, waterproof, and fire-rated expansion joint systems meeting aesthetic and structural demands of multiple projects including airports, hospitals, commercial and residential buildings, shopping malls, and several other structural types

Materials used in SFSP expansion joints systems includes 6063 Aluminum, Rubber (Natural and Neoprene), Stainless Steel, TPE.



CABLE MANAGEMENT SYSTEMS

SFSP Cable Management Systems, fittings and accessories are manufactured in compliance with international standards. SFSP provides a wide range of products capable of providing the characteristics which respond to the proposed application, along with quality of assembly, speed of installation and cost-saving Cable Management Systems. Calculations are provided by our design office in Stuttgart, Germany.

SFSP Cable Management Systems are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrication and finishing. Cable Management Systems are economical wire and cable management systems designed to support and protect electrical wires and cables.

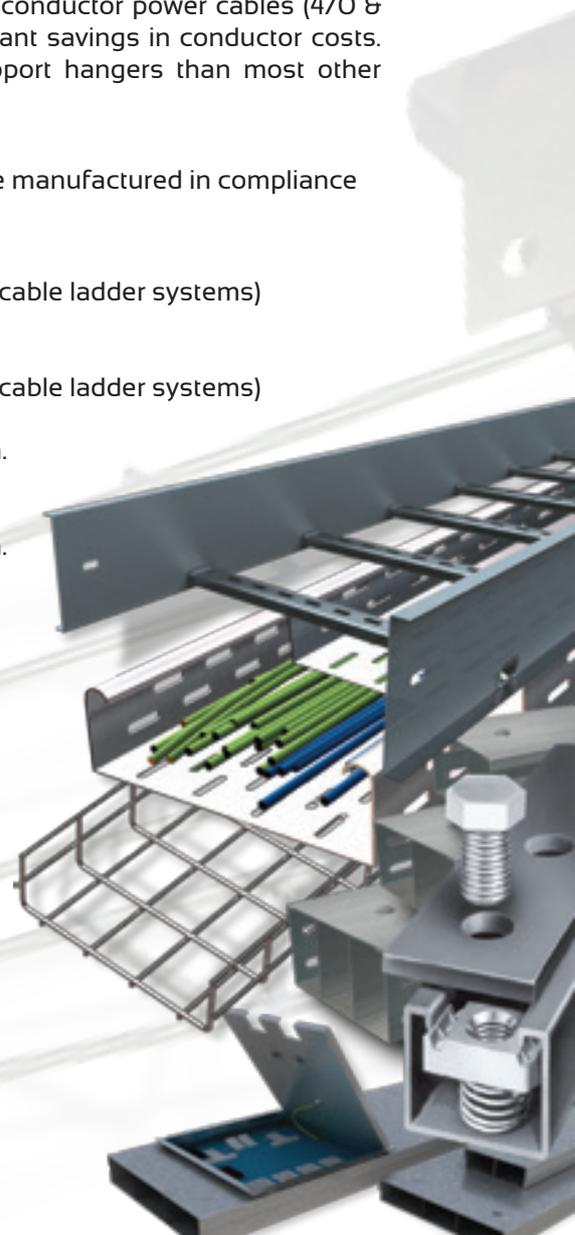
National Electric Code (NEC) permits Cable Trays in a wide variety of indoor and outdoor applications. The NEC also permits Cable Trays for use as equipment ground conductor.

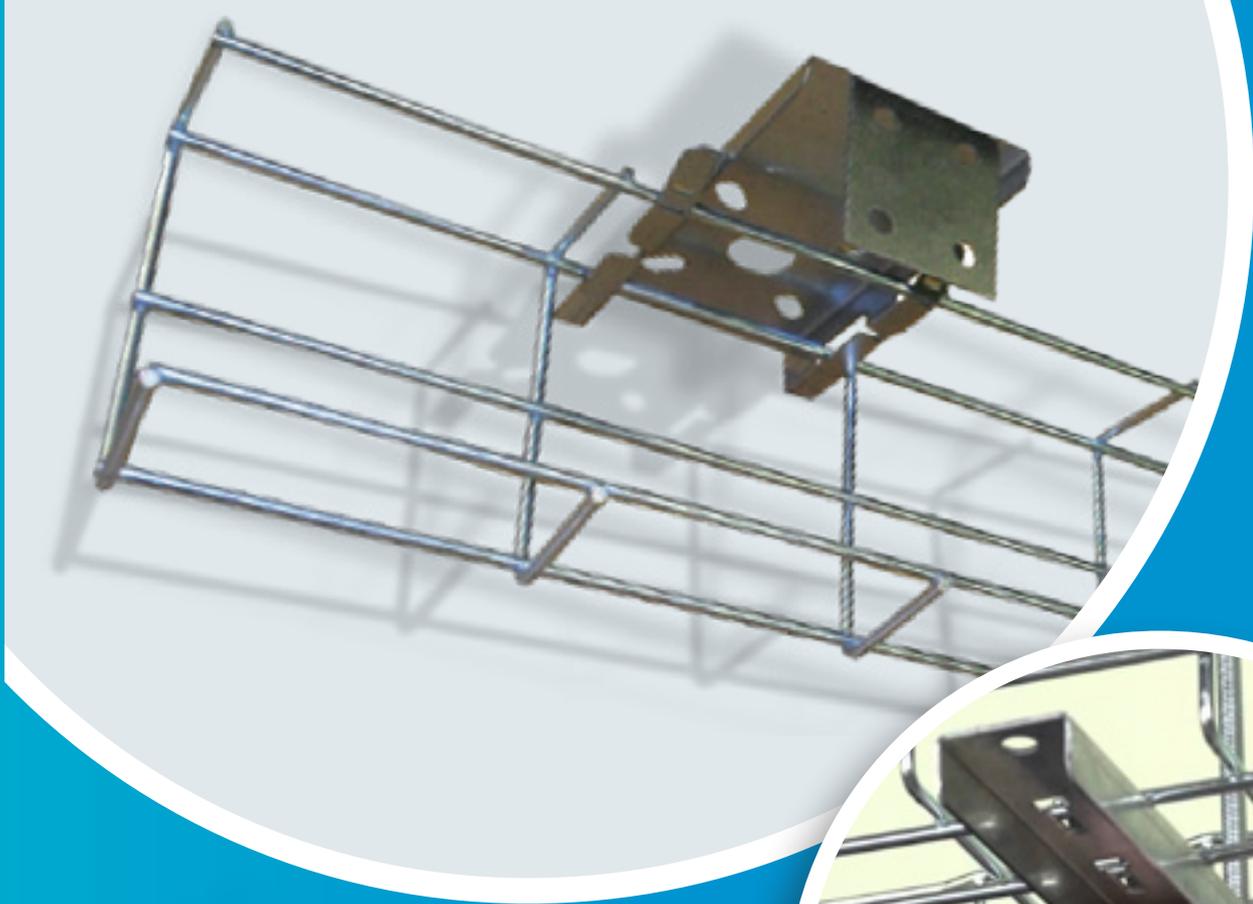
Cable Management Systems can provide significant advantages in cable filling over other wiring methods. This can provide savings in the size or number of raceways required, thereby, reducing both material and labor costs. In many cases, NEC permits greater conductor ampacities in Cable Tray Systems than for other wiring methods.

Under certain conditions, the NEC allows "Free Air" rating of large, single conductor power cables (4/0 & larger) in ventilated Cable Management Systems. This can provide significant savings in conductor costs. Cable Management Systems permit much greater spacing between support hangers than most other systems, providing savings in support costs and installation labor.

Cable Management Systems` types fittings and accessories from SFSP are manufactured in compliance with :

- | | |
|-------------------------|---|
| - IEC 61537:2007 | International Electrotechnical Commission |
| - BS EN 61537:2007 | (Cable management, Cable tray systems and cable ladder systems) |
| - SASO IEC (61537:2006) | Saudi Standard |
| | (Cable management, Cable tray systems and cable ladder systems) |
| - NEMA VE 1 - 2009 | National Electrical Manufacturers Association. |
| | (Metal Cable Tray Systems) |
| - NEMA VE 2 - 2006 | National Electrical Manufacturers Association. |
| | (Metal Cable Tray Installation Guide Lines) |
| - NEC (ANSI / NFPA 70) | National Electric Code |
| | (Metal Cable Tray Guide Lines) |





CABLE BASKET TRAYS

SYSTEM OVERVIEW

Classification DIN VDE 0639

Temperature class:

–45° up to 150° C

Corrosive and harmful influences:

Medium resistance

High resistance

Solar radiation high resistance



SFSP Basket Tray Systems and accessories from SFSP are manufactured in compliance with :

- IEC 61537 International Electrotechnical Commission
(Cable management – Cable tray systems and cable ladder systems)

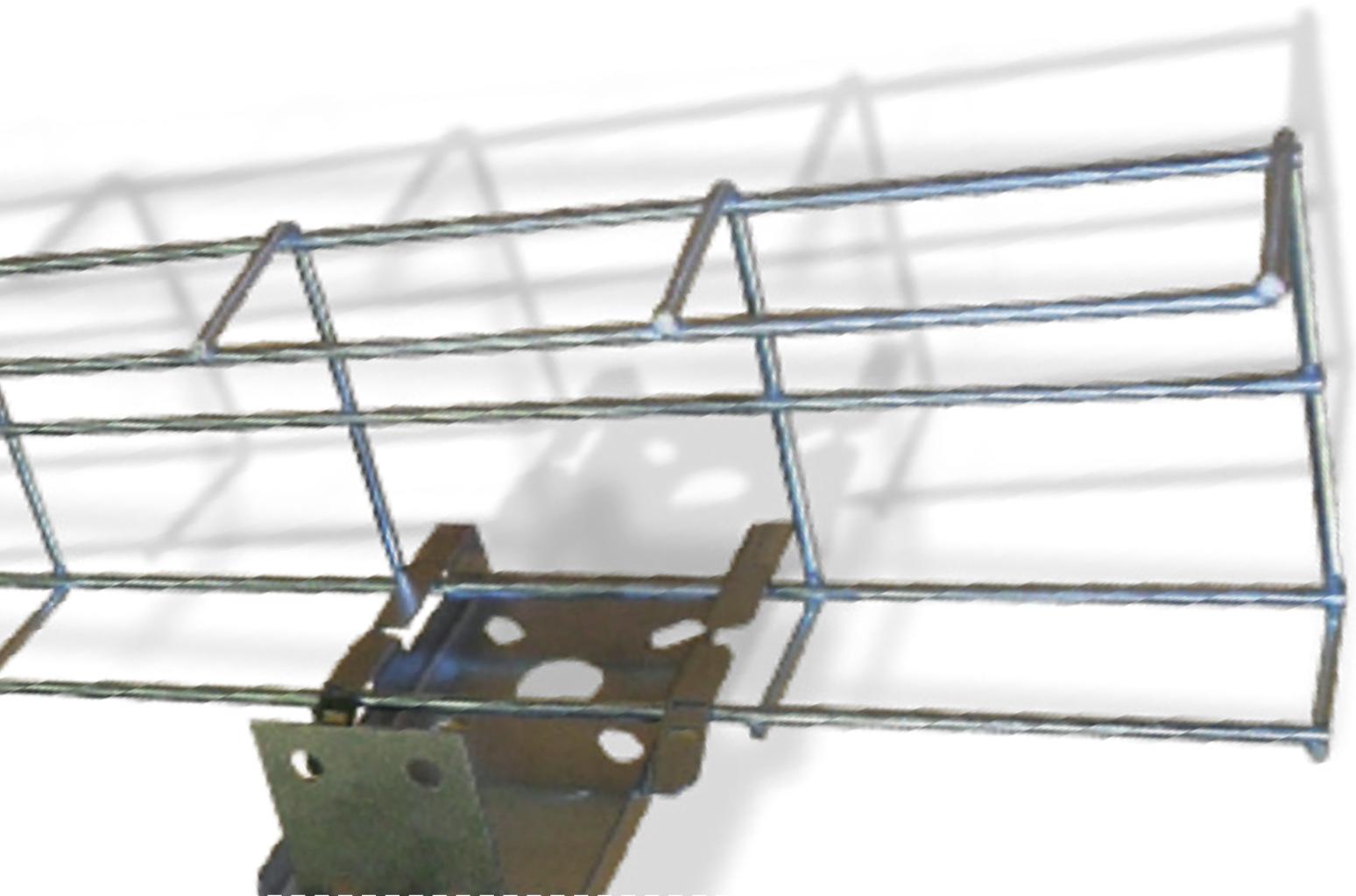
- SASO IEC (61537/2007) Saudi Standard
(Cable management – Cable tray systems and cable ladder systems)

- NEMA VE 1 - 2009 National Electrical Manufacturers Association.
(Metal Cable Tray Systems)

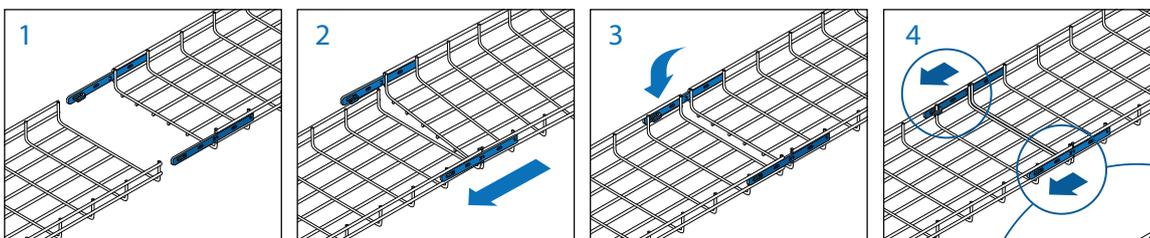
- NEMA VE 2 - 2006 National Electrical Manufacturers Association.
(Metal Cable Tray Installation Guidelines)

- NEC (ANSI / NFPA 70) National Electric Code
(Metal Cable Tray Guide Lines)

SFSP's Basket Tray Systems enable fast and simple connections with limited need for tools. SFSP's design allows continuous airflow, and prevents the buildup of dust, contaminants and bacterial proliferation. Strong, flexible and adaptable, SFSP's Basket Trays come in a full range of sizes and is made with high-strength welded steel wires. Support accessories for any application or situation are available. Basket Tray is produced by first welding a net, forming the channel and then finishing after fabrication.



System allows for fast snap together assemblies

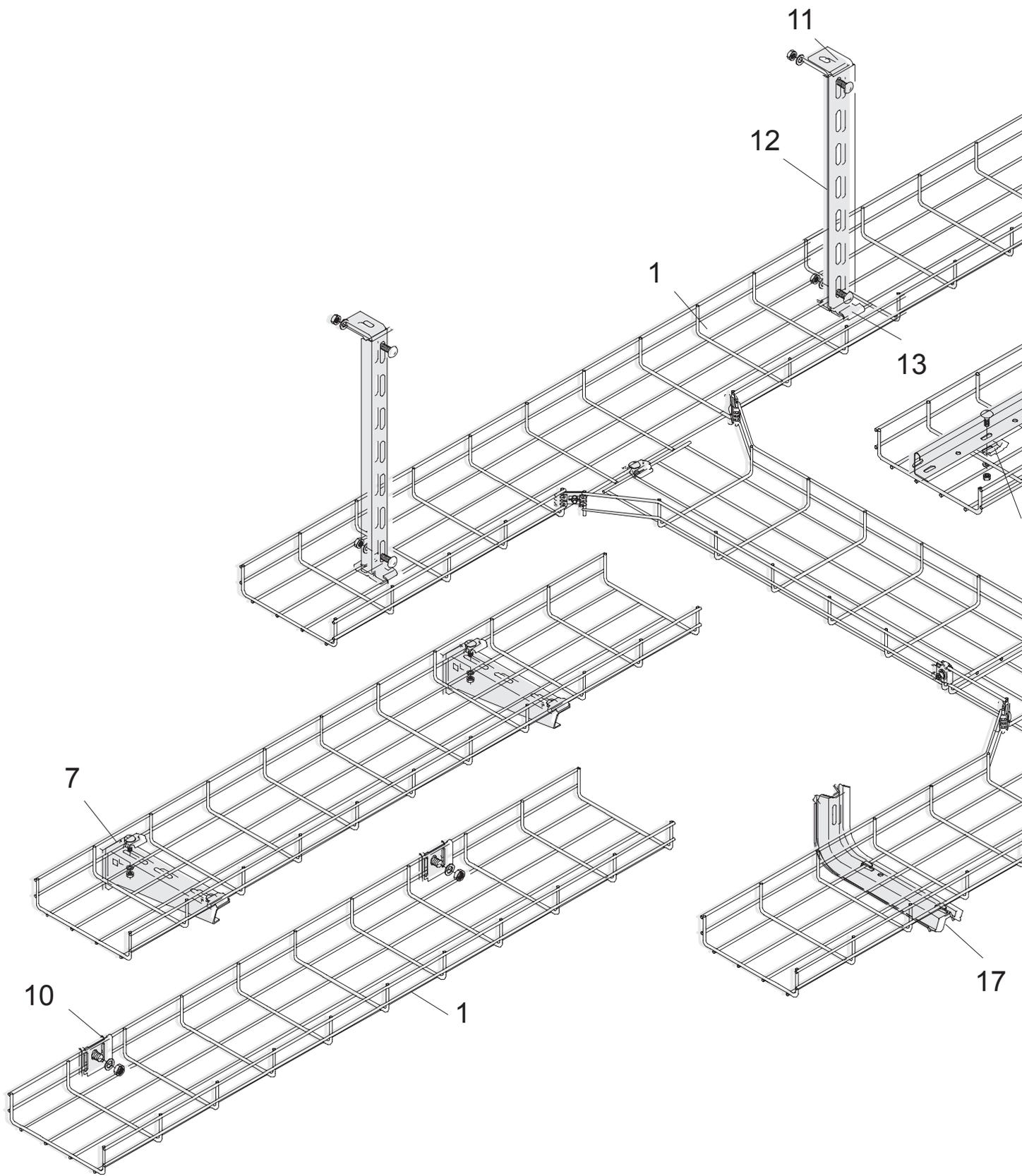


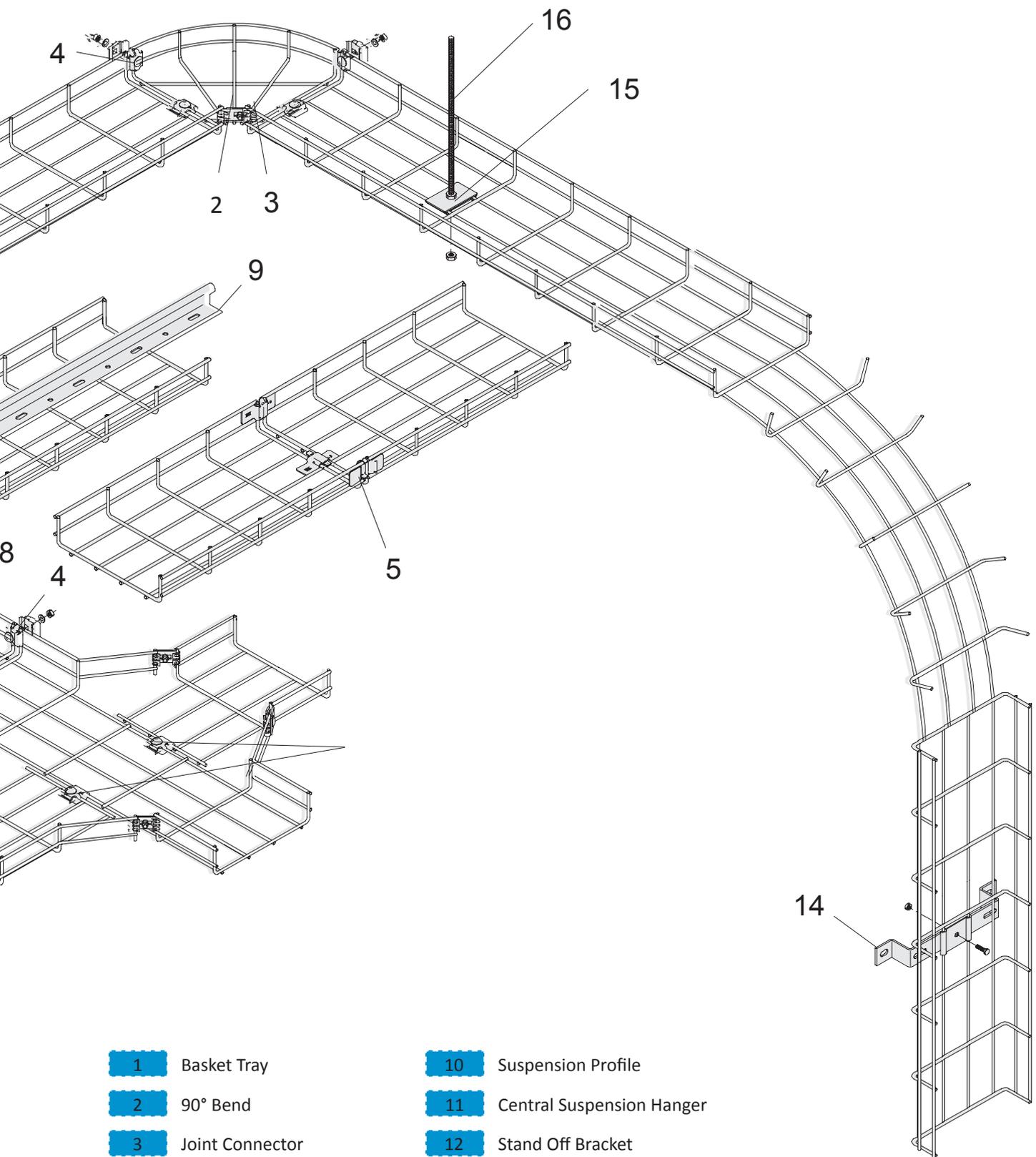
Step 1. Align the trays as shown.

Step 2. While raising the rear edge of the male connection, slide the tray forward, but do not engage the locking clip.

Step 3. Push the rear locking clip over the back edge of the tray.

Step 4. Slide the tray forward to engage both front and rear locking clips.





- | | | | |
|----------|------------------|-----------|---------------------------|
| 1 | Basket Tray | 10 | Suspension Profile |
| 2 | 90° Bend | 11 | Central Suspension Hanger |
| 3 | Joint Connector | 12 | Stand Off Bracket |
| 4 | Quick Connector | 13 | Central Road Hanger |
| 5 | Corner Connector | 14 | Suspension Rod |
| 6 | Clamp | 15 | Thread Rod Hanger |
| 7 | Barrier Strip | 16 | Thread Rod |
| 8 | Wall Mounting | 17 | Bracket |
| 9 | Ceiling Angle | | |

SYSTEM OVERVIEW

Basket Trays

Height: 55 mm, 80 mm, 105 mm and 150 mm.

Materials: Stainless steel, hot-dip galvanized to DIN EN ISO 1461

Wire Ø: 4mm

Basket Trays and accessories are also available in other dimensions and additional plastic coating upon request.

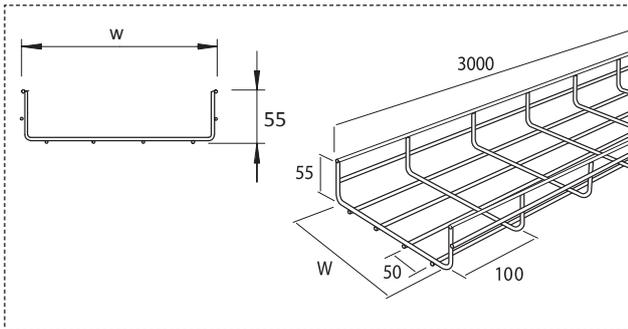
BT 55 | Height 55 mm

Width (mm)	(kg/m)
50	0.61
100	0.76
150	1.01
200	1.32
300	1.99

Width (mm)	(kg/m)
400	2.97
450	3.17
500	3.37
600	3.79

Order Example:

Item No - Length (l) - Width (w) - Material



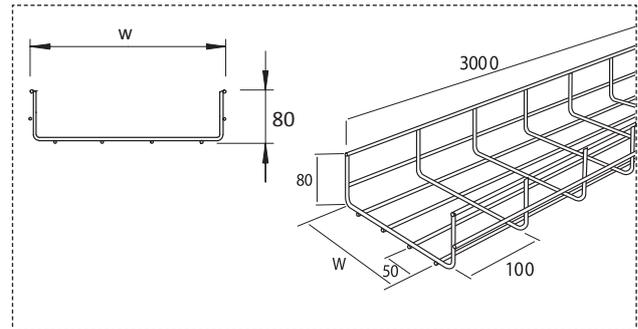
BT 80 | Height 80 mm

Width (mm)	(kg/m)
100	0.90
200	1.50
300	2.30
400	2.60
500	2.90

Width (mm)	(kg/m)
600	3.62

Order Example:

Item No - Length (l) - Width (w) - Material



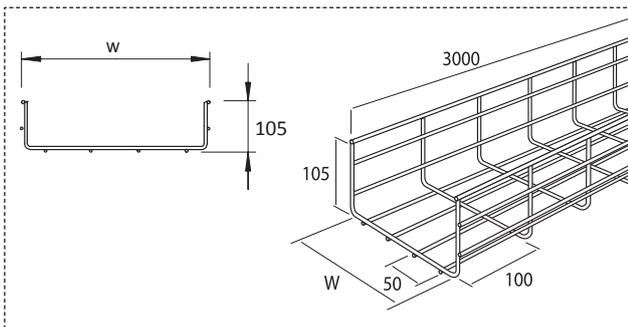
BT 105 | Height 105 mm

Width (mm)	(kg/m)
100	1.32
150	1.69
200	1.99
300	2.96
400	3.37

Width (mm)	(kg/m)
450	3.60
500	3.78
600	4.19

Order Example:

Item No - Length (l) - Width (w) - Material



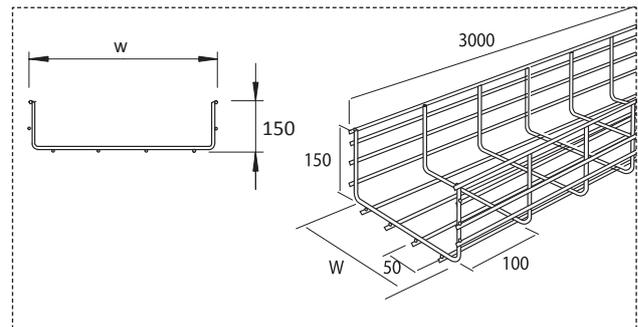
BT 150 | Height 150 mm

Width (mm)	(kg/m)
200	3.10
300	3.50
400	3.90
450	4.10
500	4.40

Width (mm)	(kg/m)
600	5.00

Order Example:

Item No - Length (l) - Width (w) - Material



90° Bends

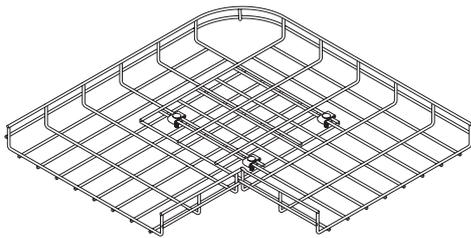
Heights: 55 mm, 80 mm, 105 mm and 150 mm.

Widths: 50 - 600

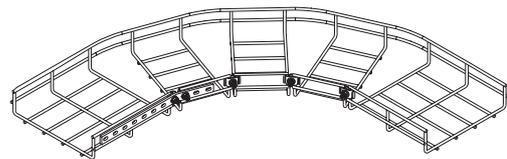
Materials: steel, hot-dip galvanized to DIN EN ISO 1461

90° Horizontal Bends

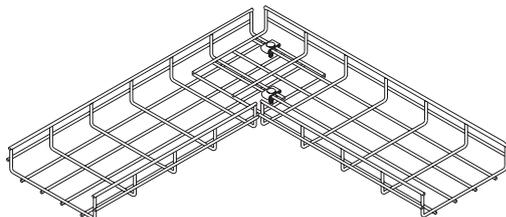
SHORT RADIUS | M105



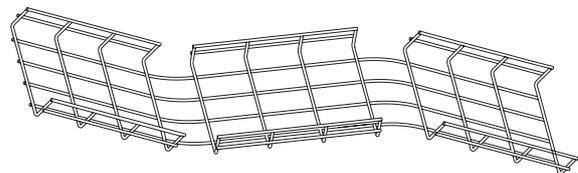
LONG RADIUS | M106



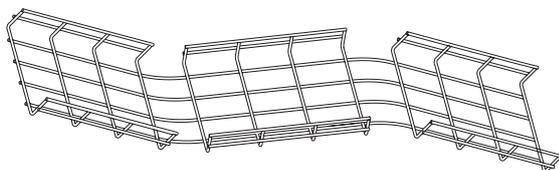
STRAIGHT SECTIONS | M107



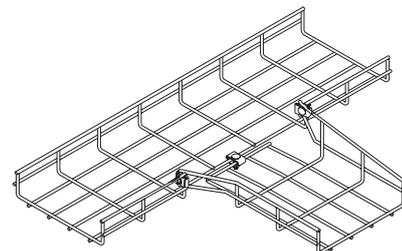
OUTSIDE INSIDE BENDS | M108



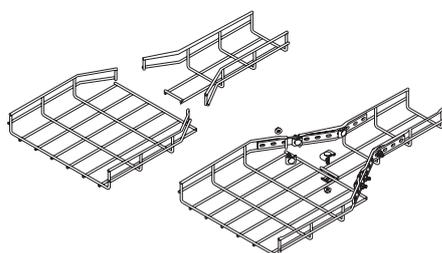
VERTICAL INSIDE BENDS | M108



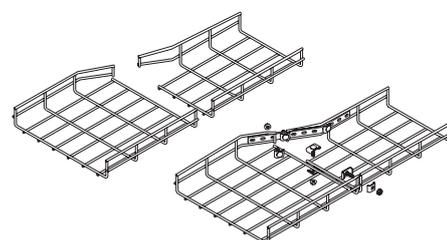
HORIZONTAL TEES (cross) | M109



REDUCERS - Central Reducers | M110



Left & Right Reducers | M111

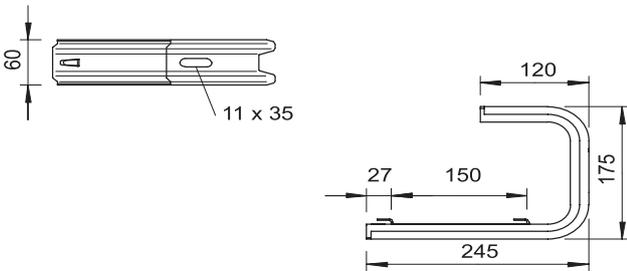
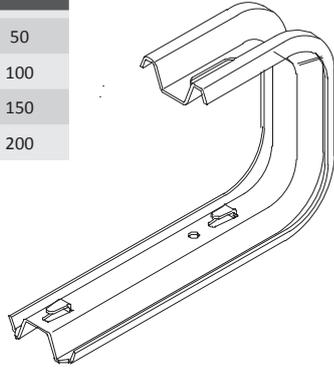


SYSTEM OVERVIEW

Brackets

"J" STYLE BRACKET | M112

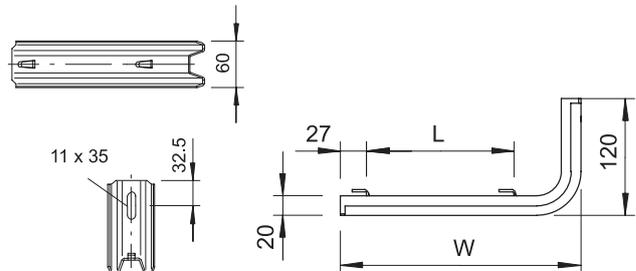
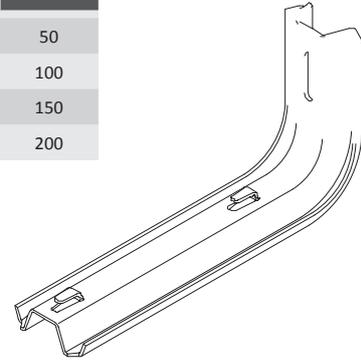
Basket Tray Width (mm)	W (mm)	L (mm)
100	145	50
150	195	100
200	245	150
300	345	200



Width (mm): 145, 195, 245 and 345
Materials: Steel, hot-dip galvanized to DIN EN ISO 1461

BRACKET | M113

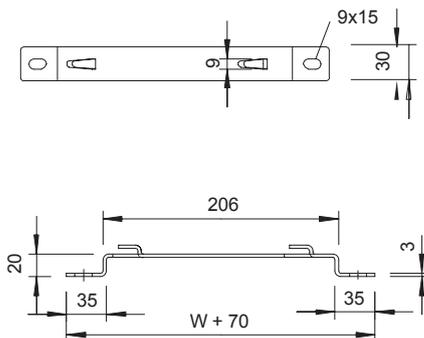
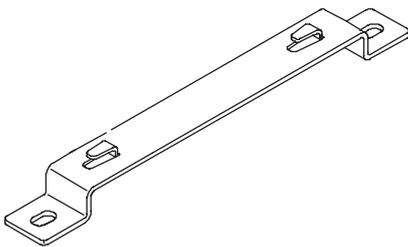
Basket Tray Width (mm)	W (mm)	L (mm)
100	145	50
150	195	100
200	245	150
300	345	200



Width (mm): 145, 245 and 345
Materials: Steel, strip galvanized to DIN EN 10147

SPACER BRACKET | M114

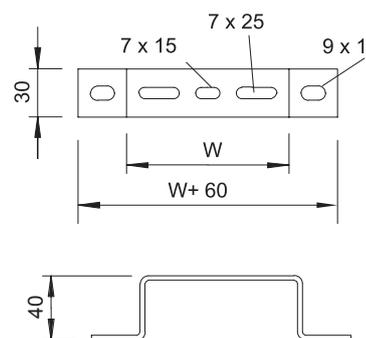
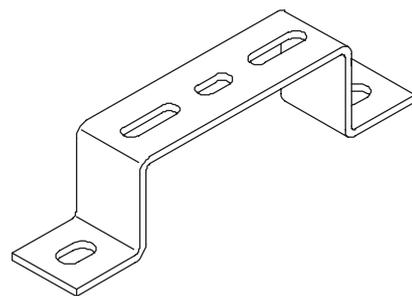
For floor-mounted Basket Trays and Cable Tray stands. Can also be used for wall mounting.



Materials: Steel, strip galvanized to DIN EN 10147

STAND-OFF BRACKET | M115

Base holder for Basket Tray with mesh 50 mm x 100 mm and suspension



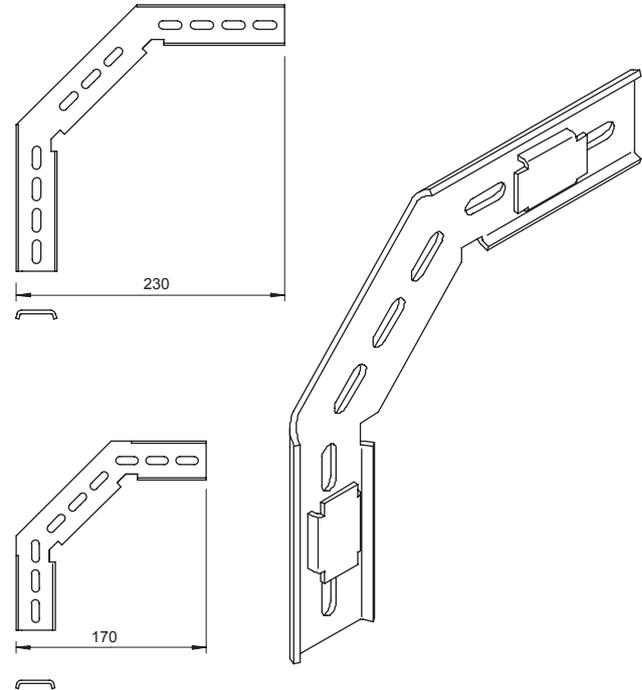
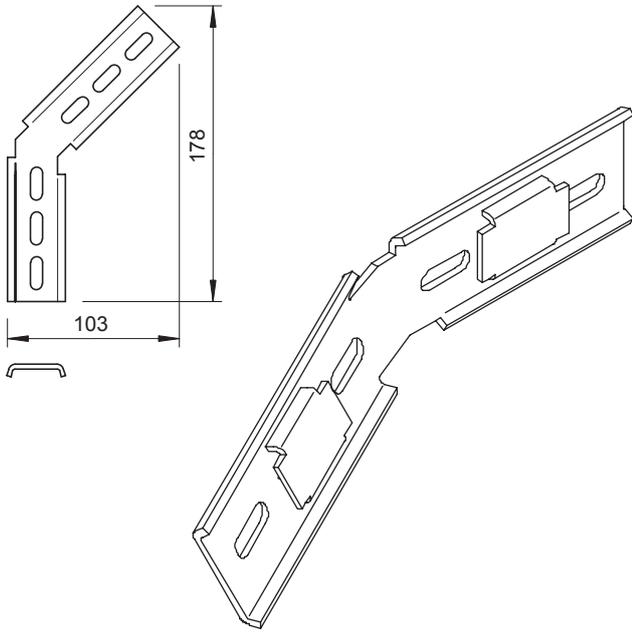
Widths (mm): 100, 150, 200, 300 and 400
Materials: Steel, strip galvanized to DIN EN 10147

Mounting Bracket

Connectors, for production of bends and Basket Trays
Steel strip galvanized to DIN EN 10147

45° MOUNTING BRACKET | M116

90° MOUNTING BRACKET | M117

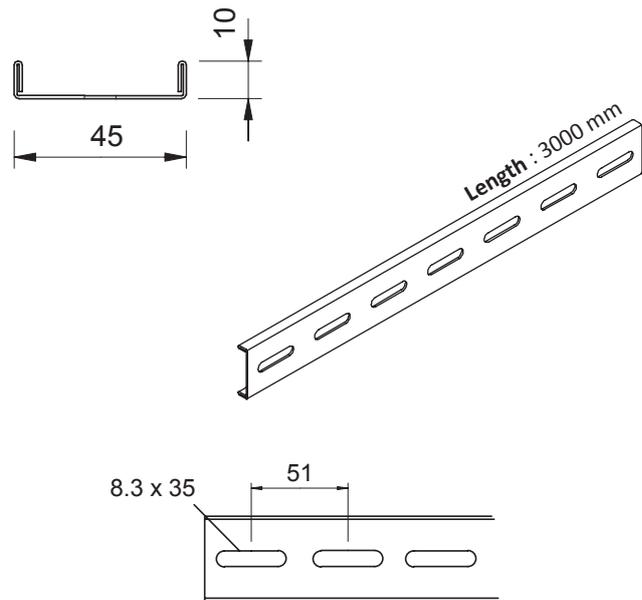
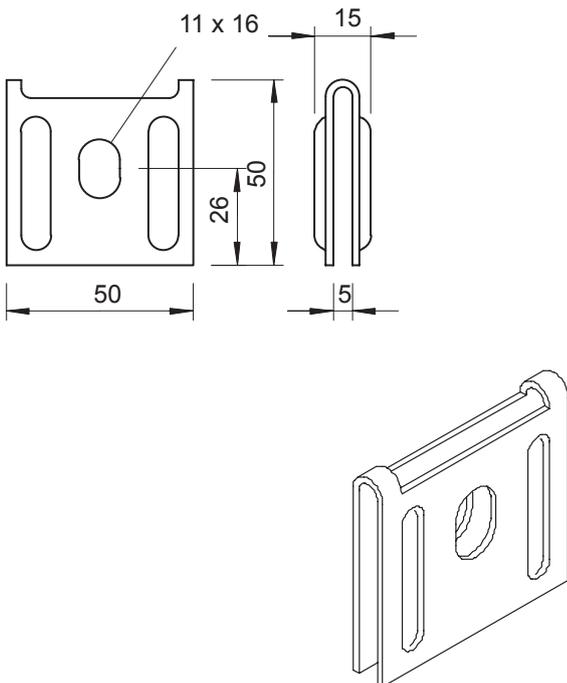


Base holder for Basket Tray with mesh 50 mm x 100 mm and suspension
Materials: Steel strip galvanized to DIN EN 10147

Materials: Steel strip galvanized to DIN EN 10147

WALL MOUNTING | M118

SUSPENSION PROFILE | M119



For connection between ceiling angle and base holder

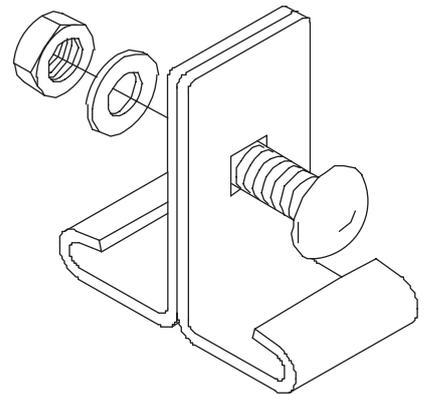
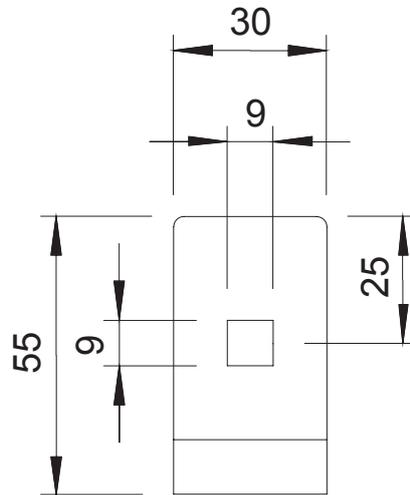
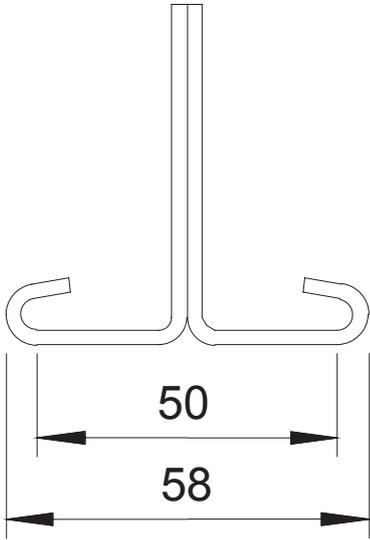
Materials: Steel strip galvanized to DIN EN 10147

Materials: Steel strip galvanized to DIN EN 10147

SYSTEM OVERVIEW

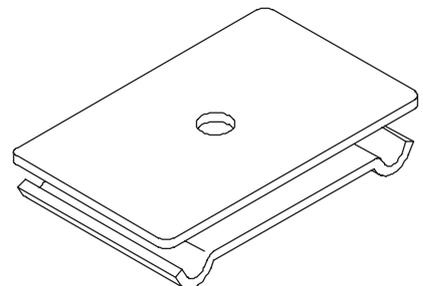
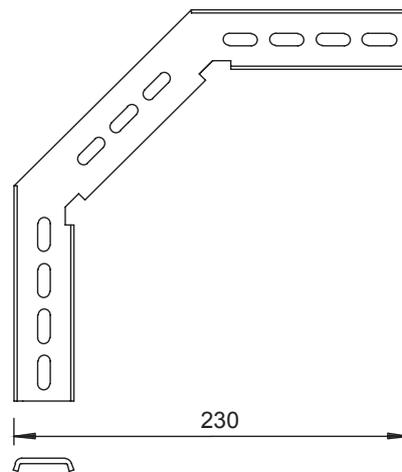
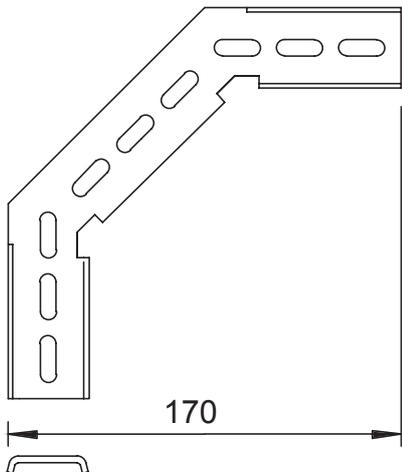
Central Hanger

SUSPENSION PROFILE TYPE | M120



Base holder for Basket Trays

Materials: Hot-dip galvanized steel to DIN EN ISO 1461

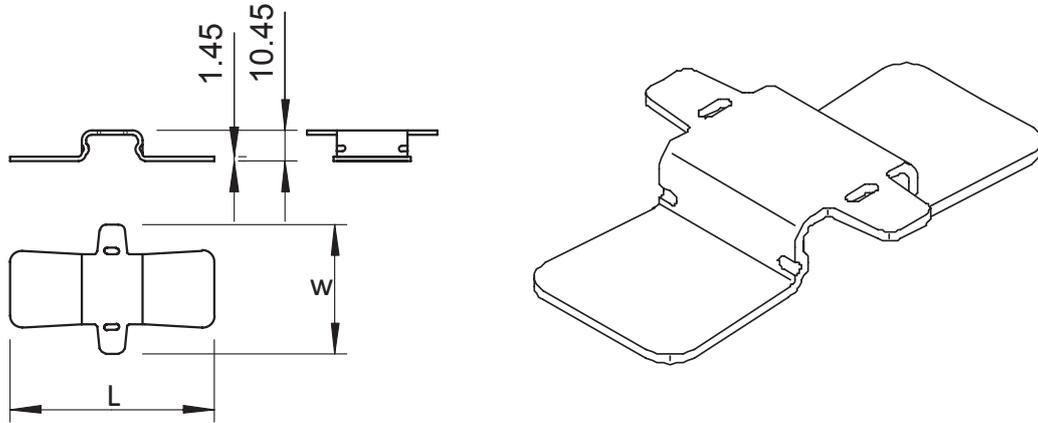


For mounting of suspension profiles using a threaded rod

Materials: Hot-dip galvanized steel to DIN EN ISO 1461

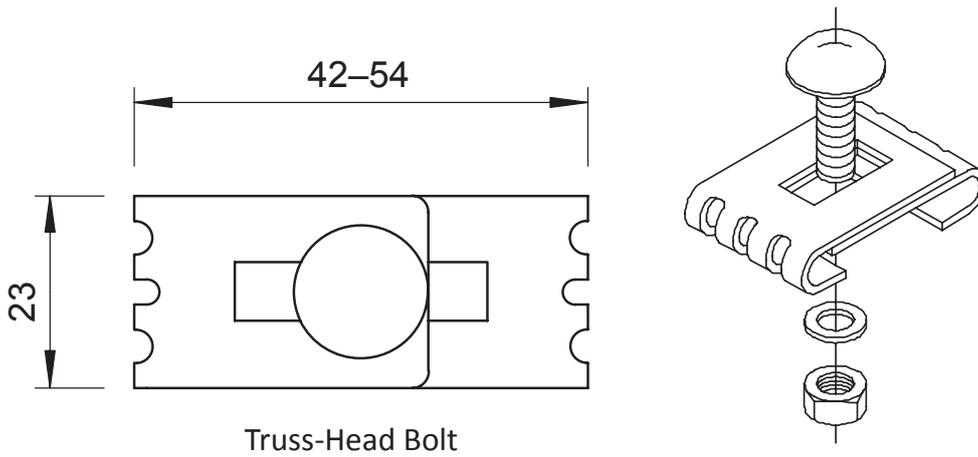
Connectors

QUICK CONNECTOR | CN101



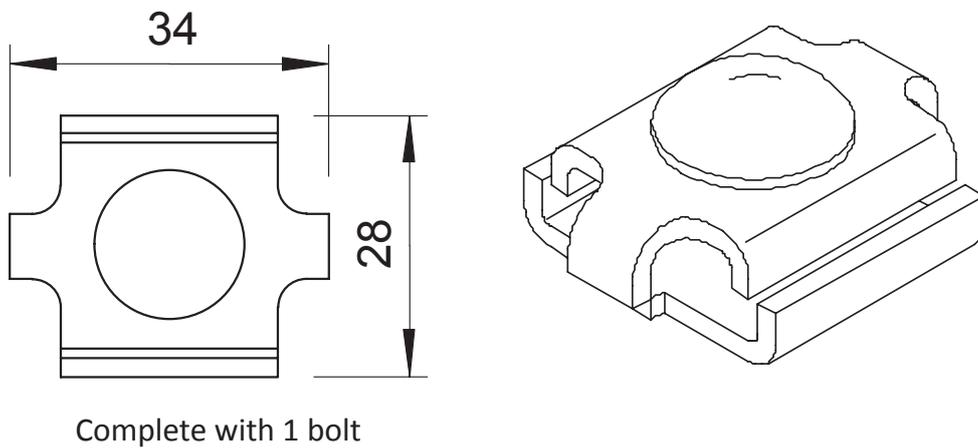
Materials: Hot-dip galvanized steel to DIN EN ISO 1461

CORNER CONNECTOR | CN102



Materials: Hot-dip galvanized steel to DIN EN ISO 1461

JOINT CONNECTOR | CN103



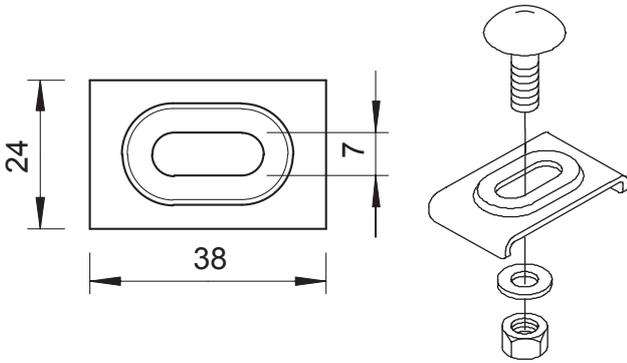
Materials: Hot-dip galvanized steel to DIN EN ISO 1461

SYSTEM OVERVIEW

Clamps

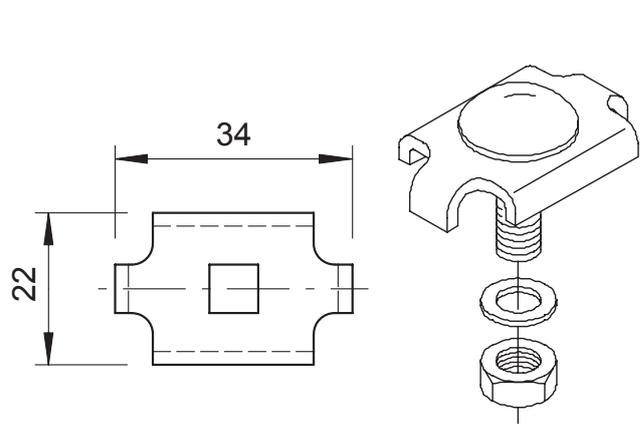
CL100

For barrier strip mounting in Basket Tray
Materials: Hot-dip galvanized steel to DIN EN ISO 1461



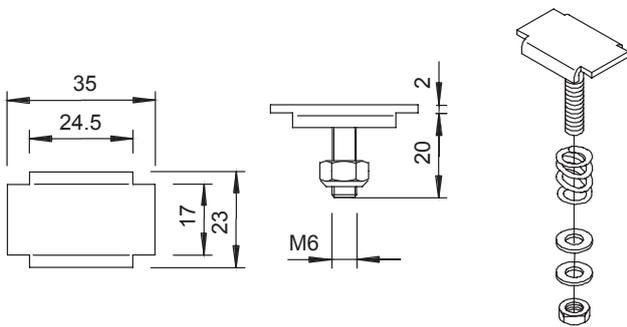
CL200

For mounting Basket Tray to wall or support brackets
Materials: Hot-dip galvanized steel to DIN EN ISO 1461



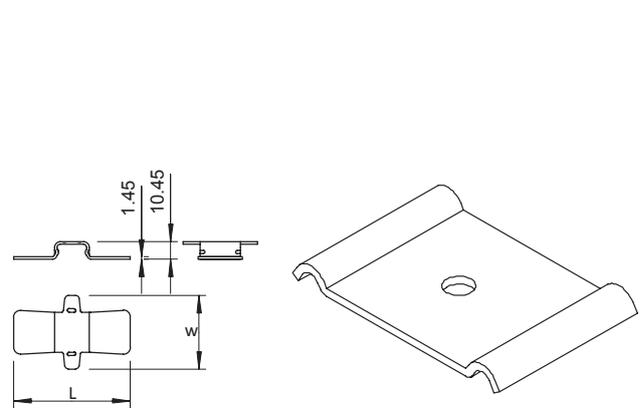
CL300

For mounting Basket Tray to wall or support brackets
Materials: Hot-dip galvanized steel to DIN EN ISO 1461



CL200

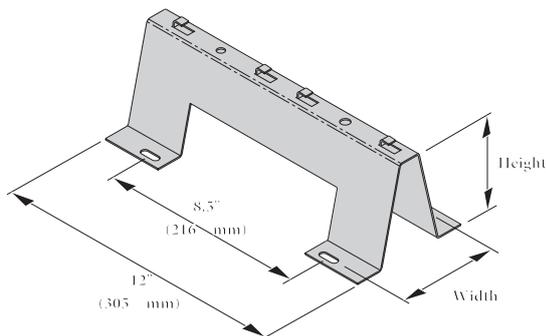
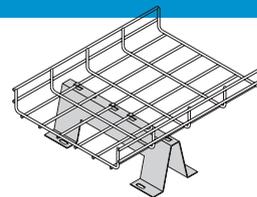
For mounting Basket Trays on the floor or on stand off brackets
Materials: Hot-dip galvanized steel to DIN EN ISO 1461



UNDER - FLOOR STAND | M122

- No hardware required to mount wire basket to bracket.
- Simply bend tabs down around wires using a screwdriver.

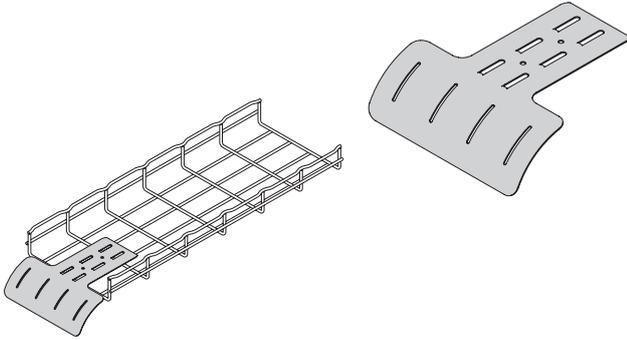
Materials: Hot-dip galvanized steel to DIN EN ISO 1461
Order Example: Item No - Length (l) - Width (w) - Material



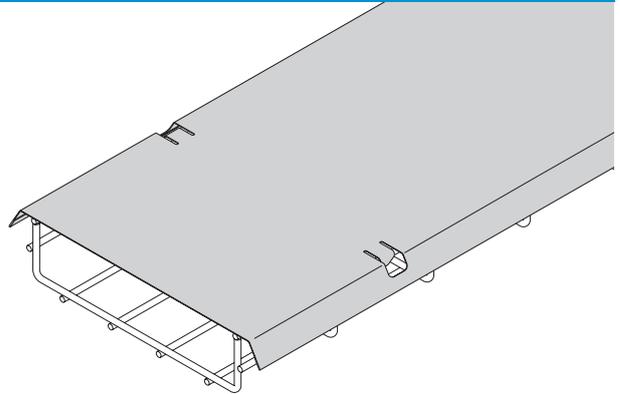
HEIGHT		WIDTH	
in.	mm	in.	mm
3	76	3.69	94
4	102	4.14	106
5	127	4.59	117
6	152	5.04	128

DROP-OUT FITTING | M123

- Keeps cable radius secure at drop point
- For use with 4" (100 mm) to 24" (600 mm) wide trays
- Attaches to tray without hardware
- Drop - outs can be attached at bottom, side or ends of tray



COVER | M124

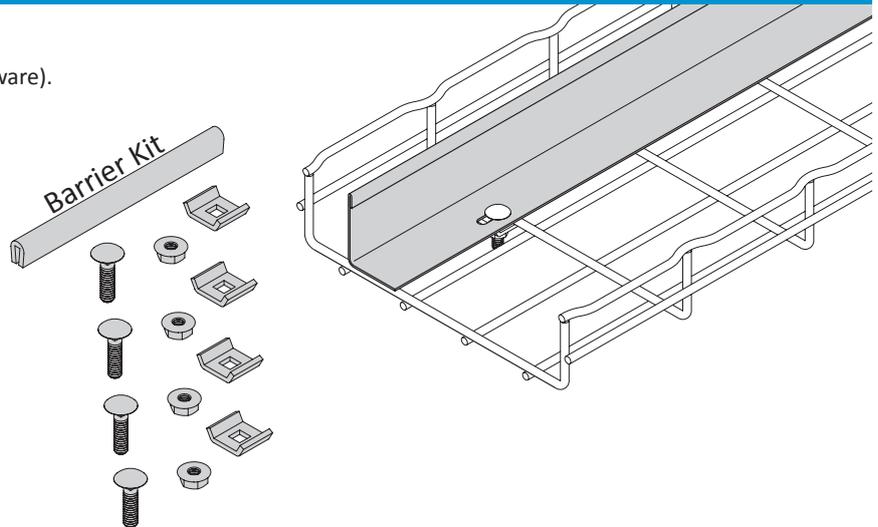


Order Example: Item No - Length (l) - Width (w) - Material
Materials: Hot-dip galvanized steel to DIN EN ISO 1461

BARRIER | M125

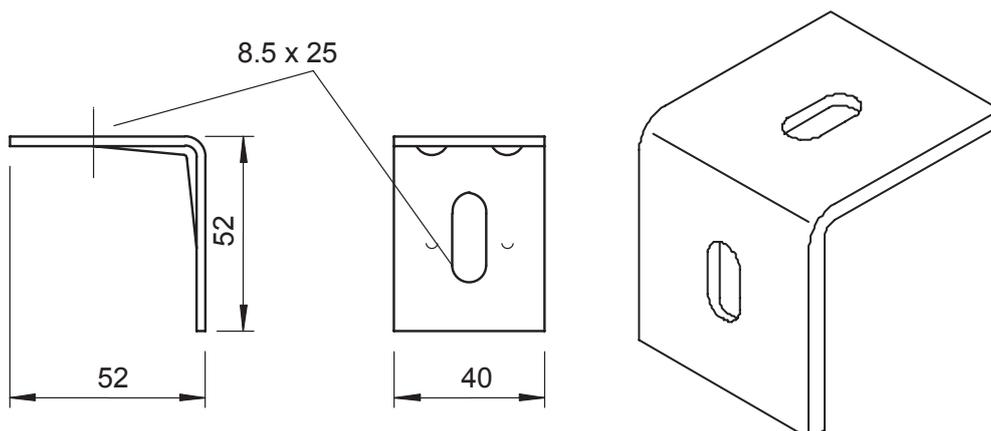
- Separates cables.
- Furnished with barrier kit (includes hardware).
- Length: 3000 mm

Order Example:
Item No - Length (l) - Width (w) - Material



CEILING ANGLE | M126

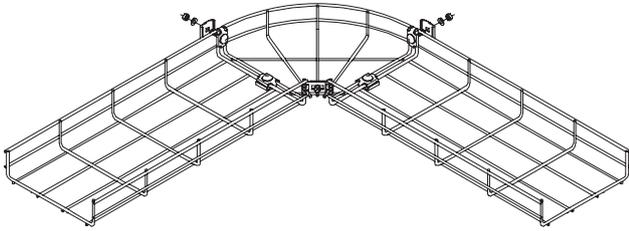
Materials: : Steel strip galvanized to DIN EN 10147
Hot-dip galvanized Steel to DIN EN ISO 1461



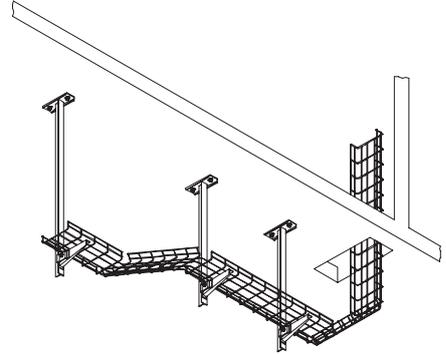
BASKET TRAYS INSTALLATION

Installation Example

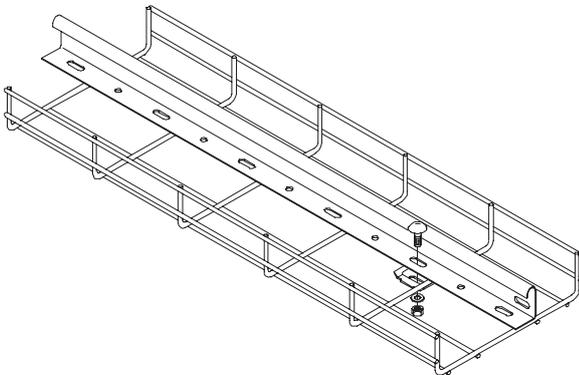
90° bend



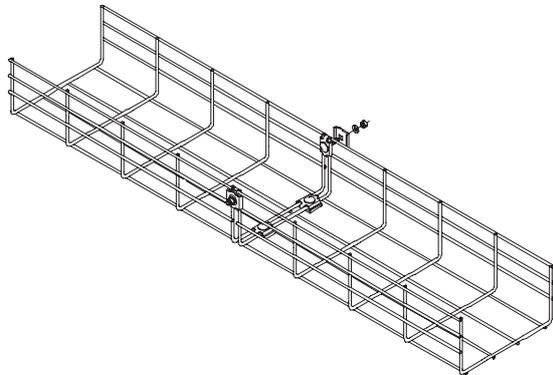
Ceiling suspension with vertical stages by cutting the side wires



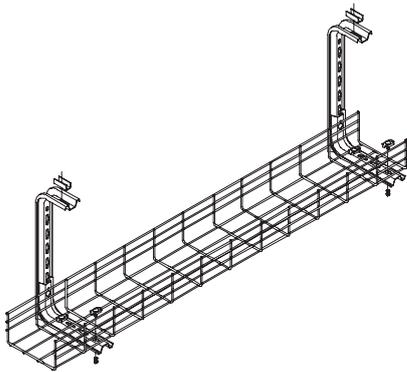
Barrier strip on mesh cable tray



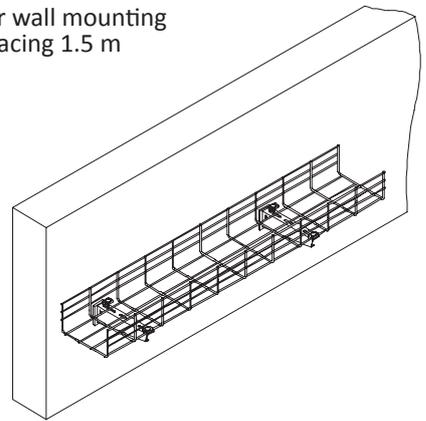
Straight connection of mesh cable trays



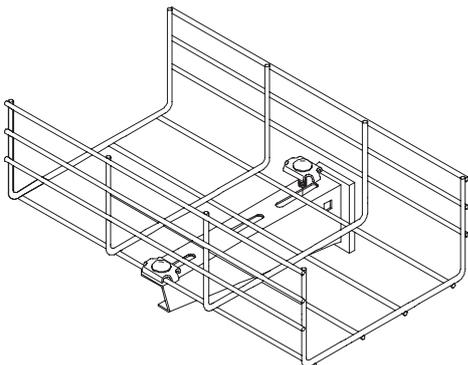
Support spacing Normal support spacing 1.5 m



Support spacing for wall mounting Normal support spacing 1.5 m



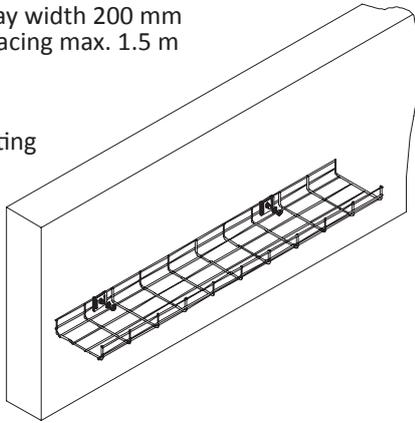
Bracket mounting



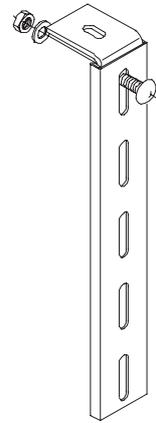
Installation Example

Only up to cable tray width 200 mm
Normal support spacing max. 1.5 m

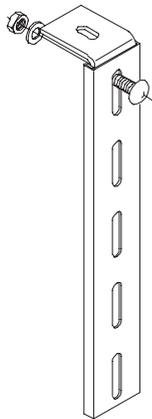
Wall
mounting



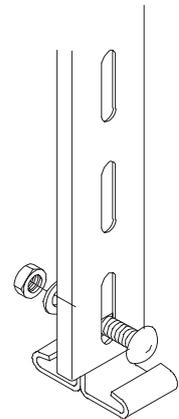
Ceiling mounting with ceiling angle,
suspension profile and central
suspension hanger



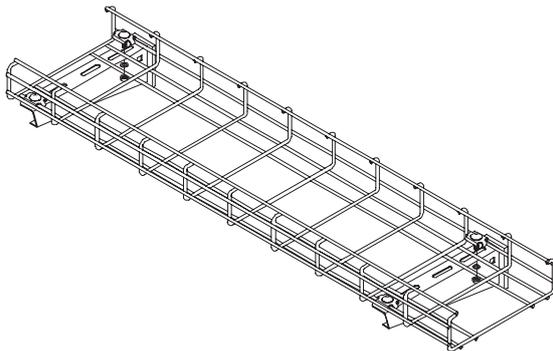
Mounting ceiling angle on suspensi-
on profile



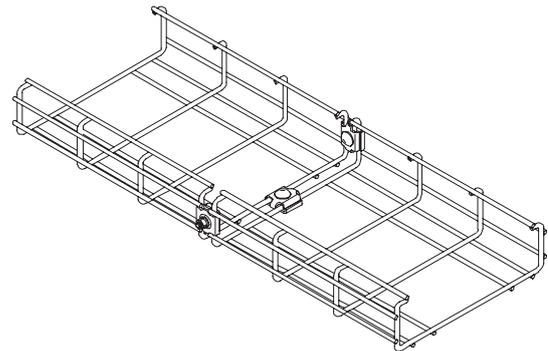
Base holder on suspension



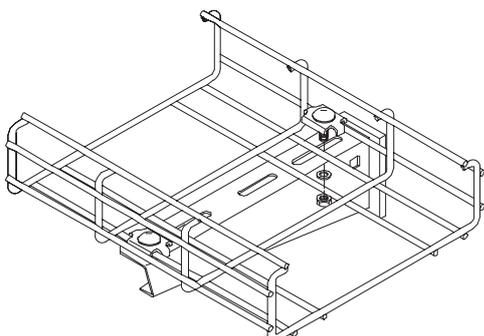
Wall bracket mounting



Straight connection of C mesh cable
trays

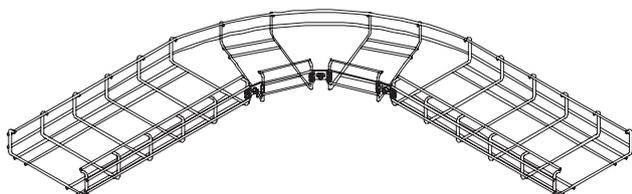


Mounting C mesh cable tray on
bracket

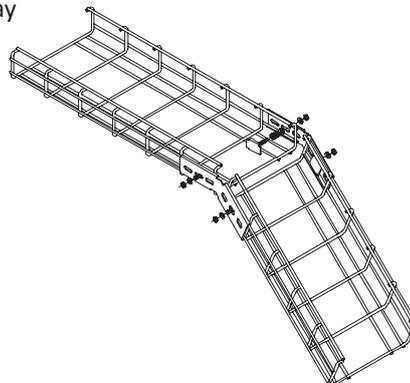


BASKET TRAYS INSTALLATION

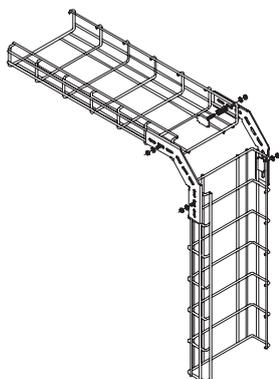
Making a horizontal bend using corner connectors Separation of base wires and inner side wires



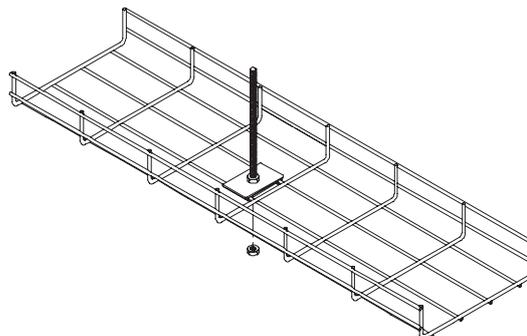
Fixing 45° mounting bracket to C mesh tray



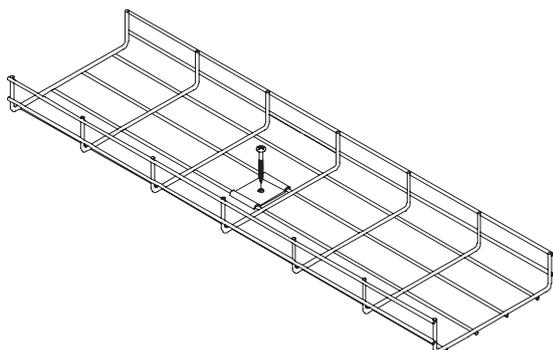
Fixing 90° mounting bracket to C mesh tray



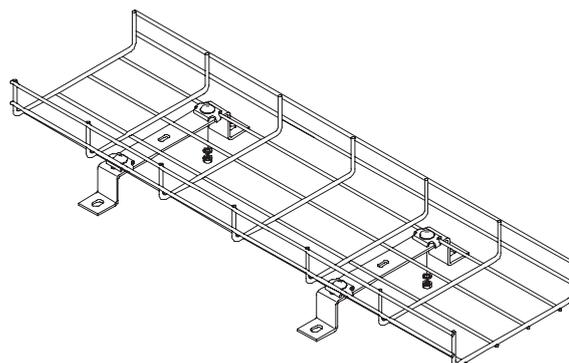
Centre suspension



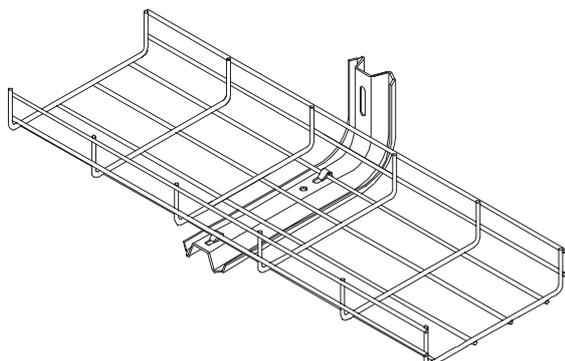
Floor mounting



Mesh tray stands



Boltless mesh tray mounting



FRAMING SYSTEM

ASTM F436

Washers (SRW) | DIN 125 | ASTM F436

Zinc Plated	Stainless Steel	D	d	S
		(mm)	(mm)	(mm)
M6	M6	12	6.4	1.6
M8	M8	16	8.4	1.6
M10	M10	21	10.5	2
M12	M12	24	13	2.5
M16	M16	30	17	3
M18	M18	34	19	3.2
M20	M20	39	20.5	3.6



Round Washers DIN 440, DIN 9021

Washers (SRW) | DIN 440 | DIN 9021

DIN	Zinc Plated	Stainless Steel	D	d	S
			(mm)	(mm)	(mm)
440	M6		22	6.6	2
9021	M8	M8	24	8.4	2
9021	M10	M10	30	10.5	2.5
440	M12		45	13.5	4
9021	M12	M12	37	13	3
9021	M16	M16	50	17	3



Square Washers SSW

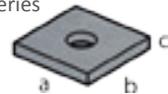
Square Washers (SSW)

H.D. Galvanized Bolt	Stainless Steel Bolt	a x b x d
		(mm)
M8	M10	40 x 40 x (4-5-6)
M10	M12	40 x 40 x (4-5-6)
M12	M16	40 x 40 x (4-5-6)

SSW 40/40 for all channels 41/21 Series



SSW 41/41 for all channels 41/41 Series



Fully Threaded Rods Grade 4.6 DIN 975 ASTM A 36, A193

Threaded Rod (STR) - DIN 975 - ASTM A36

Zinc Plated Thread	Length	Load cap.
	(mm)	(kN)
M6	2000/3000	2.2
M8	2000/3000	4.0
M10	2000/3000	6.4
M12	2000/3000	12.9
M16	2000/3000	17.3
M18	2000	22.0
M20	2000	27.0



Round Head Machine Screws

Round Head (SRH) | DIN 7985

Zinc Plated Thread	Length	d
	(mm)	(mm)
M6	30-40	6.0
M8	30-40	8.0
M10	20-60	10.0



Coupler Sleeves Rounded

Coupler Sleeves (SCS)

Electro-plated Thread	Stainless Steel Thread	D	L	Load Capacity
		(mm)	(mm)	(kN)
M6	M6	10/10	15	2.2
M8	M8	12/14	20	4.0
M10	M10	13/16	25	6.4
M12	M12	16/20	30	9.3
M16	M16	21/25	40	17.3
M20	M20	26/32	50	27.0



Roofing Bolts

Roofing Bolts (SRB)

- Materials : low carbon steel , carbon steel
- Steel S235 , grade 4.6 , 4.8 and 8.8
- Surfaces : plain , black and zinc plated
- Length = X (mm) – Y (mm)



Thread Size	M4	M5	M6	M8
	x - y	x - y	x - y	x - y
	(mm)	(mm)	(mm)	(mm)
Length	10 - 50	10 - 80	12 - 120	16 - 150

Carriage Bolts with Nut Below Head DIN 603

Carriage Bolts (STC)

Zinc Plated	H.D. Galvanized Grade 4.6	Head	Head	Square Width	Square Depth
		(A) mm	(H) mm	(O) mm	(P) mm
M5	M5	12.0	3.0	5.0	3.2
M6	M6	15.1	3.70	6.40	4.0
M8	M8	18.3	4.50	8.23	4.75
M10	M10	21.44	5.30	9.86	5.56
M16	M16	34.14	8.74	16.3	8.74



FRAMING SYSTEM

Hexagonal Rod Coupler Grade 8.8 ASTM a 563

Hexagonal Rod Coupler with view hole (SHR)

Electro-plated Thread	Stainless Steel Thread	D (mm)	L (mm)	Load capacity (kN)
M10	M10	13	40	6.4
M12	M12	17	40	9.3
M16	M16	22	50	17.3
M 18	M 18	23	60	22.0
M 20	M 20	25	70	27.0



Hexagon Nuts DIN 934, DIN EN 24032, ASTM A 563

Hexagon nut (SHN) | DIN 934 or ISO 4032 (= DIN EN 24032) | ASTM A563

Zinc Plated Thread	Stainless Steel Thread	S/m DIN (mm)	S/m ISO (mm)	e (mm)
M6	M6	10/5	10/6	11.5
M8	M8	13/6.5	13/7.5	15.0
M10	M10	17/8	16/9.5	19.6
M12	M12	19/10	18/12	21.9
M16	M16	24/13	24/15.5	27.7
M18	M18	26/16	26/16	22.0
M20	M20	30/18	29/20.5	27.0



DIN 933, DIN 24017, ASTM A307, A449

Hex Head Bolt (SHB) | DIN 933 or EN 24017 ASTM A307, A449 (without nut)

Zinc Plated Dimension	Stainless Steel Dimension	S DIN (mm)	S EN (mm)
M 6 x 12		10	10
M 6 x 25			
M 8 x 25	M 8 x 25		
M 8 x 40		13	13
M 10 x 20			
M 10 x 30	M 10 x 30		
M 10 x 45	M 10 x 45	17	16
M 10 x 60			
M 10 x 70			
M 12 x 22		19	18
M 12 x 25	M 12 x 25		
M 12 x 30	M 12 x 30		
M 12 x 40	M 12 x 40		
M 12 x 50			
M 12 x 60	M 12 x 60		
M 12 x 80	M 12 x 80	24	24
M 12 x 90			
M 16 x 40	M 16 x 40		
M 16 x 60	M 16 x 60	27	26
M 16 x 90	M 16 x 90		
M 18 x 40	M 18 x 40		
M 18 x 50	M 18 x 50	32	32
M 18 x 60	M 18 x 60		
M 18 x 80	M 18 x 80		
M 20 x 40	M 20 x 40		
M 20 x 50	M 20 x 50	32	32
M 20 x 60	M 20 x 60		
M 20 x 80	M 20 x 80		



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