

CABLE TRAY CATALOGUE

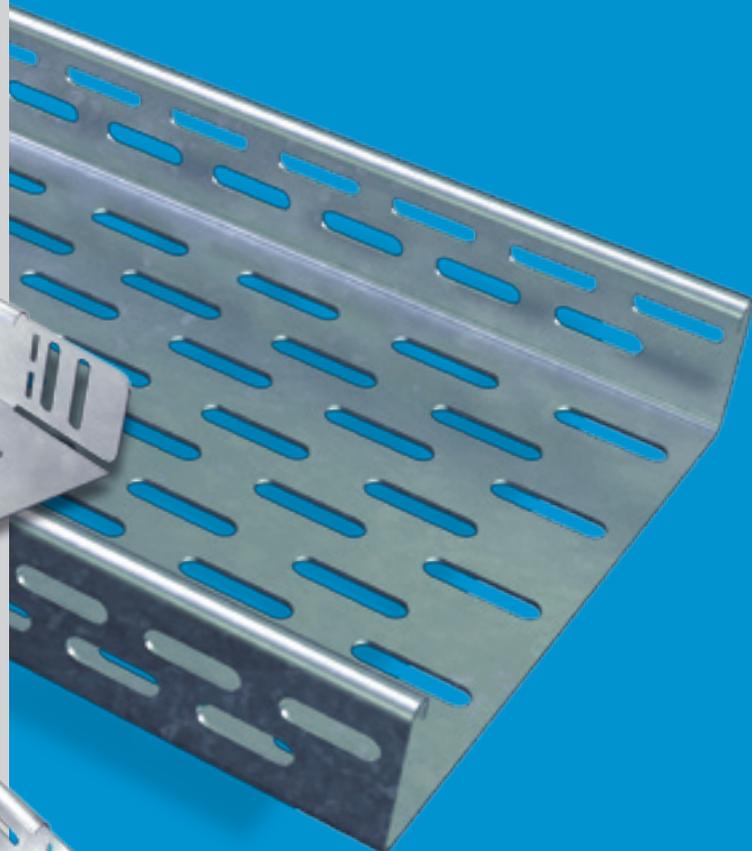


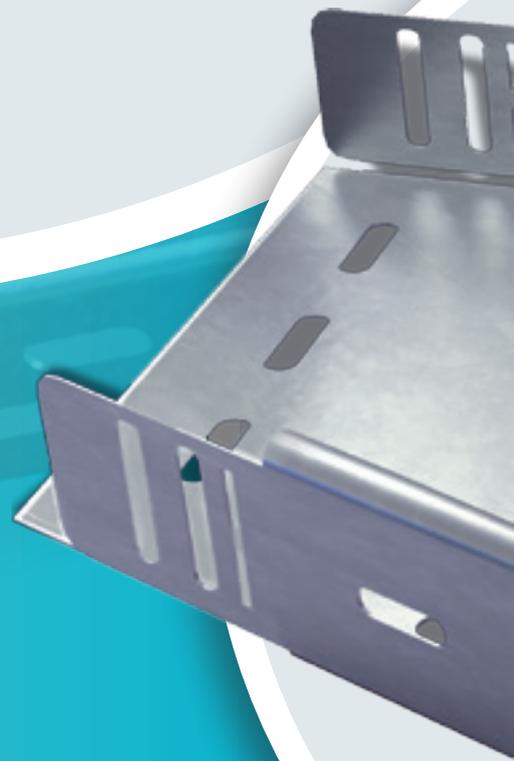
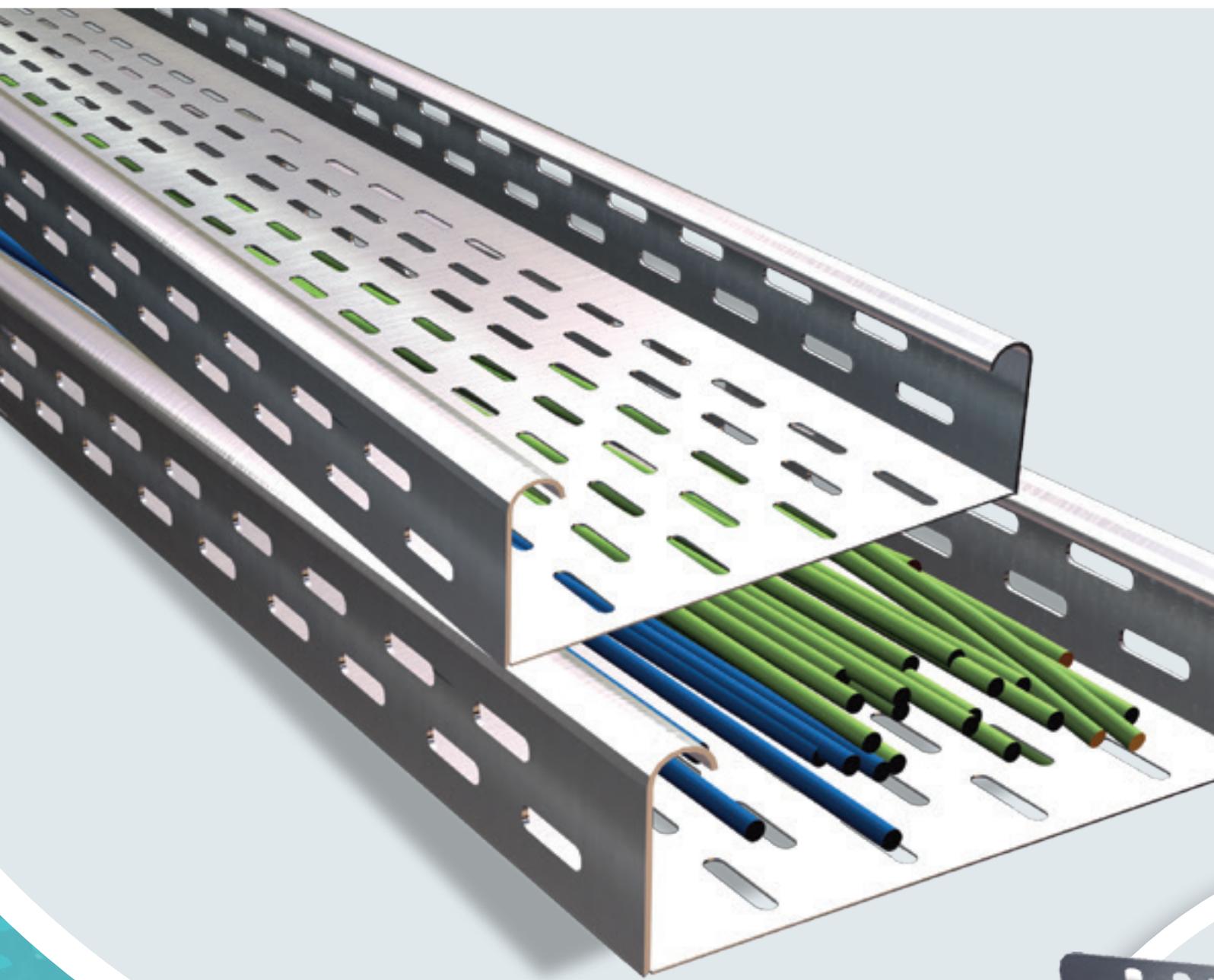
SFSP
Specialized Factory
for Steel Products /s.a.r.l
www.sfsp-lebanon.com

INDEX

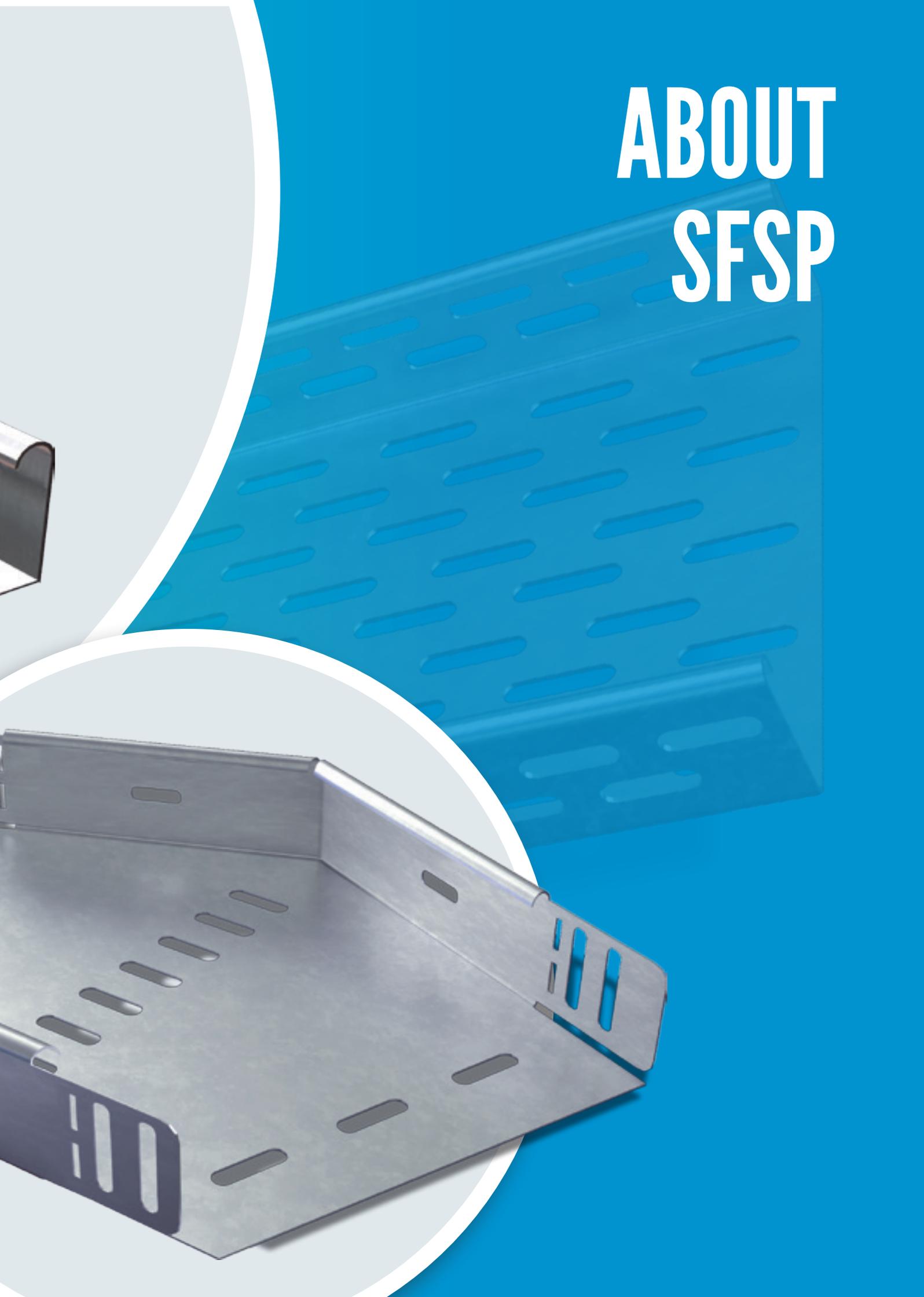
Cable Tray Catalogue

- About SFSP	4
- Cable Trays	12
- Cable Tray Fittings	28
- Cable Tray Accessories	34
- Cable Tray Support System	40
- Concrete Fixation Anchors	48





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

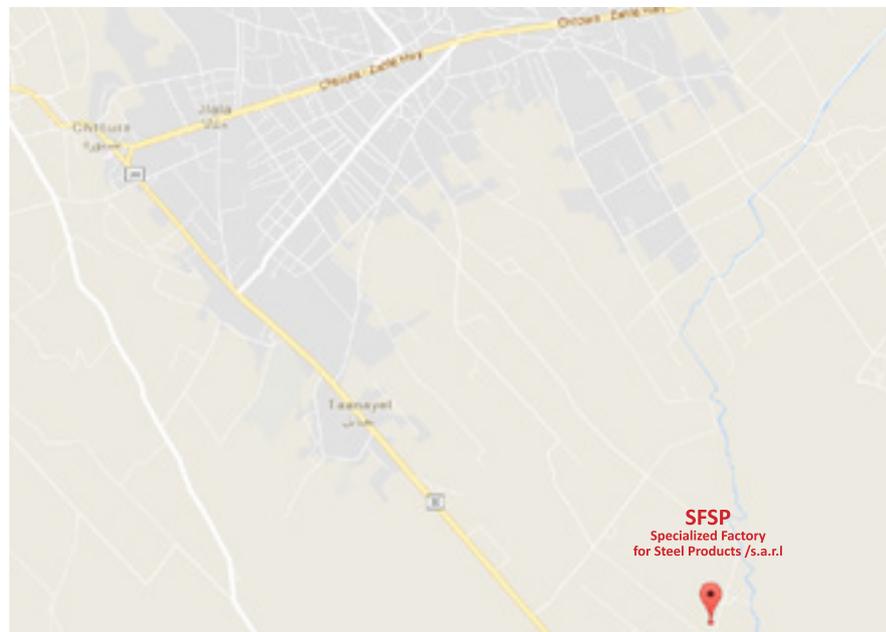
management@sfsp-lebanon.com

Specialized Factory for Steel Products / s.a.r.l

Tanayel, Bekaa

Tel: +961 8 514 290

Fax: +961 8 514 291



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.

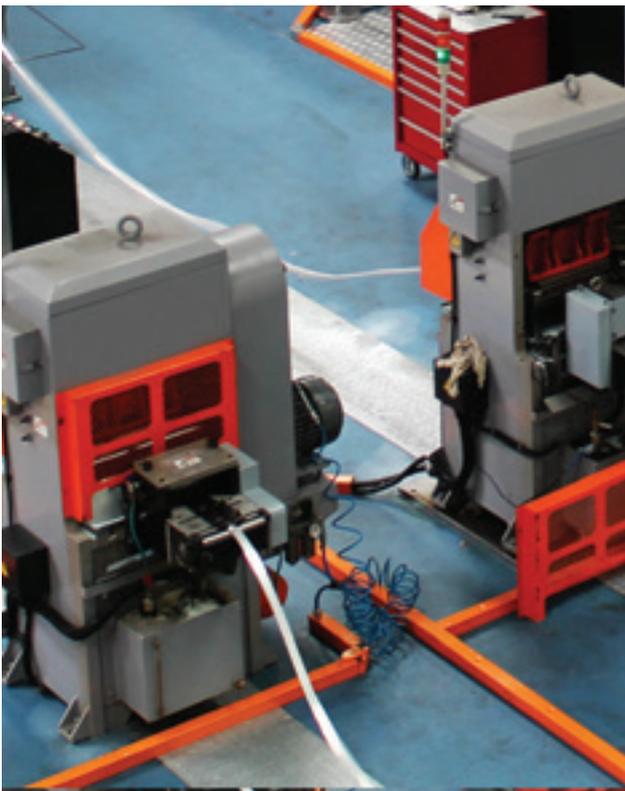
In support of this, the management promotes health and safety throughout the Factory's operations and endeavour to engender a positive attitude in all employees towards the prevention of accidents and maintenance of healthy working arrangements.

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.

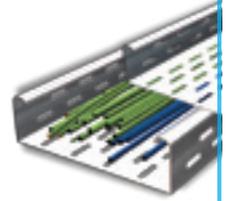


SFSP PRODUCTS

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.



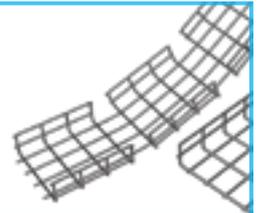
CABLE LADDERS (WELDED & SWAGED)

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.

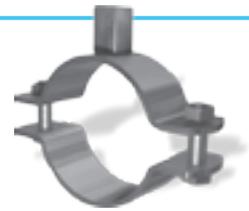
STEEL LINTELS & BLOCK WORK ACCESSORIES

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.

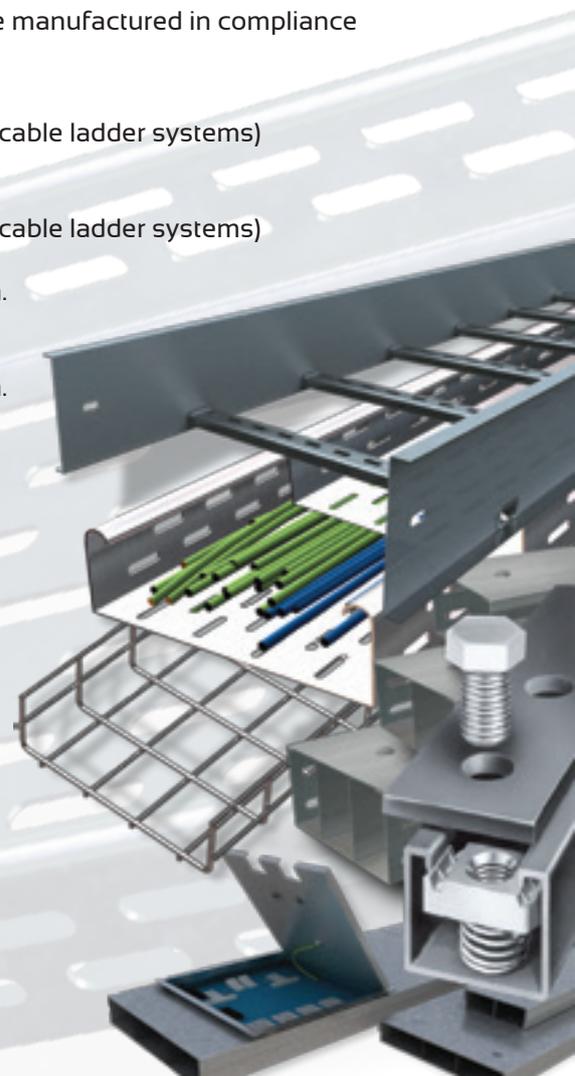
National Electric Code (NEC) permits Cable Trays in a wide variety of indoor and outdoor applications. The NEC also permits Cable Trays for use as equipment ground conductor.

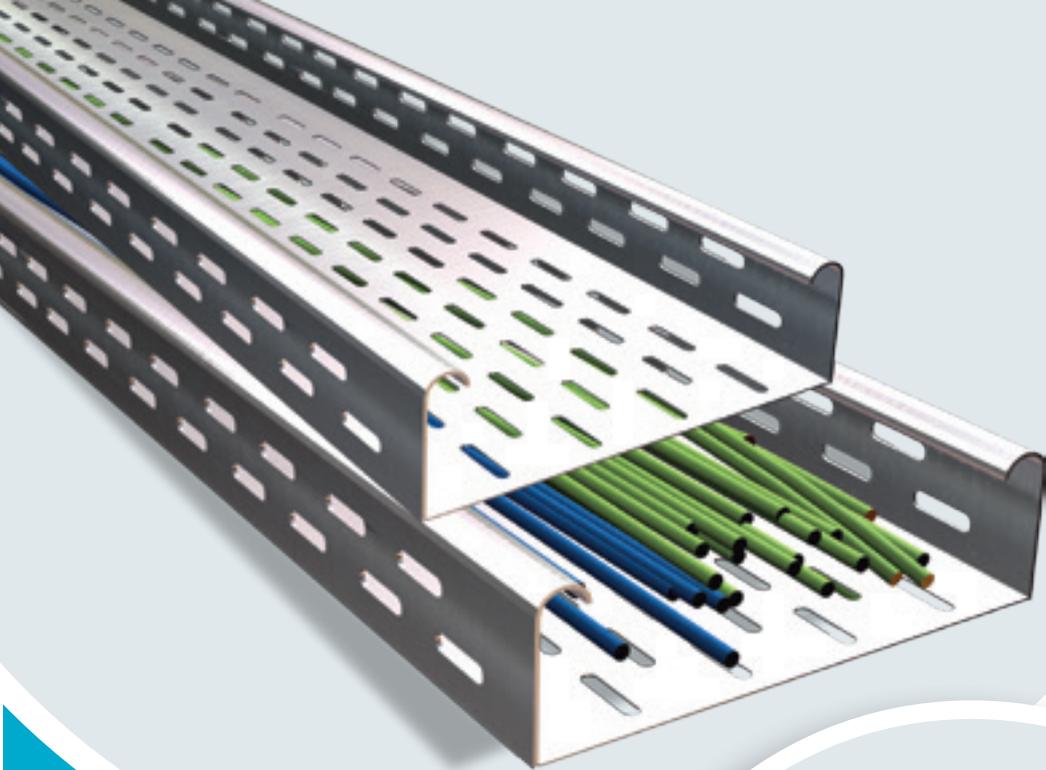
Cable Management Systems can provide significant advantages in cable filling over other wiring methods. This can provide savings in the size or number of raceways required, thereby, reducing both material and labor costs. In many cases, NEC permits greater conductor ampacities in Cable Tray Systems than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



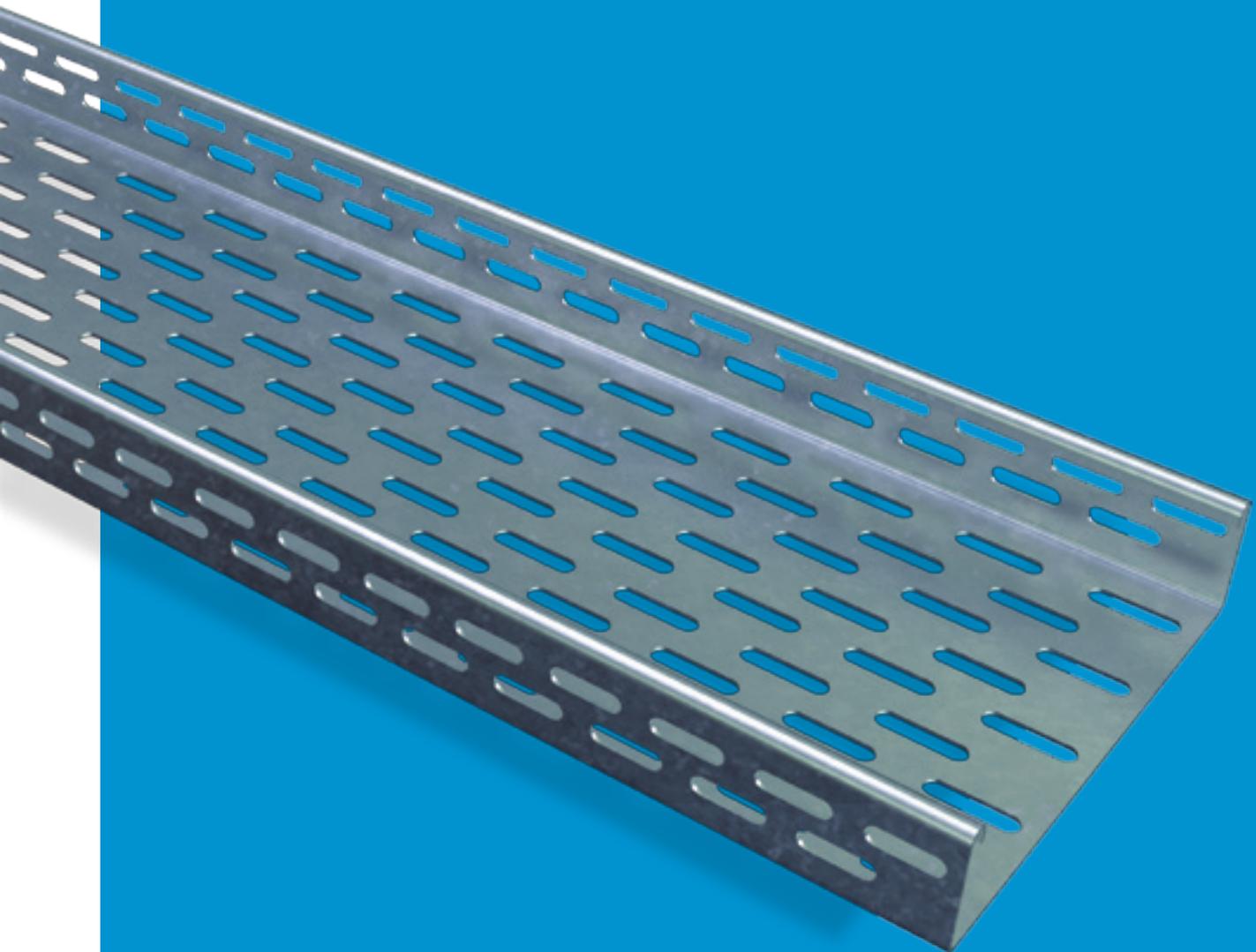


**CABLE
TRAYS**

Cable Trays, are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrication and finishing.

This catalogue is designed to be helpful to engineers and contractors in the application and selection of tray products for construction and maintenance.

If a unique application requires a special product not included in this catalogue , SFSP engineering personnel are ready to furnish design consultation and realistic cost estimates. In addition, our know-how is available for your convenience.

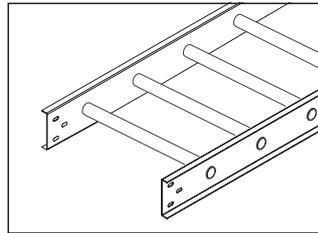


PRODUCTS RANGE

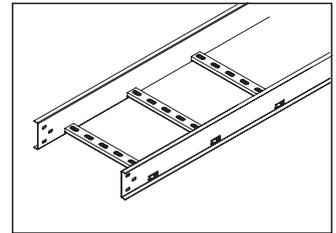
The different types of tray designs are described below:

Ladder (Cable Ladder)

Swaged rounded tubular (Aluminum or Steel) or welded c-channel (steel). A prefabricated metal structure consisting of two side rails connected by individual transverse members or rungs. Cable Ladder Trays are the most common and the most economical types of trays. They also provide maximum ventilation for cabling.



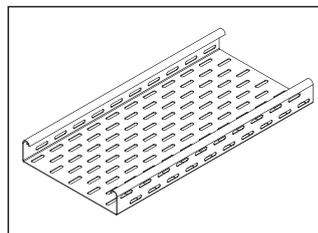
Swaged Rounded Tubular



Welded C-Channel

Perforated Cable Tray (Cable Trays)

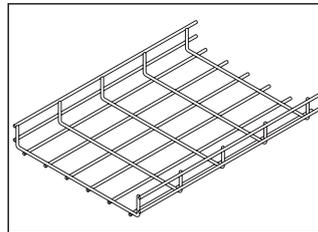
A prefabricated metal structure consisting of a bottom with openings within the cable bearing surface. Solid bottom Cable Trays completely eliminate cable sagging and offer maximum protection for the cables.



Perforated Cable Tray

Wire Mesh (Basket Tray)

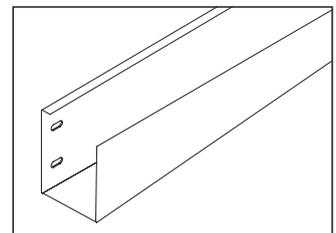
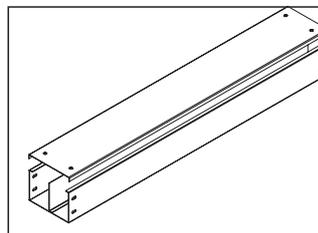
Is ideally suitable for light - to medium-duty commercial and industrial applications where space is at a premium. UNITECH QATAR wire Basket Trays have a fast connection profile for installations requiring long runs of straight Cable Trays lengths. Applications : Network cabling, wiring closets, fiber-to-desktop applications and can often be used in suspended ceiling plenum areas and under computer room flooring.



Wire Mesh

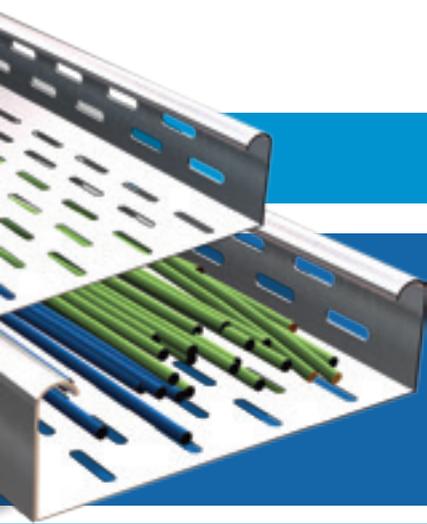
Solid (Cable Trunking)

A prefabricated metal structure consisting of a one-piece solid bottom channel section not exceeding 6”(150mm) in width .



Cable Trunking

Types Overview and Components



SFSP cable trays and accessories are manufactured in compliance with BS EN 61537:2007/ BS 5750/BS EN 10130/BS EN 10131/ BS EN 10051 and NEMA standards. And, as per cabling standards CENELEC EN 50173-1; EIA/ITA 568 A; ISO/IEC 11801; 2002.

We manufacture 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 trays.

MATERIALS

Pre-Galvanized, Hot-Dip Galvanized, Stainless Steel and Aluminium

MATERIAL THICKNESS

1.00 mm | 1.20 mm | 1.50 mm | 2.00 mm

* Other Thickness Available Under Request

Light Duty - LCT - 100

Thickness : 1.00 mm
Side Height : 50 mm
Length : 2440 mm / 3000 mm
Width : 50 - 1000 mm

Medium Duty - MCT - 120

Thickness : 1.20 mm
Side Height : 50 ,75 and 100 mm
Length : 2440 mm / 3000 mm
Width : 50 - 1000 mm

Heavy Duty - HCT - 150

Thickness : 1.50 mm
Side Height : 50 ,75 and 100 mm
Length : 2440 mm / 3000 mm
Width : 50 - 1000 mm

Very Heavy Duty - VCT - 200

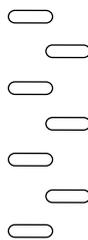
Thickness : 2.00 mm
Side Height : 50 ,75 and 100 mm
Length : 2440 mm / 3000 mm
Width : 50 - 1000 mm

TYPES OF SIDE HEIGHTS

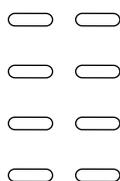


TYPES OF PERFORATION

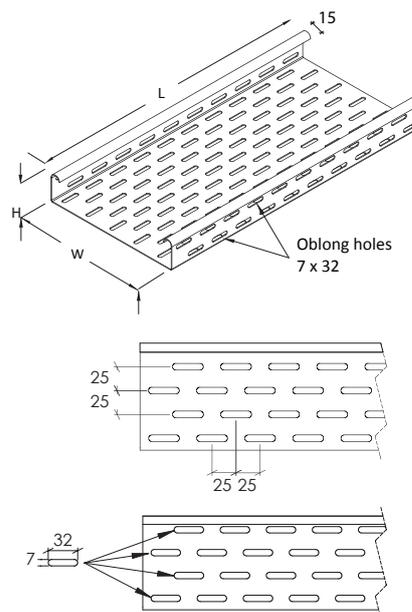
Staggered



Serial



DIMENSIONS



All illustrations, drawings and descriptive material in this publication are of a generally informative nature only, and do not form a complete package of the specifications or description of the goods. Most of the dimensions shown are nominal.
SFSP can make modifications and design, materials or finishes as it deems necessary or desirable.

Materials & Finishes

Materials

Mild Steel - Plain

A. Hot Rolled Steel Plates, Sheets and Coils S235 JR, as per:

EN 10025 -2 / DIN 17100 / BS 4360 / ASTM A 653M / ASTM A 1011 / ASTM A 1011-01a
JIS 3101 / JIS 3106 / GB 700 / GB / T1591.

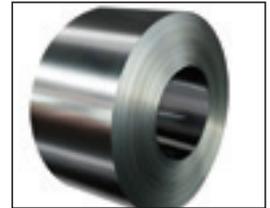
ASTM A 907 / ASTM A 1018M.

ASTM A 570M / ASTM A 572M.

B. Cold Rolled Steel DC 01, as per:

EN 10130 / DIN 1623, Part 2 / BS 1449:1 / ASTM A366 / ASTM A 1008 / JIS G 3141 / GB 699.

EN 10131 / ASTM A 568M



Mild Steel - Galvanized

C. Continuously Pre- Galvanized Hot-Dip Zinc Coated Steel DX 51D + Z, as per:

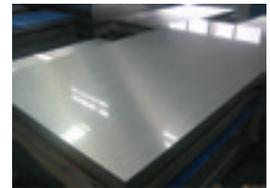
EN 10327 / DIN 17162 / BS 2989/ ASTM A 527M / ASTM A 653M / JIS G 3302.

EN 10326/ EN 10142 / ASTM A 526, 527, 528/ ASTM A 146

D. Electro Galvanized Steel (Electrolytic Coating) DC01 + ZE v, as per:

EN 10152 / DIN 17163 / ASTM A591 / JIS G 3313 / JIS G 3141/BS 1449:1

EN 10131



Aluminum

E. Aluminum 6063 T6

Stainless Steel

F. Austenitic Stainless Steels SS 304 & SS 316, as per:

ASTM A 240 /EN 10088-2/ DIN 17400 / BS 1449:2 / ASTM A480 / ASTM A666 / ISO 3506 / EN 10028-7 /JIS G 4304

F.1 Stainless Steel Fasteners EN 3506

F.2 Stainless Steel Wire BS 1554 ,ASTM A276

Finishes

1- Hot-DIP Galvanization after Fabrication

as per:

ASTM A 123 / ASTM A 153 / ISO 1461.

BS 729 / DIN 50976

2- Zinc Electroplating after Fabrication

as per:

ASTM B633 / EN 12329 / ISO 4042/ BS 1706 / BS 3382 / DIN 50961

3- Powder Coating

Epoxy / Polyester / Epoxy & Polyester

BS 3900 / ISO 2409 / ISO 1519 / ISO 1520



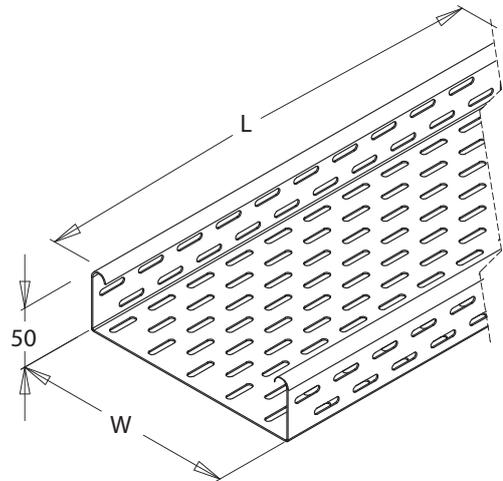
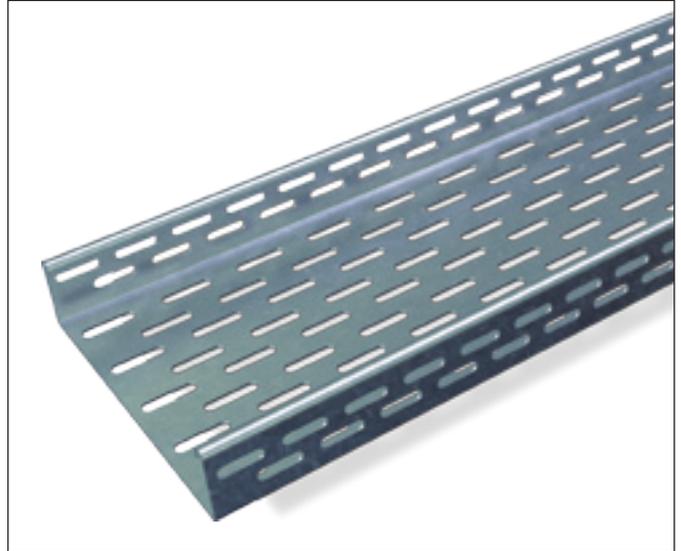
LCT - 50

Light Duty -1.00 mm Thickness

(Side Height 50 mm)

Thickness : 1.00 mm
 Side Height : 50 mm
 Length : 3000 mm
 Width : 50 - 450 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
LCT 50 -50	1.00	1.50
width (w) : 50 mm	1.20	1.30
	1.50	0.80
	2.00	0.40
LCT 100 -50	1.00	1.50
width (w) : 100 mm	1.20	1.40
	1.50	0.90
	2.00	0.50
LCT 150 -50	1.00	1.50
width (w) : 150 mm	1.20	1.40
	1.50	0.90
	2.00	0.50
LCT 200 -50	1.00	1.50
width (w) : 200 mm	1.20	1.40
	1.50	0.90
	2.00	0.50
LCT 225 -50	1.00	1.50
width (w) : 225 mm	1.20	1.10
	1.50	0.70
	2.00	0.35
LCT 300 -50	1.00	0.80
width (w) : 300 mm	1.20	0.55
	1.50	0.35
	2.00	0.15
LCT 400 -50	1.00	0.45
width (w) : 400 mm	1.20	0.30
	1.50	0.15
LCT 450 -50	1.00	0.30
width (w) : 450 mm	1.20	0.20
	1.50	0.10



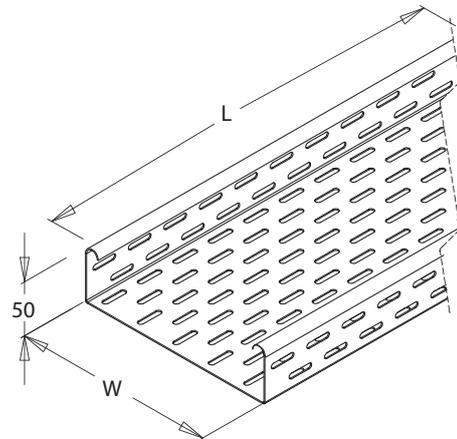
MCT - 50

Medium Duty - 1.20 mm Thickness

(Side Height 50 mm)

Thickness : 1.20 mm
 Side Height : 50 mm
 Length : 3000 mm
 Width : 50 - 450 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
MCT 50 - 50	1.00	1.50
width (w) : 50 mm	1.20	1.50
	1.50	1.00
	2.00	0.48
MCT 100 - 50	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.10
	2.00	0.60
MCT 150 - 50	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.10
	2.00	0.60
MCT 200 - 50	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.10
	2.00	0.65
MCT 225 - 50	1.00	1.50
width (w) : 225	1.20	1.50
	1.50	1.10
	2.00	0.65
MCT 300 - 50	1.00	1.50
width (w) : 300	1.20	1.00
	1.50	0.65
	2.00	0.35
MCT 400 - 50	1.00	0.80
width (w) : 400	1.20	0.50
	1.50	0.30
	2.00	0.15
MCT 450 - 50	1.00	0.60
width (w) : 450	1.20	0.40
	1.50	0.20
	2.00	0.10



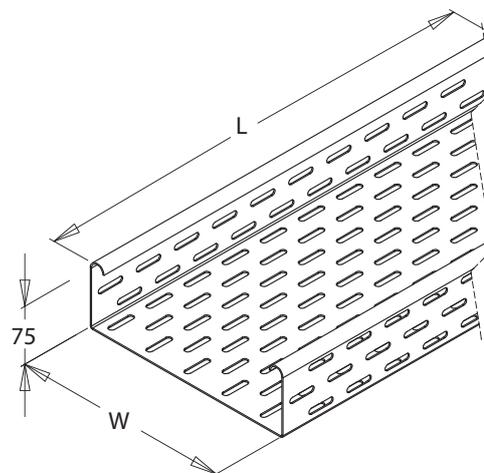
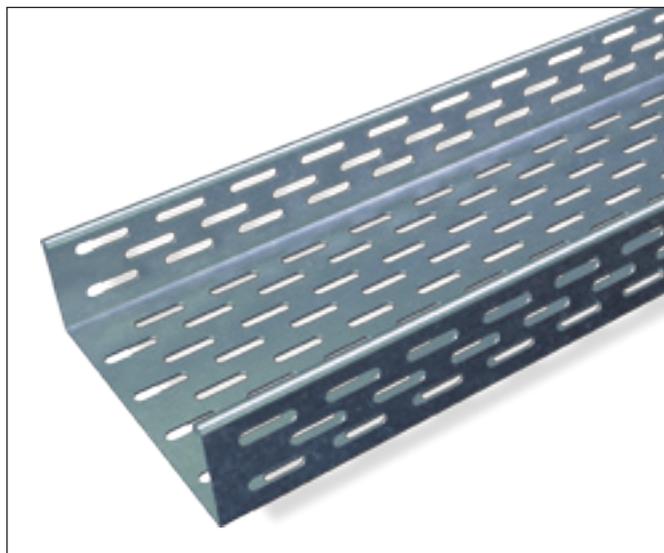
MCT - 75

Medium Duty - 1.20 mm Thickness

(Side Height 75 mm)

Thickness : 1.20 mm
 Side Height : 75 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 450 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
MCT 100 - 75	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.15
MCT 150 - 75	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.20
MCT 200 - 75	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.50
	2.00	1.20
MCT 225 - 75	1.00	1.50
width (w) : 225	1.20	1.50
	1.50	1.50
	2.00	1.20
MCT 300 - 75	1.00	1.50
width (w) : 300	1.20	1.50
	1.50	1.35
	2.00	0.75
MCT 400 - 75	1.00	1.20
width (w) : 400	1.20	1.10
	1.50	0.70
	2.00	0.35
MCT 450 - 75	1.00	1.00
width (w) : 450	1.20	0.85
	1.50	0.50
	2.00	0.25



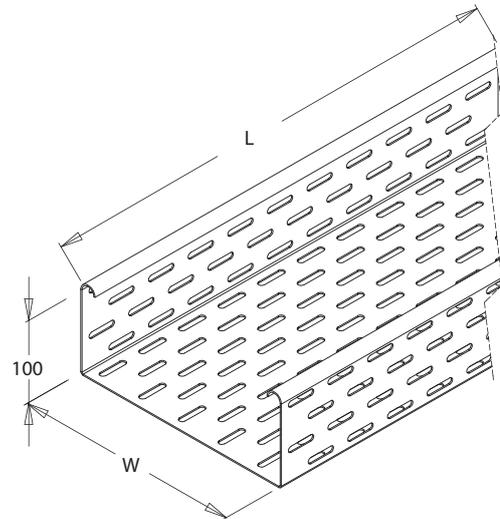
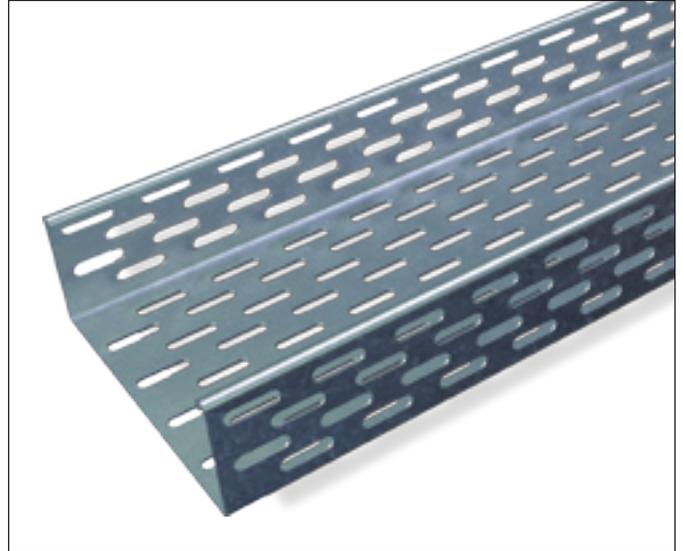
MCT - 100

Medium Duty - 1.20 mm Thickness

(Side Height 100 mm)

Thickness : 1.20 mm
 Side Height : 100 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 450 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
MCT 100 - 100	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
MCT 150 - 100	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
MCT 200 - 100	1.00	1.50
width (w) : 200 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
MCT 225 - 100	1.00	1.50
width (w) : 225 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
MCT 300 - 100	1.00	1.50
width (w) : 300 mm	1.20	1.50
	1.50	1.50
	2.00	1.30
MCT 400 - 100	1.00	1.20
width (w) : 400 mm	1.20	1.20
	1.50	1.20
	2.00	0.65
MCT 450 - 100	1.00	1.00
width (w) : 450 mm	1.20	1.00
	1.50	0.90
	2.00	0.50



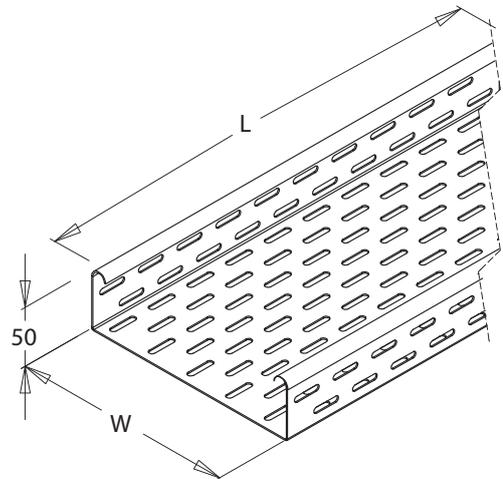
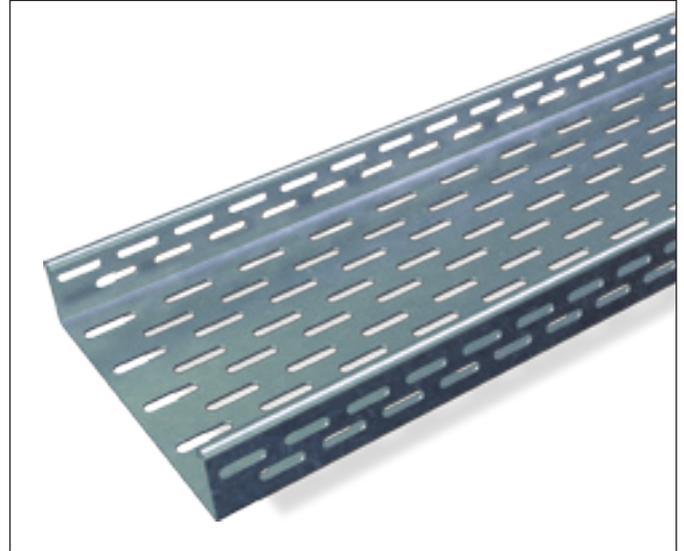
HCT - 50

Heavy Duty - 1.50 mm Thickness

(Side Height 50 mm)

Thickness : 1.50mm
 Side Height : 50 mm
 Length : 2440 mm / 3000 mm
 Width : 50 - 700 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
HCT 50 - 50	1.00	1.50
width (w) : 50 mm	1.20	1.50
	1.50	1.25
	2.00	0.60
HCT 100 - 50	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.35
	2.00	0.75
HCT 150 - 50	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.40
	2.00	0.75
HCT 200 - 50	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.45
	2.00	0.80
HCT 225 - 50	1.00	1.50
width (w) : 225	1.20	1.50
	1.50	1.45
	2.00	0.80
HCT 300 - 50	1.00	1.50
width (w) : 300	1.20	1.50
	1.50	1.30
	2.00	0.70
HCT 400 - 50	1.00	1.50
width (w) : 400	1.20	1.00
	1.50	0.65
	2.00	0.35
HCT 450 - 50	1.00	1.20
width (w) : 450	1.20	0.80
	1.50	0.50
	2.00	0.25
HCT 500 - 50	1.00	0.95
width (w) : 500	1.20	0.65
	1.50	0.35
	2.00	0.15
HCT 600 - 50	1.00	0.60
width (w) : 600	1.20	0.40
	1.50	0.20
	2.00	0.10
HCT 700 - 50	1.00	0.40
width (w) : 700	1.20	0.25
	1.50	0.10



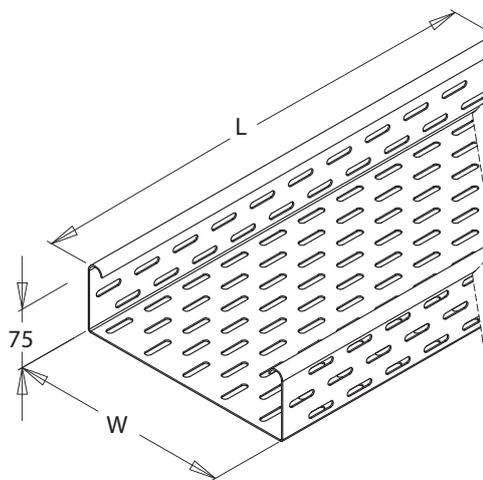
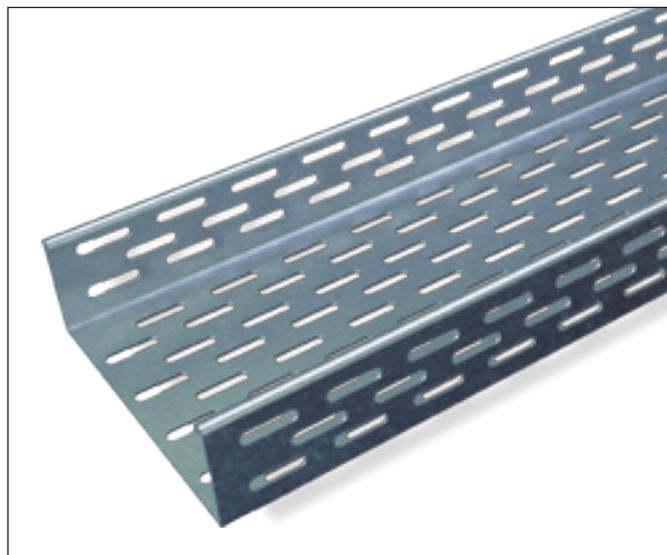
HCT - 75

Heavy Duty - 1.50 mm Thickness

(Side Height 75 mm)

Thickness : 1.50 mm
 Side Height : 75 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 700 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
HCT 100 -75	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.40
HCT 150 -75	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 200 -75	1.00	1.50
width (w) : 200 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 225 -75	1.00	1.50
width (w) : 225 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 300 -75	1.00	1.50
width (w) : 300 mm	1.20	1.50
	1.50	1.50
	2.00	1.45
HCT 400 -75	1.00	1.50
width (w) : 400 mm	1.20	1.50
	1.50	1.40
	2.00	0.75
HCT 450 -75	1.00	1.50
width (w) : 450 mm	1.20	1.50
	1.50	1.00
	2.00	0.55
HCT 500 -75	1.00	1.50
width (w) : 500 mm	1.20	1.35
	1.50	0.85
	2.00	0.45
HCT 600 -75	1.00	1.20
width 600 mm	1.20	0.90
	1.50	0.55
	2.00	0.25
HCT 700 -75	1.00	0.90
width 700 mm	1.20	0.60
	1.50	0.35
	2.00	0.15



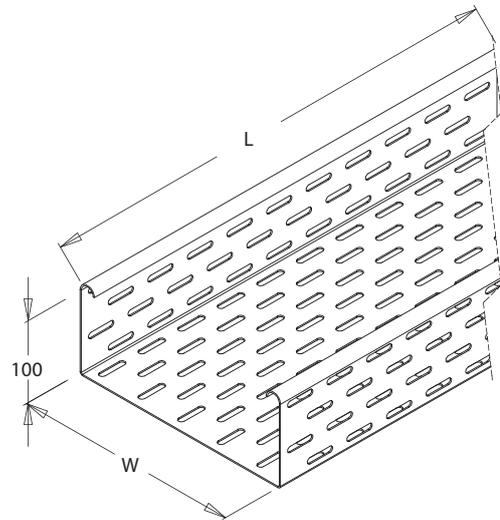
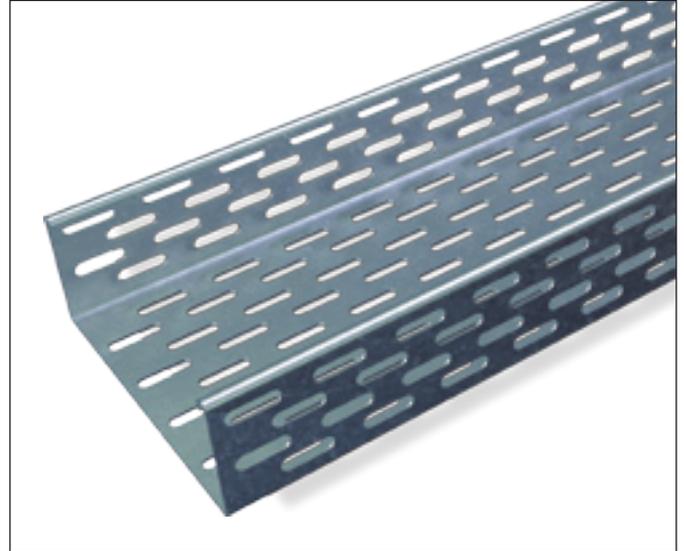
HCT - 100

Heavy Duty - 1.50 mm Thickness

(Side Height 100 mm)

Thickness : 1.50 mm
 Side Height : 100 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 700 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
HCT 100 - 100	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 150 - 100	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 200 - 100	1.00	1.50
width (w) : 200 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 225 - 100	1.00	1.50
width (w) : 225 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 300 - 100	1.00	1.50
width (w) : 300 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
HCT 400 - 100	1.00	1.50
width (w) : 400 mm	1.20	1.50
	1.50	1.50
	2.00	1.35
HCT 450 - 100	1.00	1.50
width (w) : 450 mm	1.20	1.50
	1.50	1.50
	2.00	1.00
HCT 500 - 100	1.00	1.00
width (w) : 500 mm	1.20	1.00
	1.50	1.00
	2.00	0.80
HCT 600 - 100	1.00	0.80
width (w) : 600 mm	1.20	0.80
	1.50	0.80
	2.00	0.50
HCT 700 - 100	1.00	0.70
width (w) : 700 mm	1.20	0.70
	1.50	0.60
	2.00	0.30



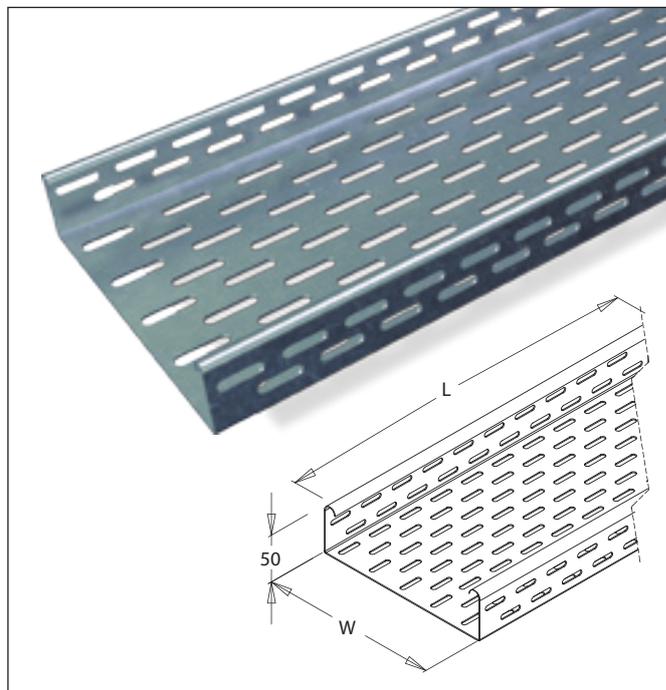
VCT - 50

Very Heavy Duty -2.00 mm Thickness

(Side Height 50 mm)

Thickness : 2.0 mm
 Side Height : 50 mm
 Length : 2440 mm / 3000 mm
 Width : 50 - 1000 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
VCT 50 - 50	1.00	1.50
width (w) : 50 mm	1.20	1.50
	1.50	1.50
	2.00	0.90
VCT 100 - 50	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 150 - 50	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 200 - 50	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 225 - 50	1.00	1.50
width (w) : 225	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 300 - 50	1.00	1.50
width (w) : 300	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 400 - 50	1.00	1.50
width (w) : 400	1.20	1.50
	1.50	1.50
	2.00	0.90
VCT 450 - 50	1.00	1.50
width (w) : 450	1.20	1.50
	1.50	1.20
	2.00	0.60
VCT 500 - 50	1.00	1.50
width (w) : 500	1.20	1.50
	1.50	1.00
	2.00	0.50
VCT 600 - 50	1.00	1.50
width (w) : 600	1.20	1.00
	1.50	0.60
	2.00	0.30
VCT 700 - 50	1.00	1.10
width (w) : 700	1.20	0.70
	1.50	0.40
	2.00	0.15



VCT 750 - 50	1.00	0.90
width (w) : 750	1.20	0.60
	1.50	0.30
	2.00	0.10
VCT 800 - 50	1.00	0.80
width (w) : 800	1.20	0.50
	1.50	0.20
	2.00	0.10
VCT 900 - 50	1.00	0.50
width (w) : 900	1.20	0.35
	1.50	0.15
VCT 1000 - 50	1.00	0.40
width (w) : 1000	1.20	0.20
	1.50	0.10

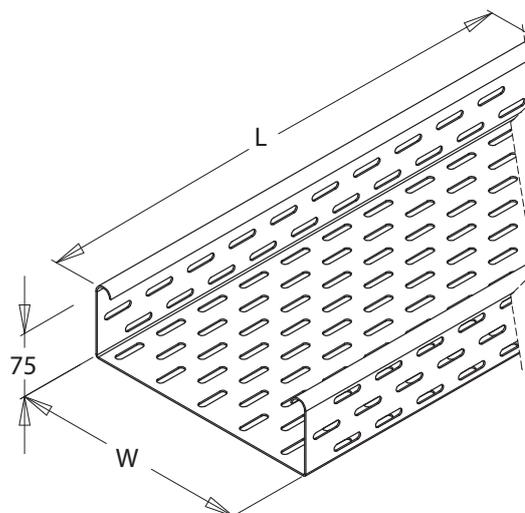
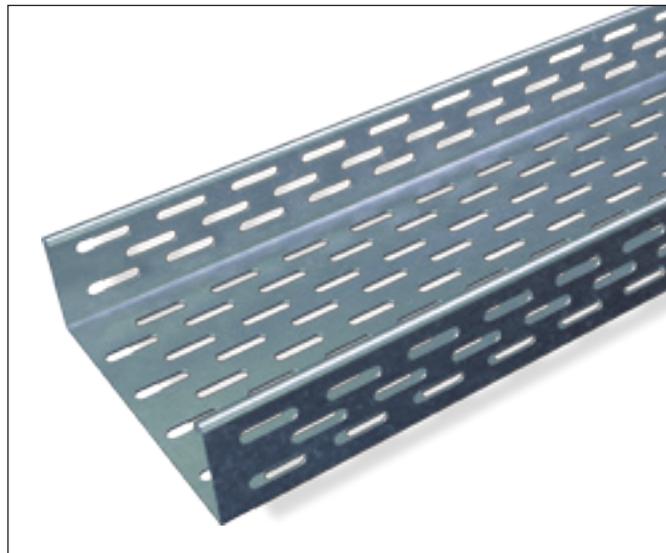
VCT - 75

Very Heavy Duty -2.00 mm Thickness

(Side Height 75 mm)

Thickness : 2.0 mm
 Side Height : 75 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 1000 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
VCT 100 - 75	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 150 - 75	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 200 - 75	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 300 - 75	1.00	1.50
width (w) : 300	1.20	1.50
	1.50	1.50
	2.00	1.00
VCT 400 - 75	1.00	1.50
width (w) : 400	1.20	1.50
	1.50	1.50
	2.00	0.90
VCT 450 - 75	1.00	1.50
width (w) : 450	1.20	1.50
	1.50	1.20
	2.00	0.60
VCT 500 - 75	1.00	1.50
width (w) : 500	1.20	1.50
	1.50	1.00
	2.00	0.50
VCT 600 - 75	1.00	1.50
width (w) : 600	1.20	1.15
	1.50	0.65
	2.00	0.30
VCT 700 - 75	1.00	1.50
width (w) : 700	1.20	1.15
	1.50	0.65
	2.00	0.30
VCT 800 - 75	1.00	0.50
width (w) : 800	1.20	0.15
	1.50	0.65
	2.00	0.30
VCT 900 - 75	1.00	1.30
width (w) : 900	1.20	0.85
	1.50	0.50
	2.00	0.20



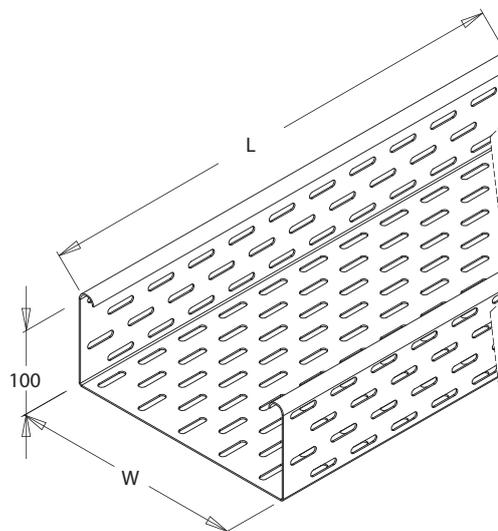
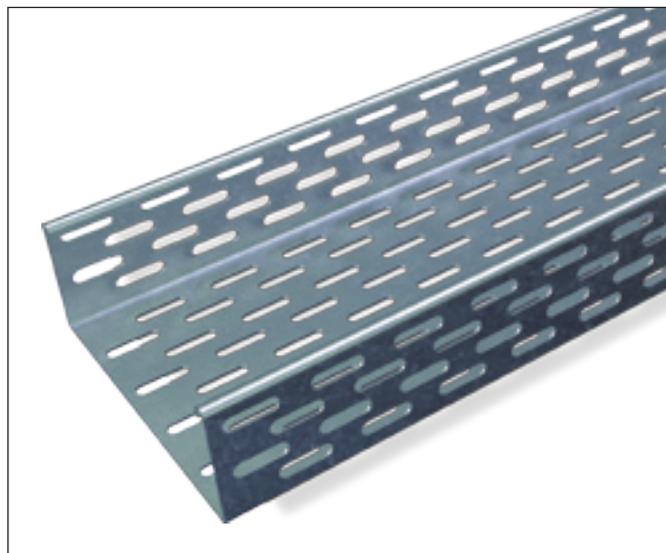
VCT - 100

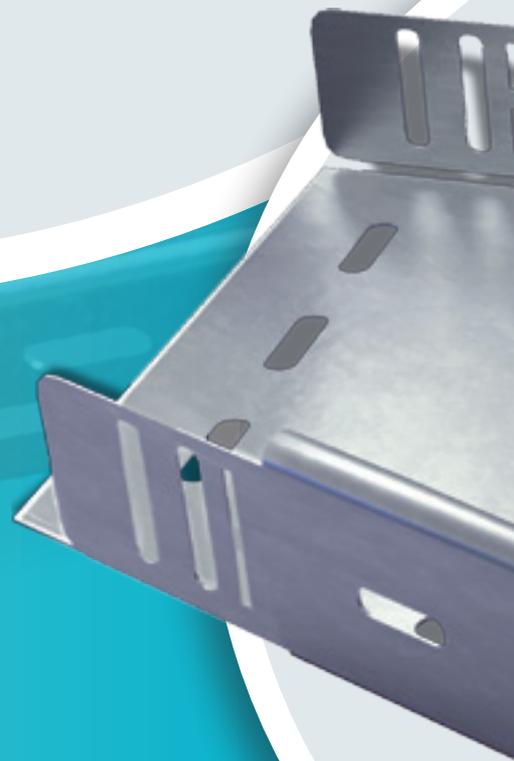
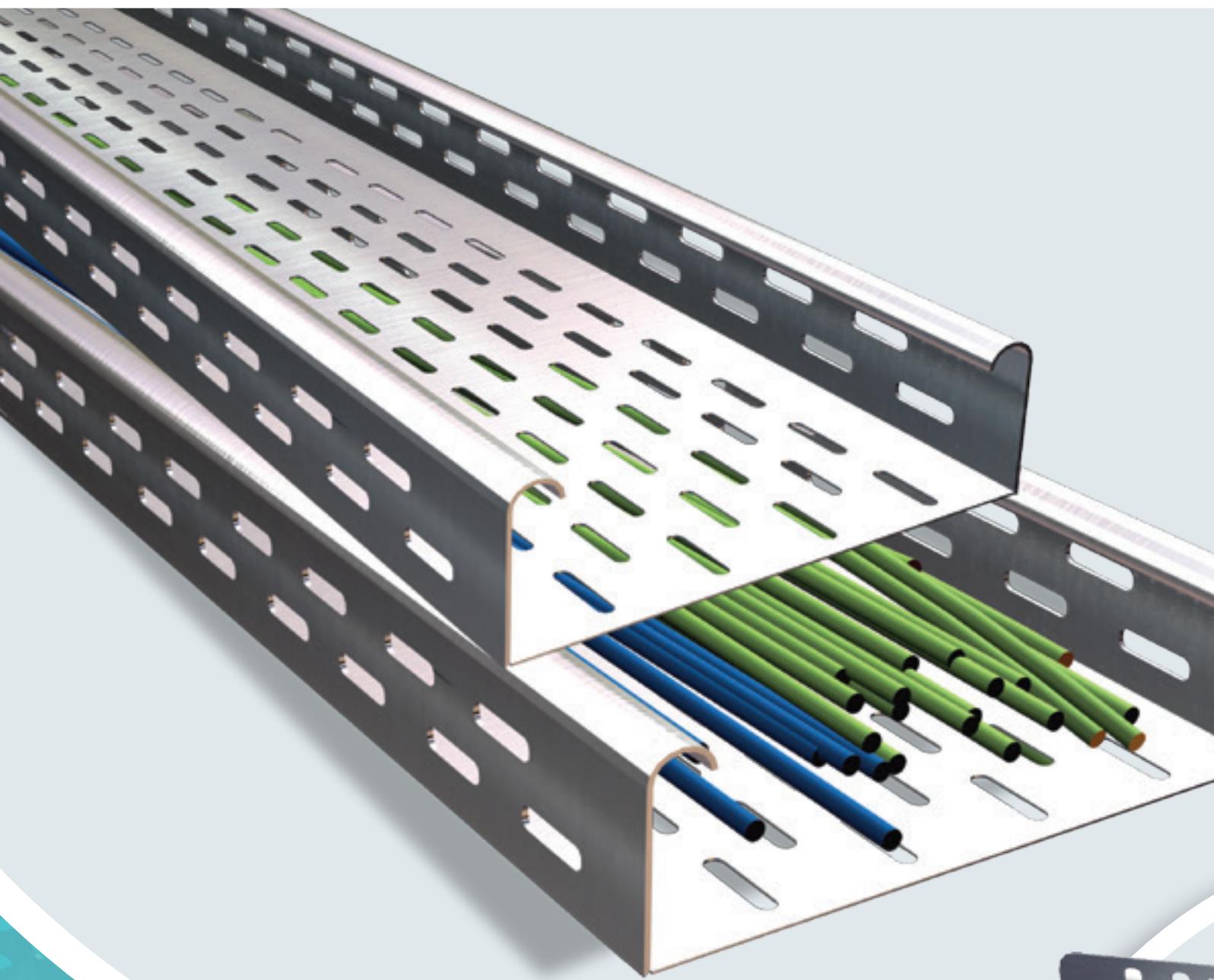
Very Heavy Duty -2.00 mm Thickness

(Side Height 100 mm)

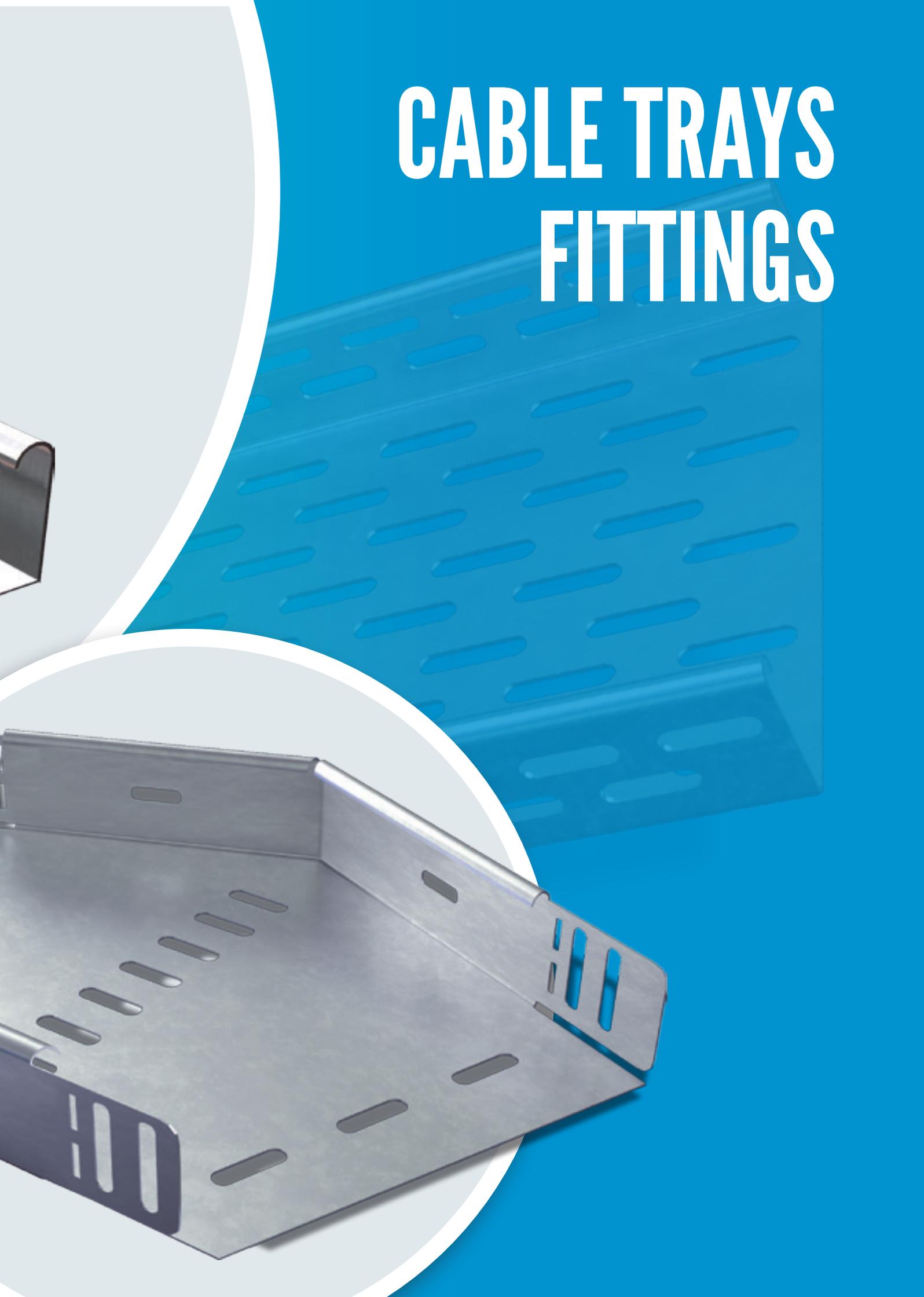
Thickness : 2.00 mm
 Side Height : 100 mm
 Length : 2440 mm / 3000 mm
 Width : 100 - 1000 mm
 Safety : 1.5

Cable tray	Support distance (m)	Load kN/m
VCT 100 - 100	1.00	1.50
width (w) : 100 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 150 - 100	1.00	1.50
width (w) : 150 mm	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 200 - 100	1.00	1.50
width (w) : 200	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 300 - 100	1.00	1.50
width (w) : 300	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 400 - 100	1.00	1.50
width (w) : 400	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 500 - 100	1.00	1.50
width (w) : 500	1.20	1.50
	1.50	1.50
	2.00	1.50
VCT 600 - 100	1.00	1.50
width (w) : 600	1.20	1.50
	1.50	1.50
	2.00	1.30
VCT 700 - 100	1.00	1.50
width (w) : 700	1.20	1.50
	1.50	1.50
	2.00	0.90
VCT 800 - 100	1.00	1.50
width (w) : 800	1.20	1.50
	1.50	1.20
	2.00	0.60
VCT 900 - 100	1.00	1.35
width (w) : 900	1.20	1.35
	1.50	0.90
	2.00	0.45
VCT 1000 - 100	1.00	1.20
width (w) : 1000	1.20	1.10
	1.50	0.70
	2.00	0.30





CABLE TRAYS FITTINGS



		Side Height		
		50mm	75mm	100mm
LCT	Width mm	50	-	-
		100	-	-
		150	-	-
		200	-	-
		225	-	-
		300	-	-
		400	-	-
		450	-	-
MCT	Width mm	50	-	-
		100	100	100
		150	150	150
		200	200	200
		225	225	225
		300	300	300
		400	400	400
		450	450	450
HCT	Width mm	50	-	-
		100	100	100
		150	150	150
		200	200	200
		225	225	225
		300	300	300
		400	400	400
		450	450	450
		500	500	500
		600	600	600
		700	700	700
		VCT	Width mm	50
100	100			100
150	150			150
200	200			200
225	225			225
300	300			300
400	400			400
450	450			450
500	500			500
600	600			600
700	700			700
750	-			-
800	800			800
900	900			900
1000	-			1000

BEND 45°

Heavy Duty - 1.50 mm Thickness



BEND 90° - 50

Heavy Duty - 1.50 mm Thickness



INTERSECTION - 50

Heavy Duty - 1.50 mm Thickness



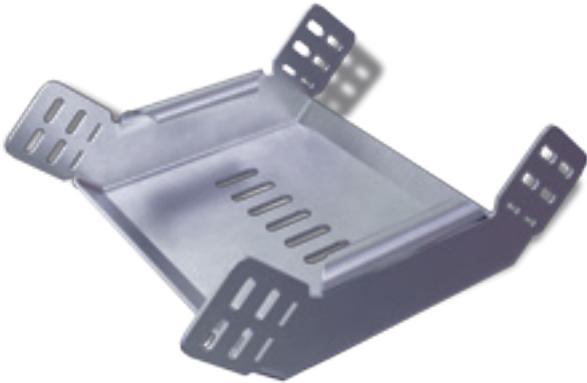
OUTSIDE RISER BEND 45°- 50

Heavy Duty - 1.50 mm Thickness



INSIDE RISER BEND 45°- 50

Heavy Duty - 1.50 mm Thickness



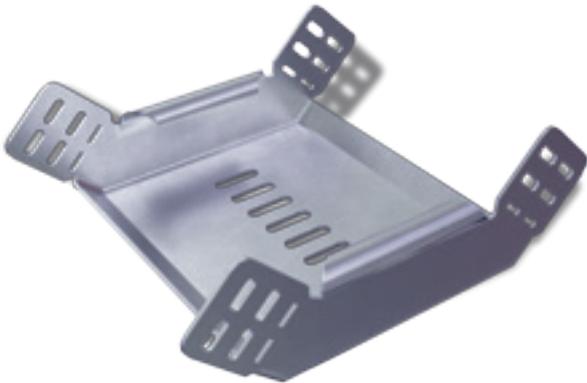
OUTSIDE RISER BEND 90°- 50

Heavy Duty - 1.50 mm Thickness



INSIDE RISER

Heavy Duty - 1.50 mm Thickness



REDUCER - 50

Heavy Duty - 1.50 mm Thickness

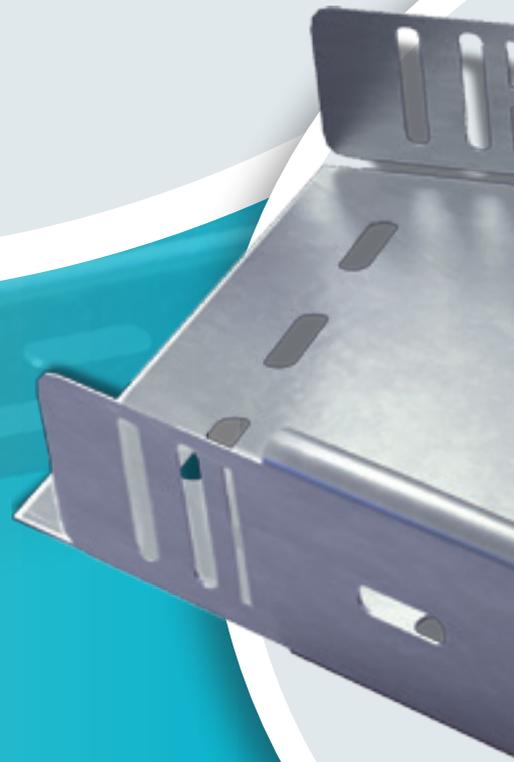
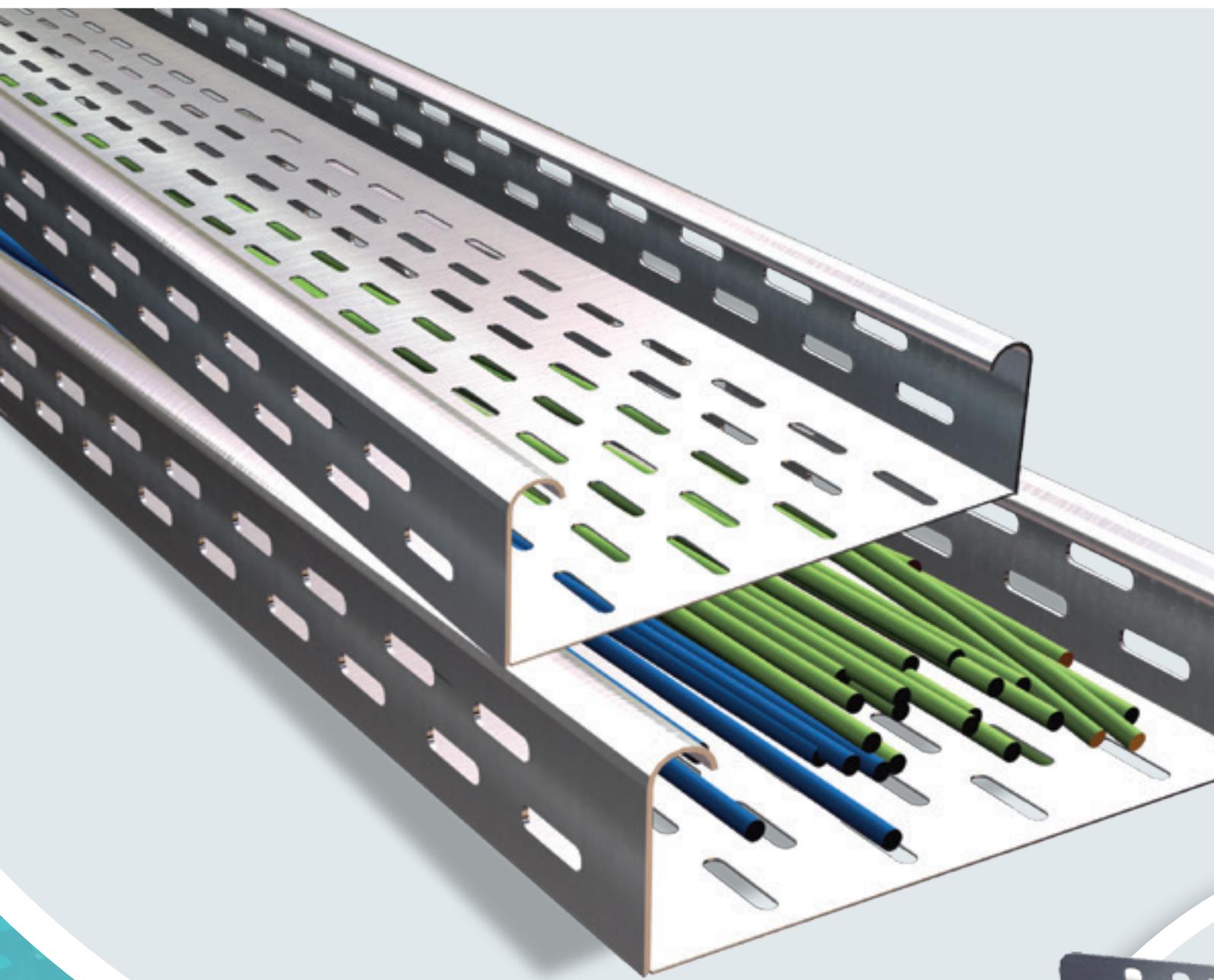


TEE BRANCH - 50

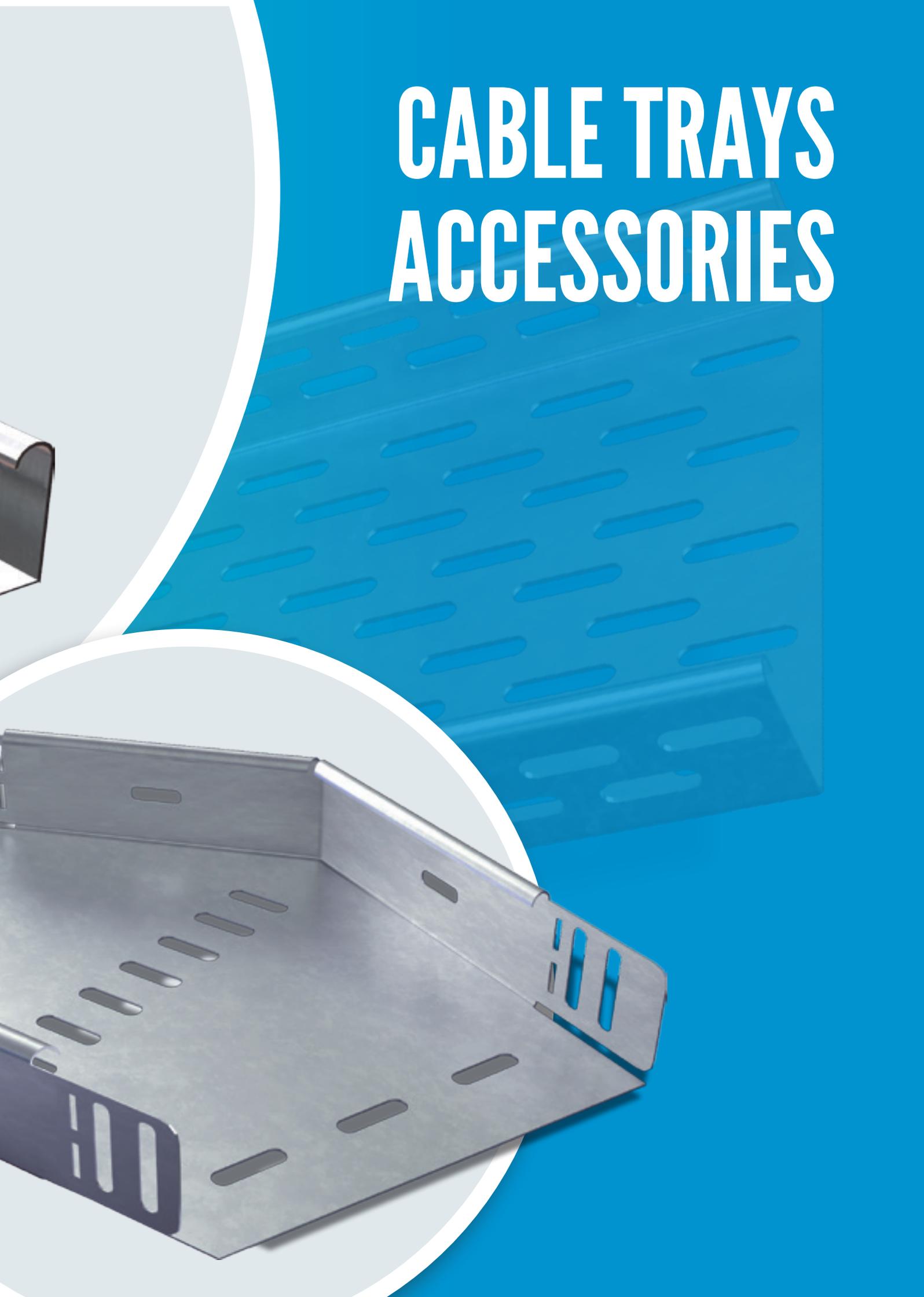
Heavy Duty - 1.50 mm Thickness







CABLE TRAYS ACCESSORIES



Straight connector / 1000



1000

Angle Connector / 1010 - 1020 - 1030



1010



1020



1030

Expansion Connector / 1020



1040

Adjustable Connector / 1050



1050

Horizontal Adjustable Connector / 1060



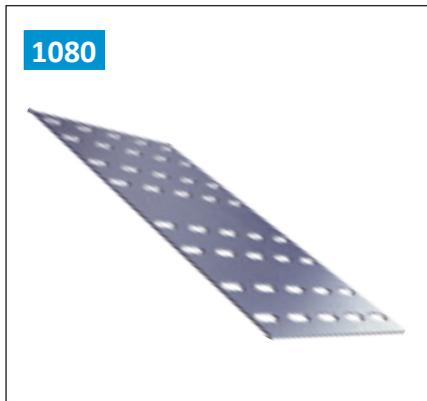
1060

Aluminum Horizontal Adjustable Connector / 1070



1070

Joint plate-Fish plate / 1080



1080

End plate / 1090



1090

Drop-out plate / 2000



2000

Crimping Type Copper / 2100

Tubular Cable Terminal Ends

2100



Tinned Copper Flexible Braids / 2200

Crimped with Connectors/ Terminals

2200



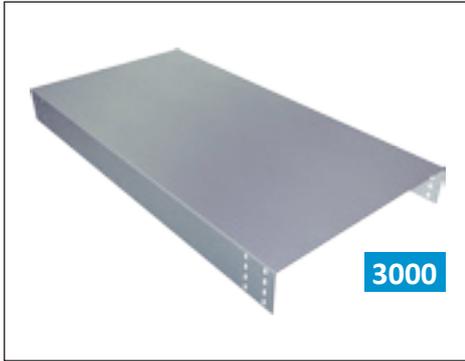
Cable tray cover

Functions

Cable tray covers shall be considered for any of the following purposes:

- Protection from falling objects or debris, as may occur beneath personnel walkways.
- Shielding from ultra-violet rays of the sun and guarding against other weathering elements.
- Minimizing accumulation of foreign contaminants such as ash or other industrial deposits.
- Protection of cables and personnel where a riser tray penetrates a floor or grating.

Solid Cover / 3000



Covers Side Height Types :

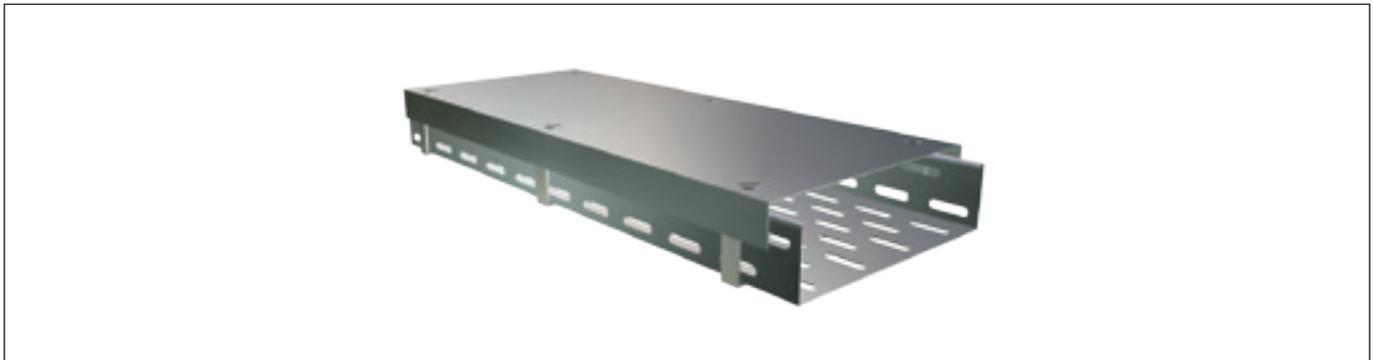
- Solid without flange - (SOF)
- Solid with flange - (SWF)
- Ventilated without flange - (VOF)
- Ventilated with flange - (VWF)

Ventilated Cover / 3100



- Cable Ladder covers are supplied with or without a 15 mm downturned flange.
- Straight section covers are furnished 3000 mm long. All fitting covers are furnished in solid design only.

Cable tray cover with locking clamp / 3200

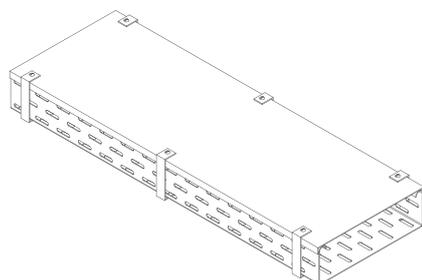


Covers Side Height Types :

- Solid without flange - (VOF)
- Solid with flange - (VWF)

Locking clamp

Thickness: 2mm



3300



FRAMING SYSTEMS

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

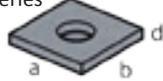


Square Washers SSW

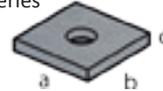
Square Washers (SSW)

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



Hexagonal Rod Coupler Grade 8.8 ASTM a 563

Hexagonal Rod Coupler with view hole (SHR)

Electro-plated Thread	Stainless Steel Thread	D	L	Load capacity
		(mm)	(mm)	(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	S/m ISO	e
		(mm)	(mm)	(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

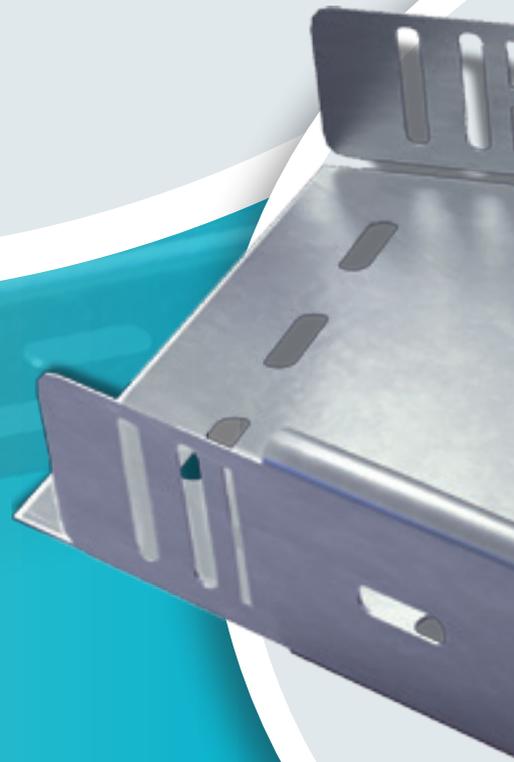
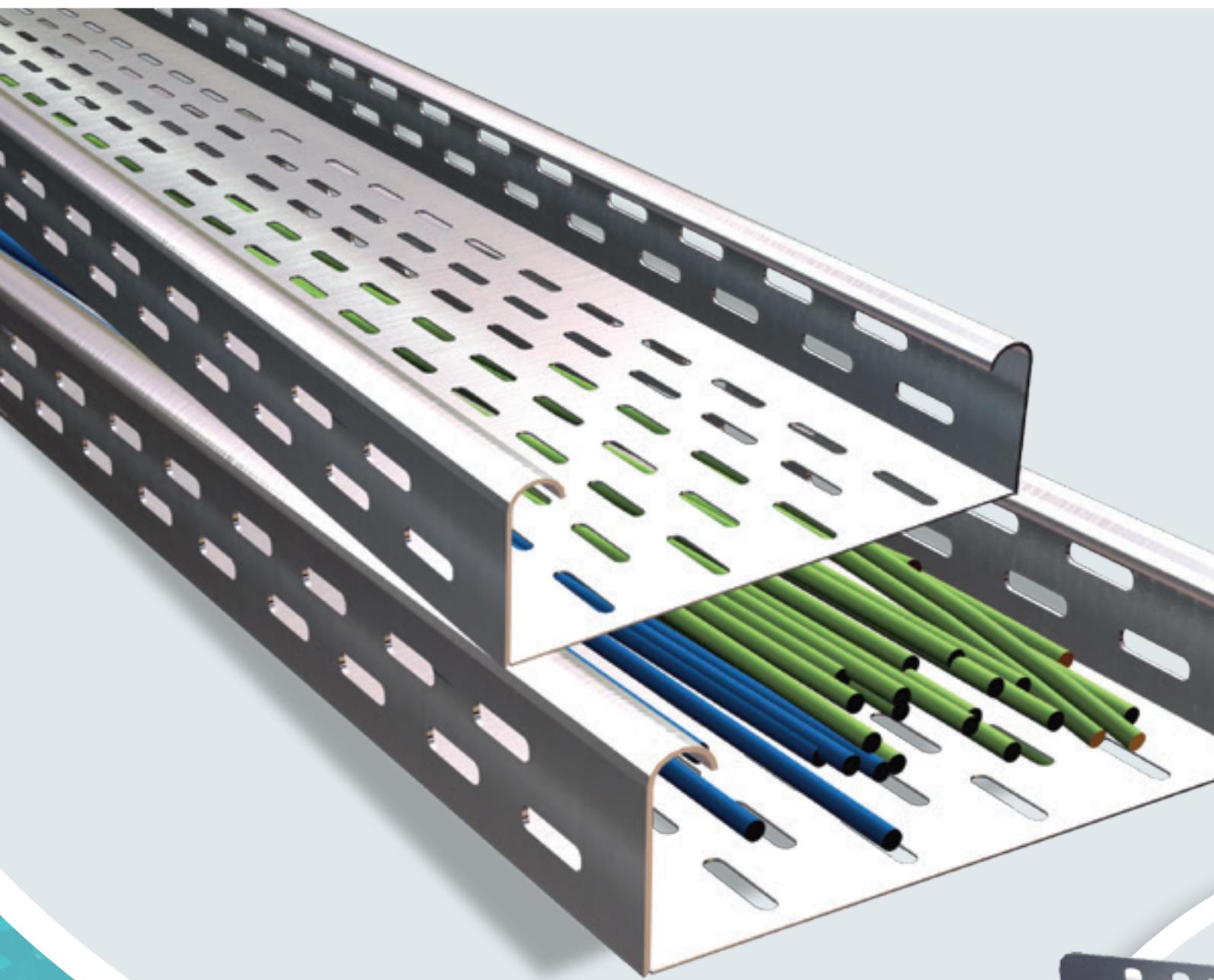


DIN 933, DIN 24017, ASTM A307, A449

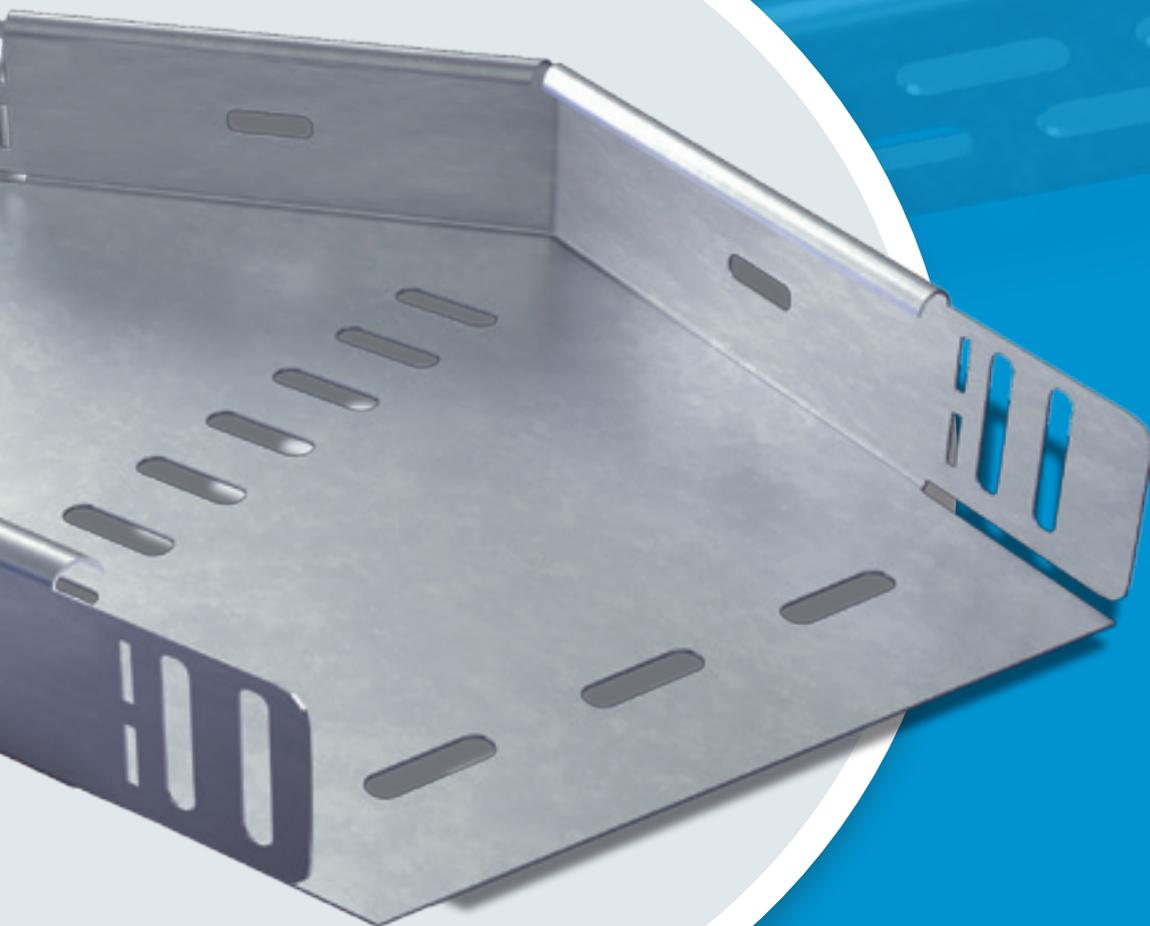
Hex Head Bolt (SHB) | DIN 933 or EN 24017 ASTM A307, A449 (without nut)

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





CABLE TRAYS SUPPORT SYSTEMS



GENERAL INFORMATION

CHANNEL

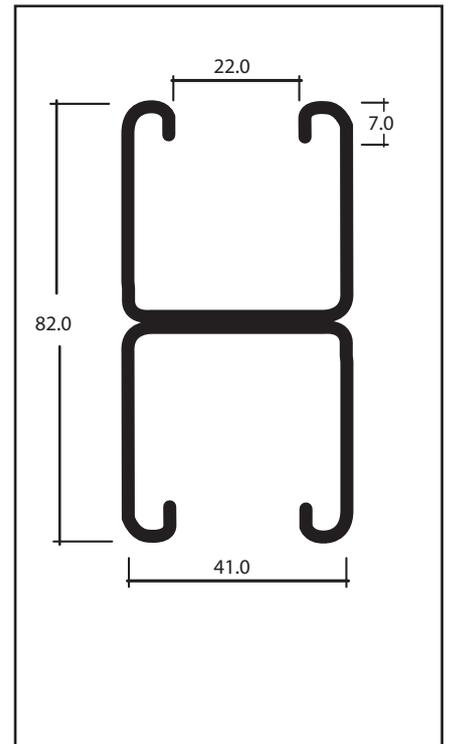
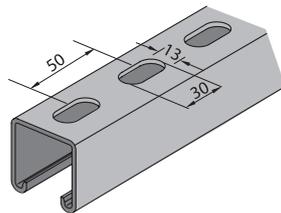
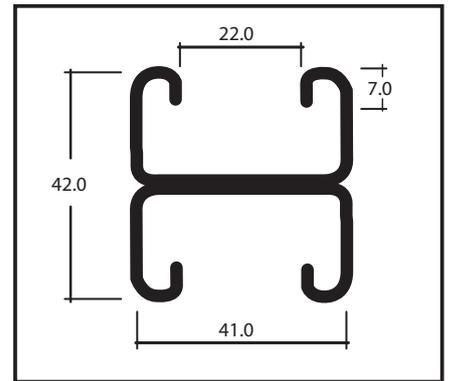
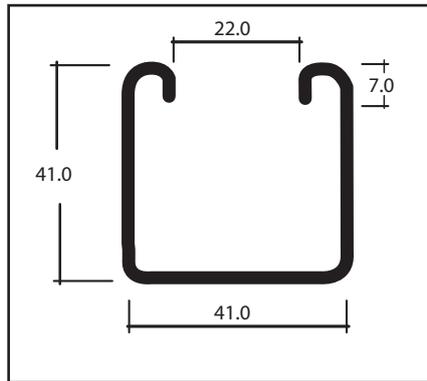
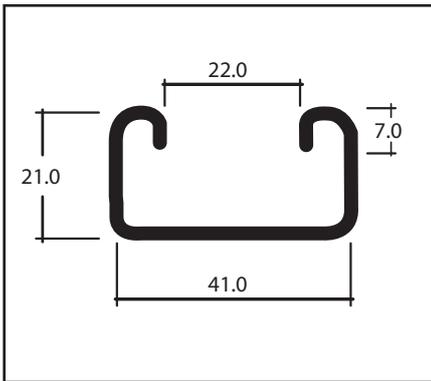
SFSP's metal framing channel is cold formed on modern rolling machines from low carbon steel manufactured according to BS 6946:1988. A continuous slot provides the ability to make attachments at any point.

LENGTHS

Standard length: 3000mm with ± 3.2 mm length tolerance.
 Custom lengths are available upon request.

FINISHES

Standard Finishes: Pre-Galvanized finish (ASTM A653M coating G90 and G60). Hot Dip Galvanized after fabrication (ASTM A123 or BSEN ISO1461:2009) . Other custom coatings are available upon request.



Metal Framing Channels

SELECTION CHART

Part No	Channel Dimensions		Thickness
	Height "H"	Width "W"	
CCH - 220/221	21.0 mm	41.0 mm	1.5 mm
CCH - 240/241	41.0 mm	41.0 mm	1.5 mm
CCH - 320/321	21.0 mm	41.0 mm	2.0 mm
CCH - 340/341	41.0 mm	41.0 mm	2.0 mm
CCH - 420/421	21.0 mm	41.0 mm	2.5 mm
CCH - 440/441	41.0 mm	41.0 mm	2.5 mm

For Toothed Channel add "T" after the Part no. ex.: CCH-220T

CCH 320 **3** **2** **0** **T**

- Material Thickness**
 for 1.5 mm 2
 for 2.0 mm 3
 for 2.5 mm 4
- Size**
 mm 21/41 - 2
 mm 41/41 - 4
- Channel Patterns**
 PT - 0
 ST - 1
 B2B - 2
- Toothed channel**

Channel Hole Patterns

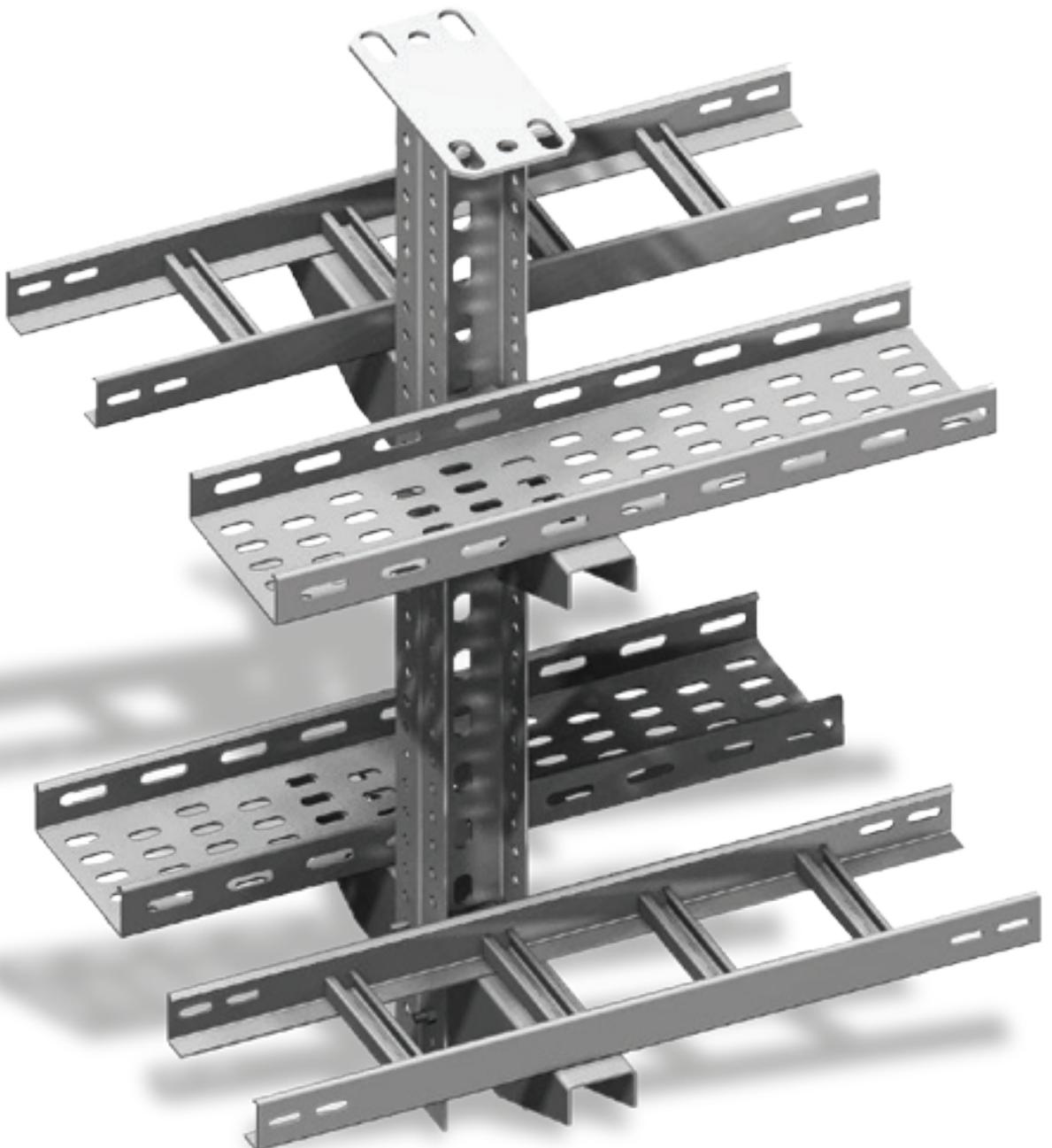
PT PLAIN
TYPE



ST SLOTTED TYPE



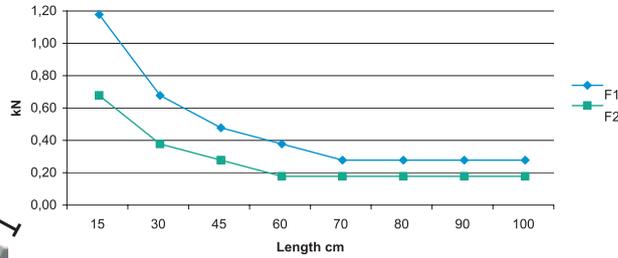
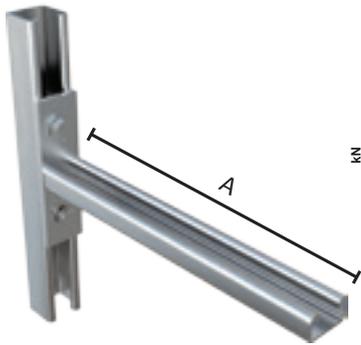
B2B TYPE



CANTILEVER ARM BRACKET

Cantilever Arm Brackets - SCA

CCH421 41x21x2.5

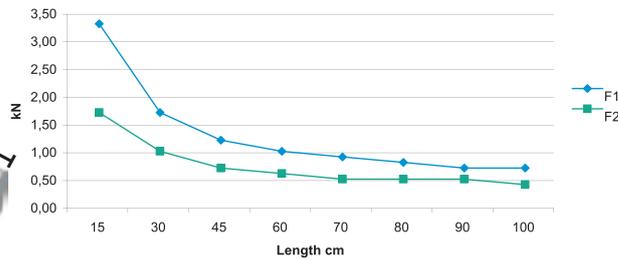
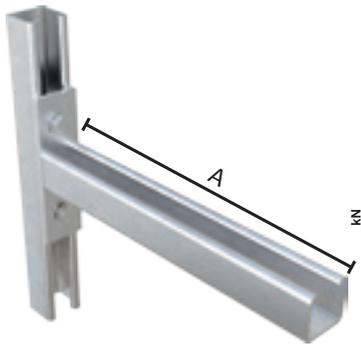


Length A (mm)	Allowable Load		
	F ₁ * (kN)	F ₂ * (kN)	F _z ** (kN)
150	1.10	0.60	3.10
300	0.60	0.30	3.10
450	0.40	0.20	3.10
600	0.30	0.10	3.10
700	0.20	0.10	3.10
800	0.20	0.10	3.10
900	0.20	0.10	3.10
1000	0.20	0.10	3.10

Base plate : height (h) x width (b) x thickness (t)
100 50 8

- In the case of concrete support frame, use anchor M10
- In the case of concrete C-Channel frame, Hex bolt M8 .

** **Connection force (pull-out force) : 3.10 (kN)**



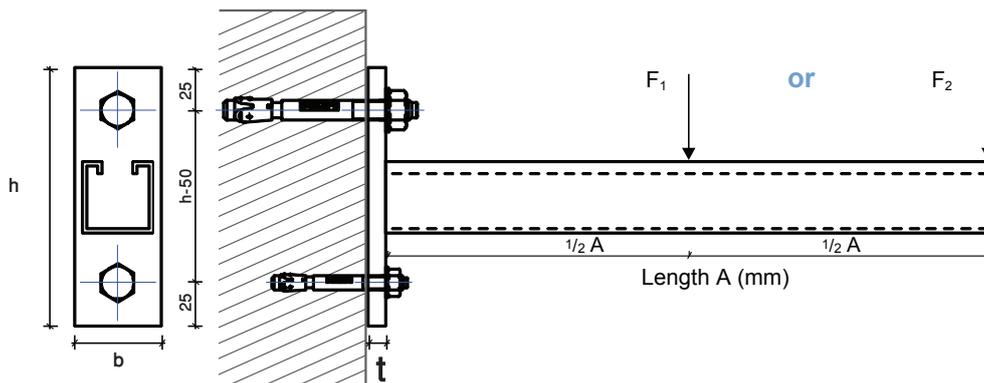
Length A (mm)	Allowable Load		
	F ₁ * (kN)	F ₂ * (kN)	F _z ** (kN)
150	3.10	1.50	7.50
300	1.50	0.80	7.50
450	1.00	0.50	7.50
600	0.80	0.40	7.50
700	0.70	0.30	7.50
800	0.60	0.30	7.50
900	0.50	0.30	7.50
1000	0.50	0.20	7.50

Base plate : height (h) x width (b) x thickness (t)
140 50 10

- In the case of concrete support frame, use anchor M16 .
- In the case of concrete C-Channel frame, Hex bolt M8.

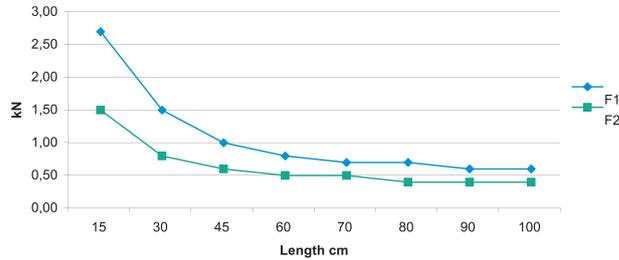
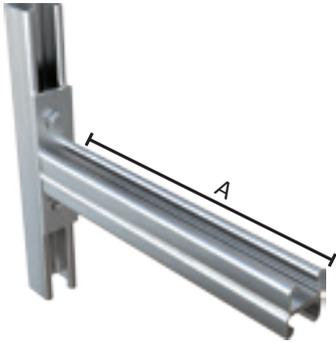
** **Connection force (pull-out force) : 7.50 (kN)**

* Given Loads are always in [kN] " Allowable characteristic live load "



Cantilever Arm Brackets - SCA

CCH422 41x21x2.5 B2B



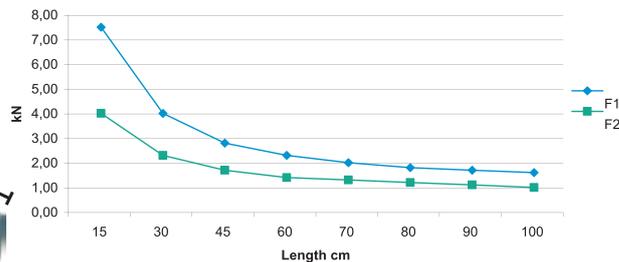
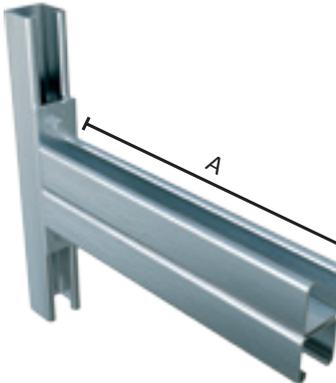
Length A (mm)	Allowable Load		
	F ₁ [*]	F ₂ [*]	F _z ^{**}
150	2.50	1.30	4.80
300	1.30	0.60	4.80
450	0.80	0.40	4.80
600	0.60	0.30	4.80
700	0.50	0.30	4.80
800	0.50	0.20	4.80
900	0.40	0.20	4.80
1000	0.40	0.20	4.80

Base plate : height (h) x width (b) x thickness (t)
140 50 10

- In the case of concrete support frame, use anchor M12.
- In the case of concrete C-Channel frame, Hexbolt M8.

** Connection force (pull-out force) : 4,8 (kN)

CCH442 41x41x2.5 B2B



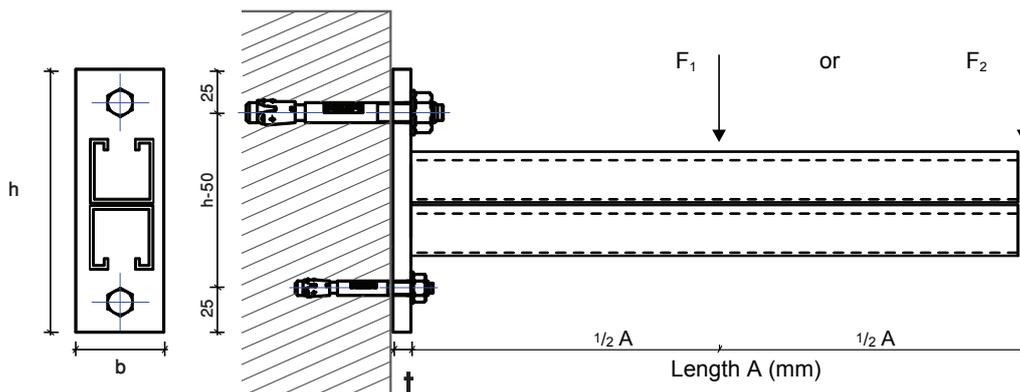
Length A (mm)	Allowable Load		
	F ₁ [*]	F ₂ [*]	F _z ^{**}
150	7.00	3.50	8.30
300	3.50	1.80	8.30
450	2.30	1.20	8.30
600	1.80	0.90	8.30
700	1.50	0.80	8.30
800	1.30	0.70	8.30
900	1.20	0.60	8.30
1000	1.10	0.50	8.30

Base plate : height (h) x width (b) x thickness (t)
180 60 12

- In the case of concrete support frame, use anchor M16.
- In the case of concrete C-Channel frame, Hex bolt M10 .

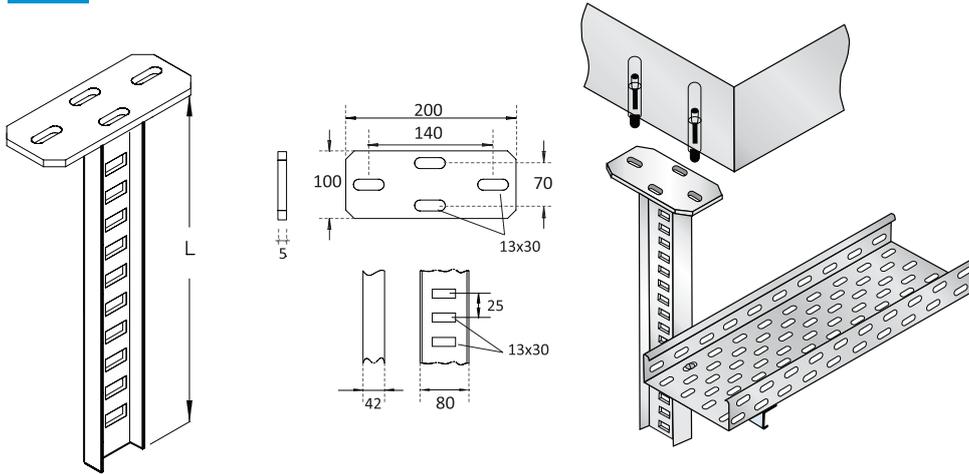
** Connection force (pull-out force) : 8,30 (kN)

* Given Loads are always in [kN] " Allowable characteristic live load "



U - Support / 3000

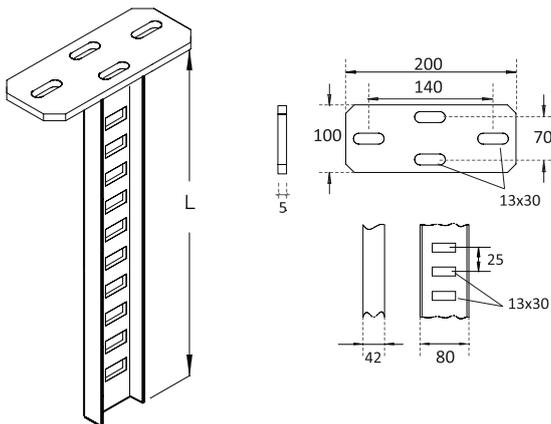
3000



U-Support with welded-on head plate 200 x 100 x 5mm

I - Support / 3050

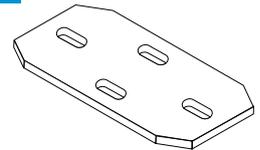
3050



U-Support with welded-on head plate 200 x 100 x 5mm

Head Plate / 3100

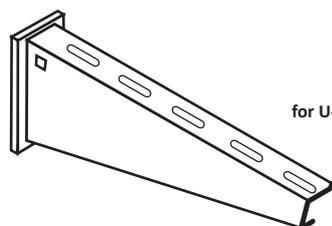
3100



200 x 100 x 5mm

Wall Bracket | 3200 - 3250

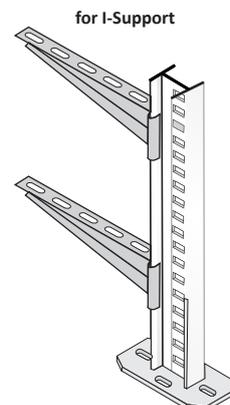
3200



for U-Support

5 mm thickness

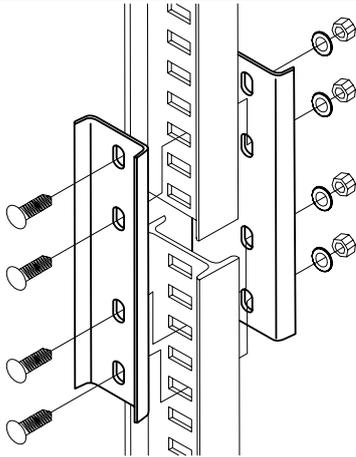
3250



for I-Support

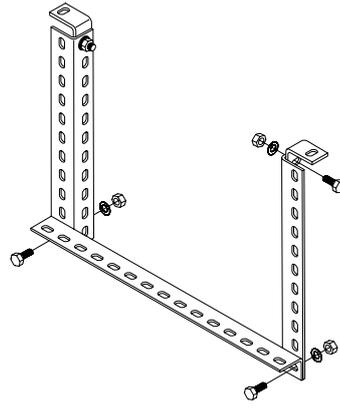
Support connectors | 3300

3300



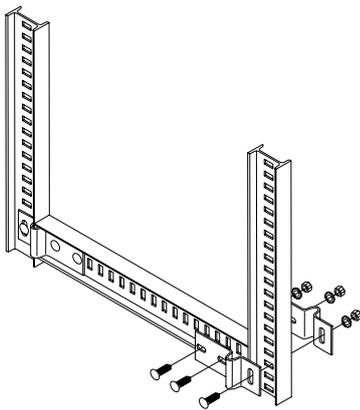
Clamping plates | 3350

3350



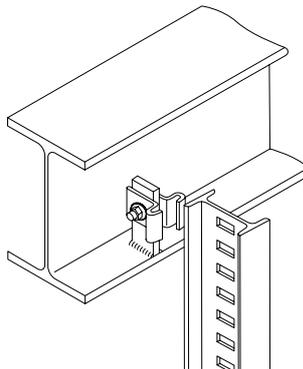
Support plates | 3400

3400



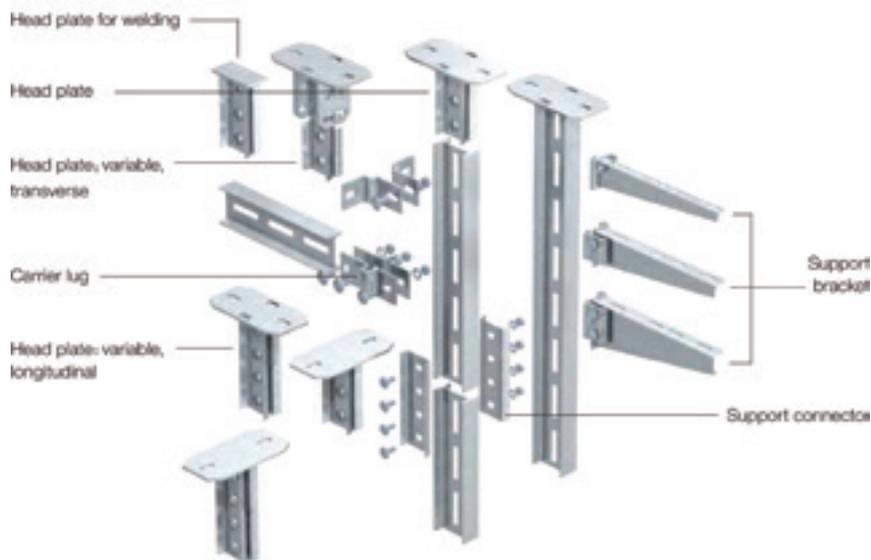
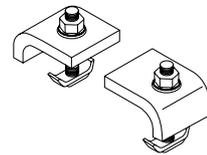
Support clamps | 3450

3450



Clamping angles | 3550

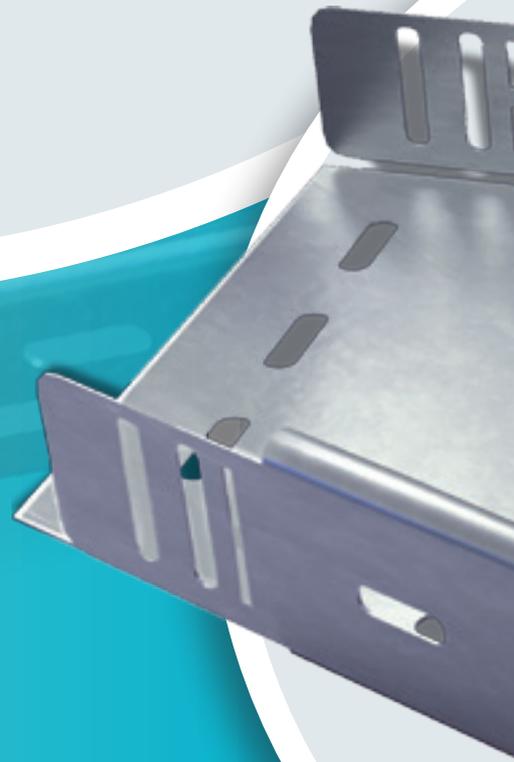
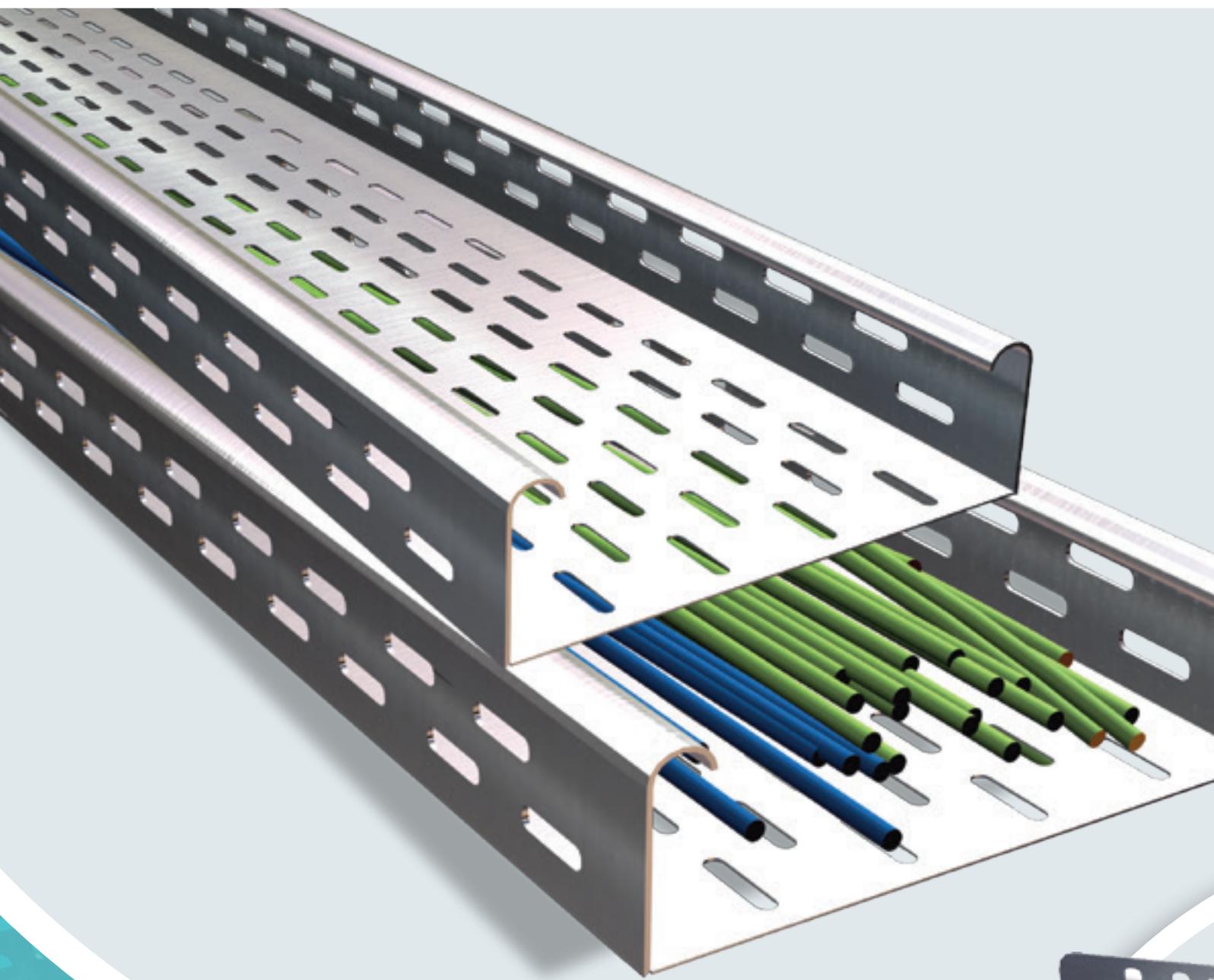
3550



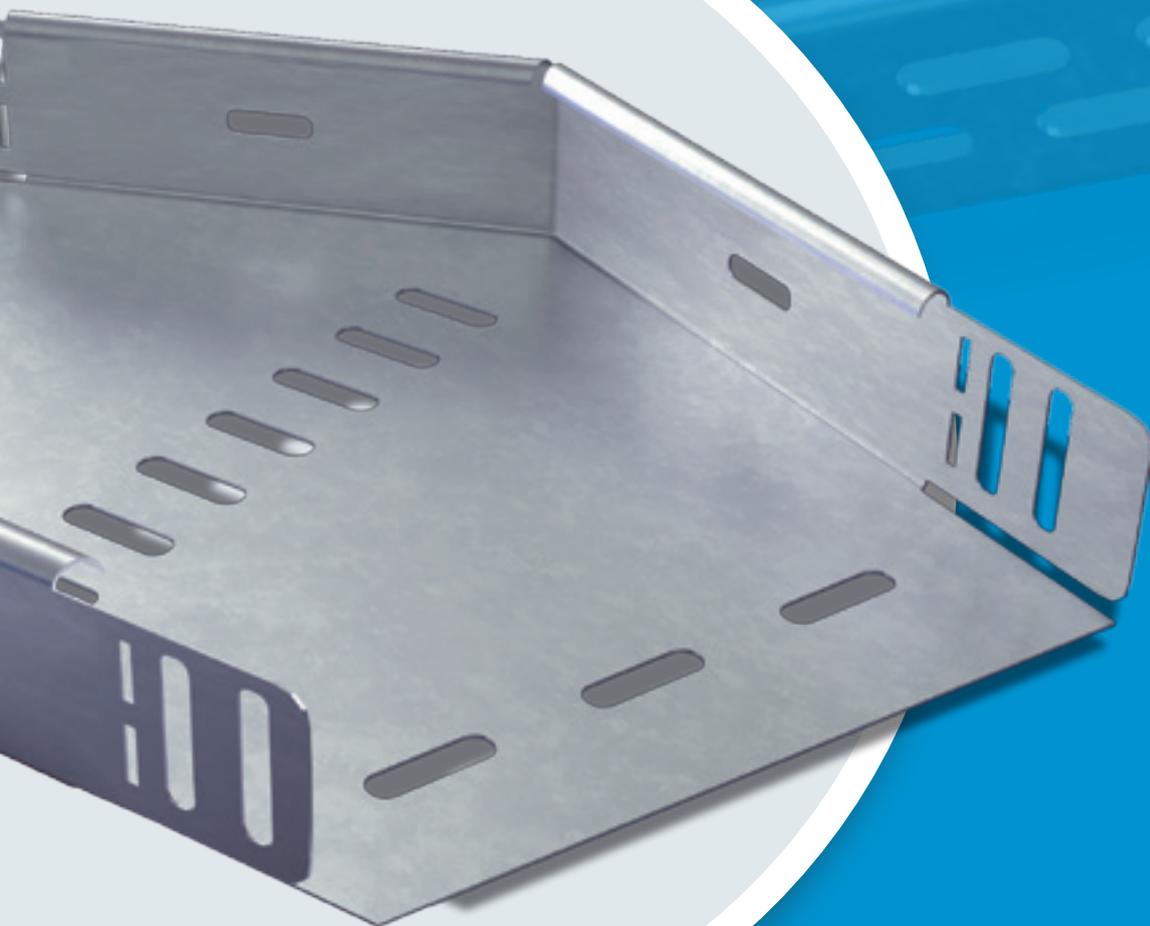
Angles | 3600

3600





CONCRETE FIXATION ANCHORS



Direction of Loading

The direction of the applied load shall be considered to determine the most appropriate anchor. The tension and shear components shall be lesser than the recommended load/design resistance in the direction concerned.

Tensile Loading

Tensile loads are applied along the axis of fixing (*see Fig.1*).

Common examples include suspended ceiling applications and the suspension of mechanical services, pipe work , duct work ,etc ...

Shear Loads

Shear loads act at right angles to the axis of fixing and directly against the face of the structural material (*see Fig.2*).

Shear performance is governed mainly by the shear strength of the bolt material and by the compressive strength of the supporting substrate.

Oblique / Combined Loads

Oblique loads are a combination of tension and shear components (*see Fig.3*).

If the angle of the applied oblique load is within 10° of pure tension or pure shear, the safe working load for that direction may be assumed. Otherwise, the applied oblique load shall be resolved into its shear and tensile components.

Offset Loads

Offset loads act at right angles to the fixing axis but are offset from the surface (*see Fig.4*).

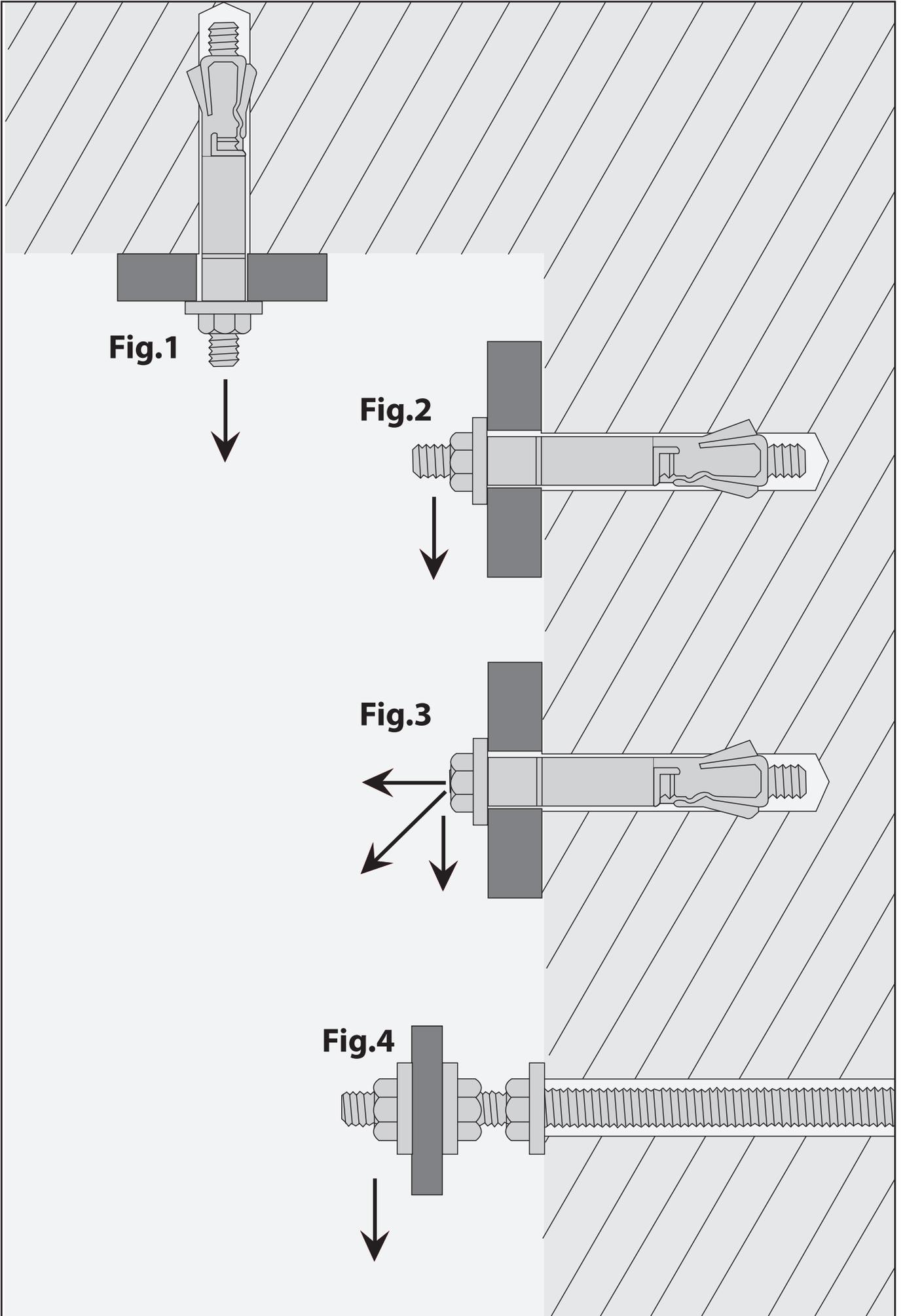
In this situation, the deflection of the bolt due to bending needs to be considered as well as the shear capacity of the anchor

Slotted Holes in Fixture

When fixing anchors through slotted holes; it is important to ensure that there is an adequate surface of contact between the washer and the fixture to guarantee a positive clamping force. If in doubt, a square plate washer with a thickness of 3mm or above would be recommended in place of the standard washer supplied.

Diamond Drilled Holes

When holes are formed in the structure using a diamond drilling system; extra care is required to ensure the holes are thoroughly cleaned by brushing and blowing for at least three times. Also, to make a key for the anchor (particularly if a bonded anchor is installed) the sides of the hole shall be roughened up by inserting a standard masonry bit into the hole attached to a hammer action drilling machine. A resin with minimal shrinkage shall be selected for diamond drilled holes.



EXPANSION STEEL ANCHOR - STM

STM



STM/H



Features:

- Suitable for all screws or threaded bolts with metric thread.
- Low energy impact, power-saving assembly.
- Multiple removing and fixing.
- Inside threaded anchor, allows great flexibility.
- Can use variable lengths and art of threaded rods or bolts.
- Small edge distance and small distance between anchors.
- Provide uniform load by tightening the screw or hexagon nut, the cone pulls into the expansion anchor and tightens against the drilled hole.
- Suitable for use in concrete and natural stone.

Typical Applications:

Cable Management , handrails, brackets, staircases, ladders, machines, window panels, base plates, scaffoldings and frameworks

Technical Data:

Recommended loads (non cracked -concrete C 20/25).

Type (Order No)	Tension Load	Shear Load	Bending Moment	Screw Grade
	(kN)	(kN)	(Nm)	
M6	2.5	2.3	3.9	8.8
M8	3.3	4.4	17	8.8
M10	4.7	6.5	34	8.8
M12	6.9	8.5	60	8.8

**for cracked concrete we shall use 0,5 x this value (approximately)*

Materials:

- Zinc plated steel.
- Stainless steel [SS 304 (A2), SS 316 (A4)].

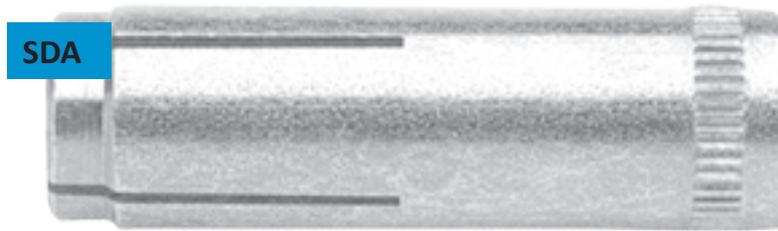
Setting Data:

Edge distance > 1,5 x H *eff.*, distance between anchors > 3 x H *eff.*
 Thickness of foundation > 2 x H *eff.*



Size	H <i>eff.</i>	Edge Distance C	Distance Between Anchors S	Thickness of Foundation h _{min}	Washer	Tightening Torque	Spanner size
	(mm)	(mm)	(mm)	(mm)	(∅)	(Nm)	(mm)
M6	40	60	120	100	12 x 1.6	10	10
M8	45	68	135	100	16 x 1.6	20	13
M10	55	83	165	110	20 x 2.0	40	17
M12	70	105	210	140	24 x 2.5	75	19

DROP-IN ANCHOR - SDA



Features:

- Provides permanently fixed threaded socket in concrete.
- Use in non-cracked concrete or cracked concrete and natural stone.
- The anchor will spread and tighten against the drilled hole after inserting with setting tool.
- Low setting depth, reduced drilling time.
- Enables cost-effective assembly .
- Multiple removing and fixing.

Typical Applications:

Pipes, ventilation ducts, suspended ceilings, sprinkler systems, brackets, threaded rods and Cable Trays.

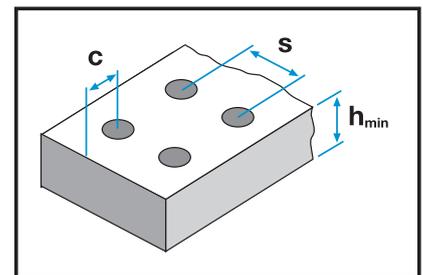
Technical Data:

Type (Order No)	Tension Load	Shear Load	Bending Moment	Screw Grade
	(kN)	(kN)	(Nm)	
M6	2.5	2.3	3.9	8.8
M8	3.3	4.4	17	8.8
M10	4.7	6.5	34	8.8
M12	6.9	8.5	60	8.8

*for cracked concrete we shall use 0,5 x this value (approximately)

Materials:

- Zinc plated steel.
- Stainless steel [SS 304 (A2), SS 316 (A4)].



Setting Data:

Edge distance $> 1.5 \times$ effective anchorage depth, distance between anchors $> 3,0 \times$ effective anchorage depth, min. thickness of foundation $> 2,5 \times H_{eff}$.

Size	H_{eff}	Edge Distance C	Distance Between Anchors S	Thickness of Foundation h_{min}	Washer	Tightening Torque	Spanner size
	(mm)	(mm)	(mm)	(mm)	(ϕ)	(Nm)	(mm)
M6	25	37.5	75	100	4	10	10
M8	30	45	90	100	9	13	13
M10	40	60	120	130	17	17	17
M12	50	75	150	140	30	19	19
M16	65	197.5	195	160	75	24	

SLEEVE ANCHOR - SAS

Features:

- Suitable for use in concrete, natural stone, brickwork and blockwork
- Small distance between anchors.
- Optimum performance in most base material types.
- No protruding threads after installation.
- Small distance between anchors and from edge.
- Controlled expansion.
- Zinc plated > 5µm.
- Effective force distribution in the drilled hole.
- Sleeve anchor with hexagon screw or with threaded bolt.

SAS



Typical Applications:

Uni-channel ,railings, steel constructions , machines, high-racks, cable support systems and mechanical fixations.

Technical Data:

Recommended loads (non cracked-concreted C 20/25).

Bolt Size	Tension Load	Shear Load	Torque Moment
	(kN)	(kN)	(Nm)
M6	2.56	2.0	5.0
M8	3.33	3.3	12.5
M10	4.1	5.0	25.5
M12	6.66	7.5

**for cracked concrete we shall use 0,5 x this value (approximately)*

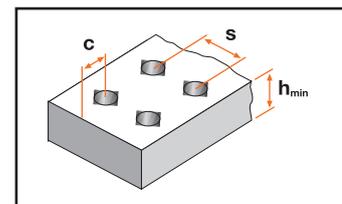
Materials:

- Zinc plated steel.
- Stainless steel [SS 304 (A2), SS 316 (A4)].

Setting Data:

Edge distance > 1.5 x effective anchorage depth, distance between anchors > 3,0 x effective anchorage depth, min. thickness of foundation > 2,5 x H eff.

Bolt Size	H eff.	Edge Distance C	Distance Between Anchors S	Thickness of Foundation h _{min}	Washer (∅)	Tightening Torque	Spanner size
	(mm)	(mm)	(mm)	(mm)	(mm)	(Nm)	
M6	35	52.5	105	70	18 x 1.6	8	10
M8	40	60	120	80	16 x 1.6	25	13
M10	50	75	150	100	20 x 2.0	40	17
M12	75	112.5	225	150	26 x 2.0	50	19

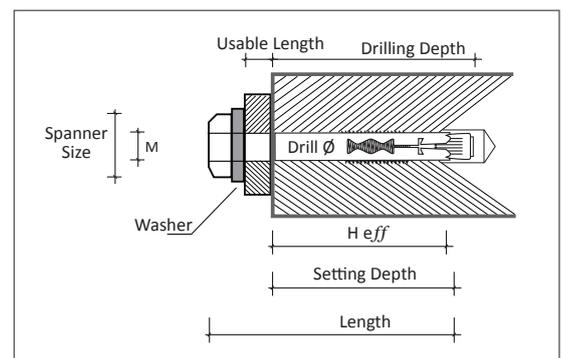


Sleeve Anchor - SAS:

With hexagon screw (non-cracked concrete C20/25).

Size	Length	Drill	Hole ∅ in Fixture	Drilling Depth	Setting Depth	H eff.	Min.Usable Length
	(mm)	(∅)	(mm)	(mm)	(∅)	(mm)	(mm)
M6	45	8	10	55	35	35	5
M6	60	8	10	55	35	35	15
M8	60	10	12	60	40	40	15
M8	80	10	12	60	40	40	25
M10	70	12	14	70	50	50	15
M10	100	12	14	70	60	50	35

**for cracked concrete we shall use 0,5 x this value (approximately).*



THROUGH BOLT (WEDGE ANCHOR) - STB

Features:

- Suitable for use in cracked concrete or in non-cracked concrete and in natural stone.
- Special design of the clip in stainless steel which ensures a safe hold in the hole.
- Torque controlled expansion.
- Zinc plated > 5µm.
- User friendly, face fixing or through fixing.



SDB

Typical Applications:

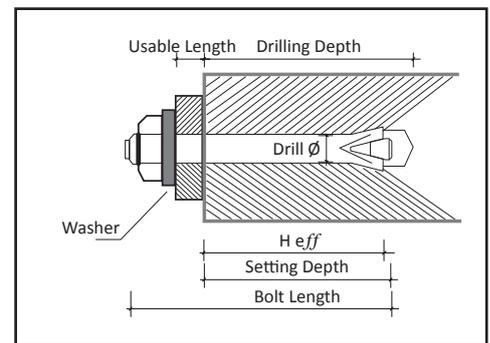
Uni - channel, hand rails, steel construction, Cable Trays, supports, brackets, ducts and shelf feet.

Technical Data:

Through Bolt zinc plated (non-cracked C20/25).

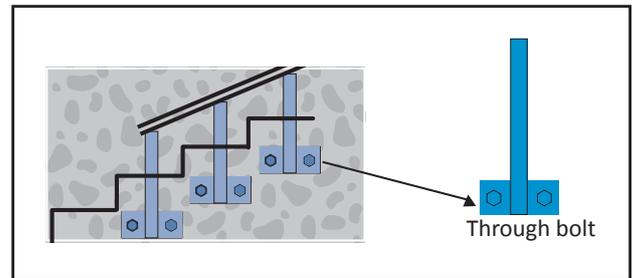
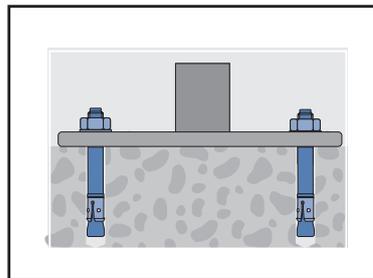
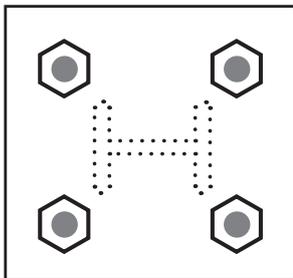
Bolt Size	Tension Load	Shear Load	Torque Moment
	(kN)	(kN)	(Nm)
M6	2.1	1.9	4.0
M8	4.0	4.0	15.0
M10	5.9	5.95	30.0
M12	8.8	10.0	50.0
M16	12	16.0	100

**for cracked concrete we shall use 0,5 x this value (approximately)*



Materials:

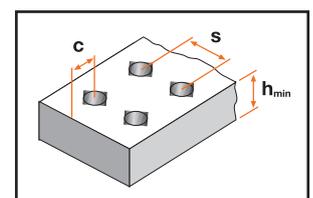
- Zinc plated steel.
- Stainless steel [SS 304 (A2) , SS 316 (A4)].



Setting Data:

Edge distance > 1,5 H eff. , distance between anchors > 3 x H eff.
Thickness of foundation > 2 x H eff.

Bolt Size	H eff.	Edge Distance C	Distance Between Anchors S	Washer	Thickness of Foundation h _{min}	Tightening Torque	Spanner Size
	(mm)	(mm)	(mm)	(∅)	(mm)	(Nm)	
M6	40	60	120	12 x 1.6	100	7	10
M8	50	75	150	16 x 1.6	100	14	13
M10	58	87	174	20 x 2.0	120	30	17
M12	68	102	204	24 x 2.5	140	35	19
M16	80	120	240	30 x 3.0	160	80	24



SHIELD ANCHOR - SSA

Features:

- Assembly detachable, multiple removing and fixing.
- Low energy impact, power-saving assembly.
- Force controlled expansion.
- Flexibility inside threaded anchor.
- Variable length and art of threaded rods or bolts.
- By tightening the screw, the cone pulls into the sleeve and tense against the drill hole.
- Small edge distance and small distance between anchor.
- Expansion elements are held together by a spring.
- Optimum taper nut angle for maximum expansion.
- Pressed steel segment ensures consistent dimensional accuracy.
- Provide a projecting stud to support fixture during installation and removal.
- Suitable for use in concrete, natural stone, brick and sand stone.



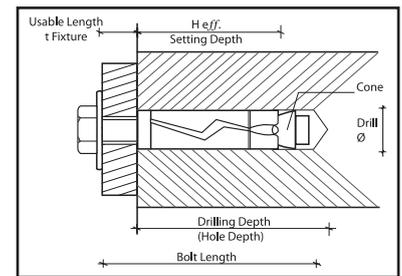
Typical Applications:

For fixing: steel constructions, handrails, consoles, brackets, ladders, gates and spacing designs.

Technical Data:

(Recommended loads concrete C 20/25 and in brick work).

Size	Distance to Edge C	Distance Between Anchors S	Min. Thickness of Foundation h_{min}	$H_{eff.}$
	(mm)	(mm)	(mm)	(mm)
M6	52.5	105	70	35
M8	60	120	80	40
M10	75	150	100	50
M12	90	180	120	60



Materials:

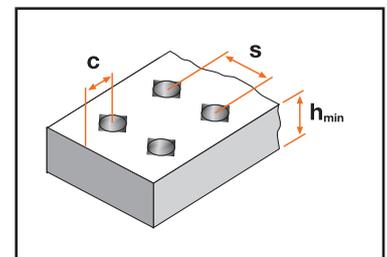
- Zinc plated and die-cast.

Setting Data:

Edge distance $> 1,5 \times H_{eff.}$, distance between anchors $> 3 \times H_{eff.}$

Thickness of foundation $> 2 \times H_{eff.}$

Size	Concrete		Brick Work Tension Shear	Torque Concrete	Torque Brick
	Tension	Shear			
	KN	KN	KN	N.m	N.m
M6	3.3	2.1	1.6	6.5	5.0
M8	4.8	4.4	2.1	15.0	7.5
M10	6.2	6.1	2.6	27.0	13.0
M12	9.7	12.4	3.9	50.0	23.0





SFSP makes every effort to maintain the accuracy and quality of the information provided in this Catalogue.

However, SFSP cannot guarantee and assumes legal liability or responsibility for the accuracy or completeness of the information provided.

Whilst every care has been exercised in the preparation of this catalogue to ensure that any advice, recommendations or information is accurate, no liability or responsibility of any kind is accepted.

Project working details should be entrusted to appropriately qualified and experienced persons, case by case.

With a policy of continuous product development, SFSP may modify product design and specification without due notice.

In case of any questions or remarks, feel free to contact the R&D Department.