

CABLE LADDER SPECIFICATIONS...



1. GENERAL

1.1 The cable ladders as specified shall be manufactured by:

BUILDING EQUIPMENT SERVICES SDN. BHD.,
148-3, Jalan Tun Sambanthan, P.O. Box 12486,
50780 Kuala Lumpur, Malaysia.

Tel No. 03-2747322 Fax: 03-2747323

and shall be supplied in three main categories namely:-

BES-12 Series

BES-16 Series

BES-20 Series

1.2 a) **BES-12 Series** shall be supplied in 3.0m lengths* and its loading capacities are classified into three grades:-

BES-12A with load capacity at 75kg/m run (light duty)

BES-12B with load capacity at 112kg/m run (medium duty)

BES-12C with load capacity at 150kg/m run (heavy duty)

b) **BES-16 Series** shall be supplied in 4.0m lengths* and its loading capabilities are classified into 3 grades.

BES-16A with load capacity at 75kg/m run (light duty)

BES-16B with load capacity at 112kg/m run (medium duty)

BES-16C with load capacity at 150kg/m run (heavy duty).

c) **BES-20 Series** shall be supplied in 6.0m lengths* and its loading capacities are classified into three grades:-

BES-20A with load capacity at 75kg/m run (light duty)

BES-20B with load capacity at 112kg/m run (medium duty)

BES-20C with load capacity at 150kg/m run (heavy duty).

1.3 The cable ladders shall be supplied fully assembled with preparations for connections to straight sections or accessories using splice plates mechanically bolted together. Allowance shall be provided for longitudinal adjustments and expansion.

1.4 The cable ladders when completed shall be smooth, free from all sharp edges and shall be capable of discharging any water that may be retained due to normal weathering.

1.5 The material used for the manufacture of cable ladders shall be either one of the followings:-

a) Mild-rolled steel sheet in accordance to JIS 3101 : 1977 or JIS 3131 : 1977.

b) Aluminium half hard-tempered sheet in accordance to BS 1470 : 1972 using aluminium alloy AA 3105/1100.

c) 2B stainless steel sheet either AISI 316L or AISI 304.



2. CABLE LADDER RAILS

- 2.1 The rail sections of the cable ladder shall be parallel and continuous without any welded joints, thrice bent to achieve 25mm flange and 100mm depth in the case of **BES-12 Series**, and 32mm flange and 127mm depth for the **BES-16 Series**, and 32mm flange and 152mm depth for **BES 20 Series**.
- 2.2 The wall thickness of materials used shall not be less than 1.5mm thick and the appropriate materials shall be recommended by the manufacturer so as to achieve the loading criteria already selected.
- 2.3 The rail section shall be able to accept a clip-on splice plate on either end, mechanically bolted to achieve structural strength at the joints. Splice plates can be removed from the rail section without having to dismantle any part of the system.

3. RUNGS

- 3.1 Rungs shall be spaced at 300mm nominal centres, welded to the rail sections by approved welding procedures.
- 3.2 Rungs shall be rectangular in section, bent four times and shall have a minimum 30mm linear length of fillet welds on each end.

- 3.3 All rungs shall be perforated in accordance to the manufacturer's design.

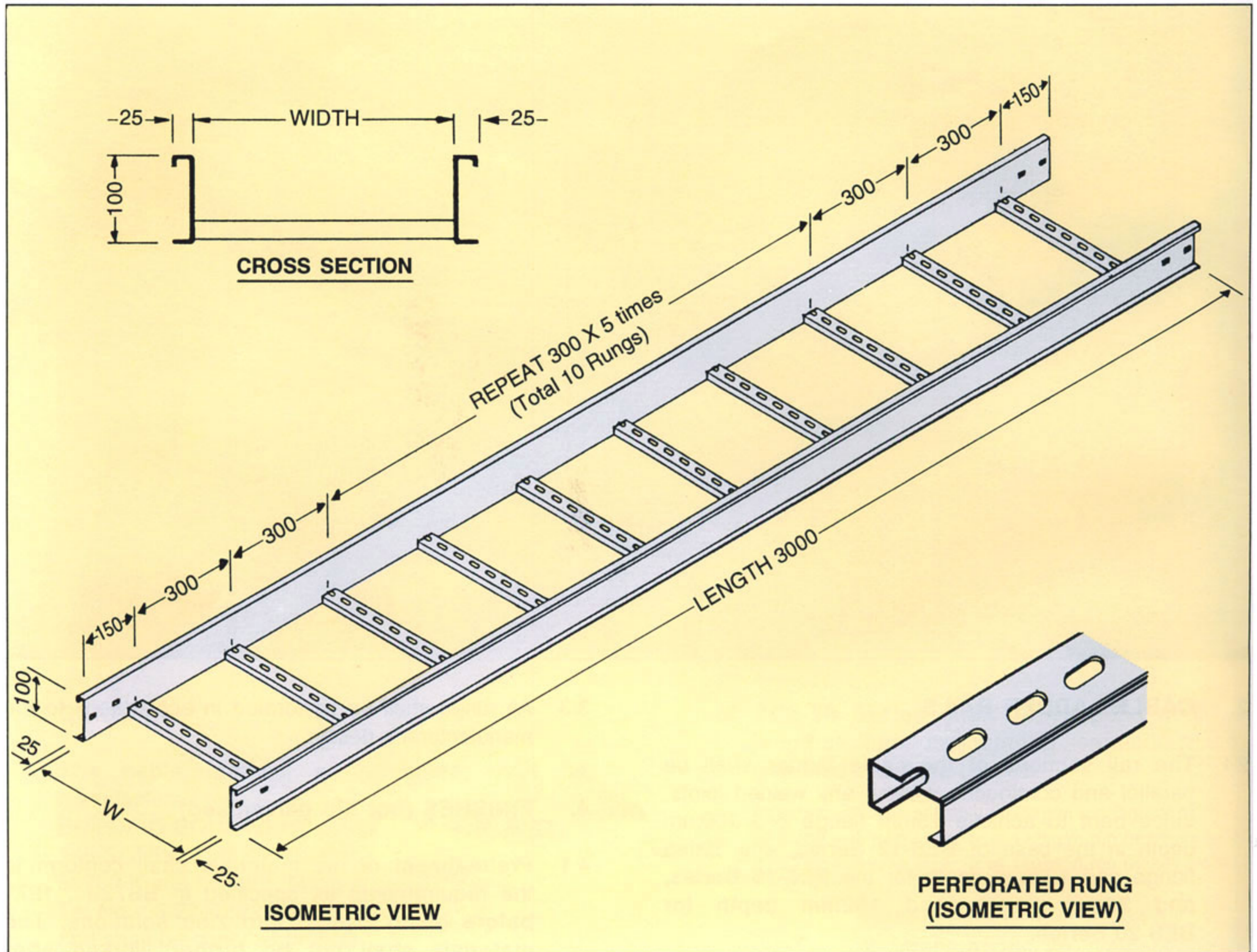
4. FINISHES (hot dip galvanised)

- 4.1 Pretreatment of the materials shall conform to the requirements as specified in BS729 : 1971 before being dipped into zinc solutions. The materials shall not be further worked after this process is completed.
- 4.2 The cable ladders shall then be galvanised by hot dip process in accordance to BS 729:1971 to achieve an average zinc coating as specified (please see pg 42 for details).
- 4.3 Galvanising by the hot dip process shall only be carried out when the temperature of the molten zinc is consistently maintained at between 440°C to 460°C. Double dipping into the zinc solution is not permitted.

5. OTHER FINISHES

- 5.1 Other surfaces finishes such as epoxy painting and pvc-coated finishes are available on request.

BES-12 SERIES CABLE TRAY (LADDER TYPE)



DESCRIPTIONS

1) **BES-12 Series** cable trays, ladder type, are classified into 3 main categories which provide for different loading capacities:-

- | | | |
|--------------------------|---|-------------|
| a) BES-12A Series | = | 75kg/m run |
| b) BES-12B Series | = | 112kg/m run |
| c) BES-12C Series | = | 150kg/m run |

2) The length of each tray shall be 3.0m long, comprising of 10 rungs spaced at 300mm nominal centres.

3) Standard widths available are - 150mm, 300mm, 450mm, 600mm, 760mm, 900mm.

4) All rungs are perforated in accordance to the manufacturer's design.

5) Maximum Cable laying depth = 75mm.

6) Choice of materials:-

a) Steel in hot dip galvanised finish in accordance to BS 729 : 1971

b) Aluminium alloy AA 3105/1100 in half hard temper and natural mill finish.

c) Stainless Steel 2B grade AISI 304 or AISI 316L.

7) Recommended support span = 3.6m. max*

ORDERING PART NUMBERS

BES-12 Series Cable Tray In Hot Dip Galvanised Finish

TYPES	BES-12A Straight Tray	BES-12B Straight Tray	BES-12C Straight Tray	Length	Width
PART NUMBERS	SCL-12A 15	SCL-12B 15	SCL-12C 15	Usual length = 3.0m.	150mm
	SCL-12A 30	SCL-12B 30	SCL-12C 30		300mm
	SCL-12A 45	SCL-12B 45	SCL-12C 45		450mm
	SCL-12A 60	SCL-12B 60	SCL-12C 60	Max length = 3.6m on request.	600mm
	SCL-12A 76	SCL-12B 76	SCL-12C 76		760mm
	SCL-12A 90	SCL-12B 90	SCL-12C 90		900mm

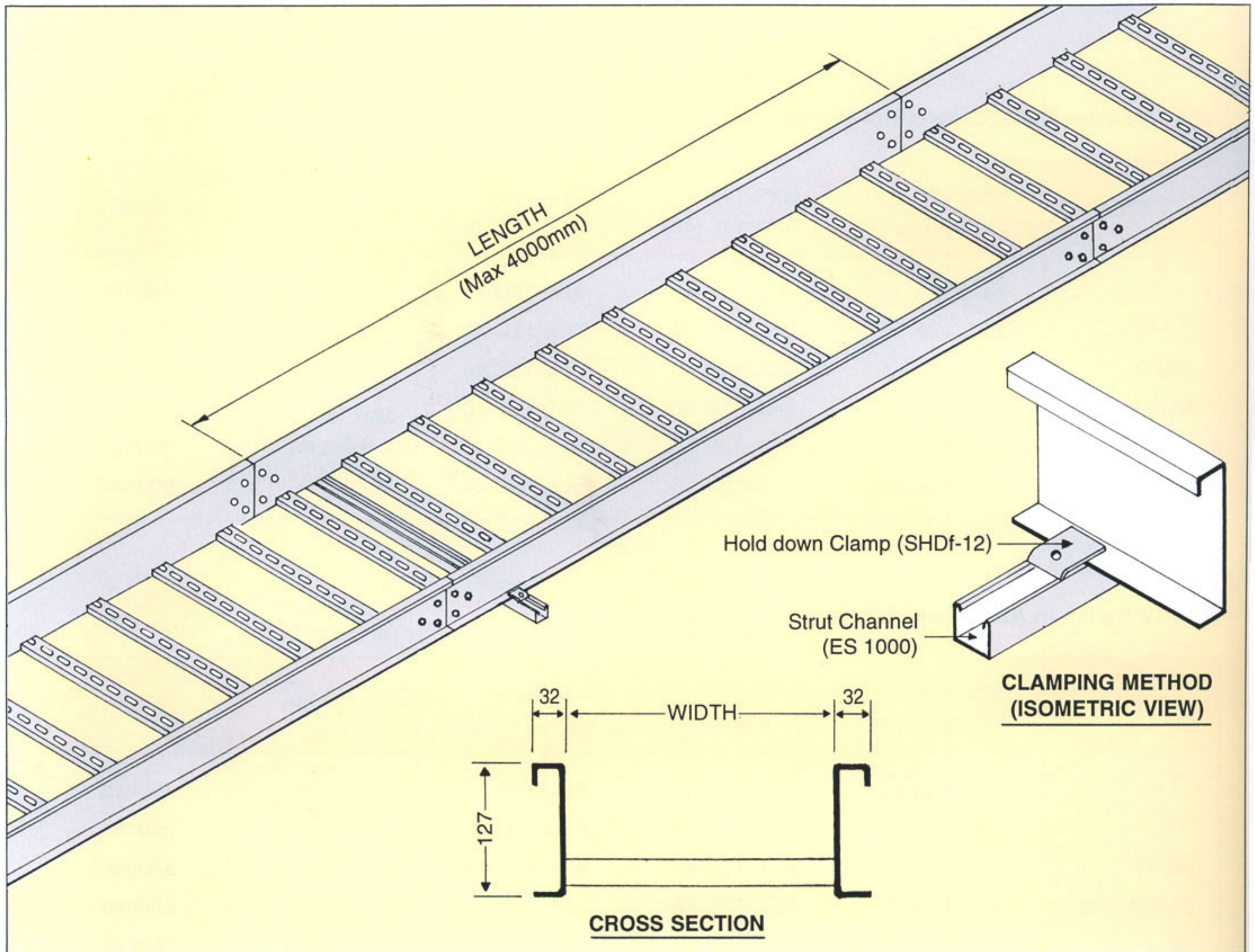
BES-12 Series In Aluminium Mill Finish

TYPES	BES-12A Straight Tray	BES-12B Straight Tray	BES-12C Straight Tray	Length	Width
PART NUMBERS	ACL-12A 15	ACL-12B 15	ACL-12C 15	Usual length = 3.0m.	150mm
	ACL-12A 30	ACL-12B 30	ACL-12C 30		300mm
	ACL-12A 45	ACL-12B 45	ACL-12C 45		450mm
	ACL-12A 60	ACL-12B 60	ACL-12C 60	Max length = 3.6m on request.	600mm
	ACL-12A 76	ACL-12B 76	ACL-12C 76		760mm
	ACL-12A 90	ACL-12B 90	ACL-12C 90		900mm

BES-12 Series In Stainless Steel 2B Finish (Specify Grade)

TYPES	BES-12A Straight Tray	BES-12B Straight Tray	BES-12C Straight Tray	Length	Width	Grade
PART NUMBERS	SSL-12A 15	SSL-12B 15	SSL-12C 15	Usual length = 2.4m or 3.0m	150mm	AISI 304 or 316L
	SSL-12A 30	SSL-12B 30	SSL-12C 30		300mm	
	SSL-12A 45	SSL-12B 45	SSL-12C 45		450mm	
	SSL-12A 60	SSL-12B 60	SSL-12C 60		600mm	
	SSL-12A 76	SSL-12B 76	SSL-12C 76		760mm	
	SSL-12A 90	SSL-12B 90	SSL-12C 90		900mm	

BES-16 SERIES CABLE TRAY (LADDER TYPE)



DESCRIPTIONS

1) **BES-16 Series** cable trays, ladder type, are classified into 3 main categories which provide for different loading capacities:-

- | | | |
|--------------------------|---|-------------|
| a) BES-16A Series | = | 75kg/m run |
| b) BES-16B Series | = | 112kg/m run |
| c) BES-16C Series | = | 150kg/m run |

2) The length of each tray is 4.0m* long, comprising of 14 rungs spaced at 300mm nominal centres.

3) Standard widths available are - 150mm, 300mm, 450mm, 600mm, 760mm, 900mm.

4) All rungs are perforated in accordance to the manufacturer's design.

5) Maximum Cable laying depth = 100mm.

6) Choice of materials.

a) Steel in hot dip galvanised finish in accordance to BS 729 : 1971

b) Aluminium alloy AA 3105/1100 in half hard temper and natural finish.

c) Stainless Steel 2B grade AISI 304 or AISI 316L.

7) Recommended support span = 4.0m. max*

ORDERING PART NUMBERS

BES-16 Series Cable Tray In Hot Dip Galvanised Finish

TYPES	BES-16A Straight Tray	BES-16B Straight Tray	BES-16C Straight Tray	Length	Width
PART NUMBERS	SCL-16A 15	SCL-16B 15	SCL-16C 15	Usual length = 3.0m.	150mm
	SCL-16A 30	SCL-16B 30	SCL-16C 30		300mm
	SCL-16A 45	SCL-16B 45	SCL-16C 45		450mm
	SCL-16A 60	SCL-16B 60	SCL-16C 60	Max length = 4.0m on request.	600mm
	SCL-16A 76	SCL-16B 76	SCL-16C 76		760mm
	SCL-16A 90	SCL-16B 90	SCL-16C 90		900mm

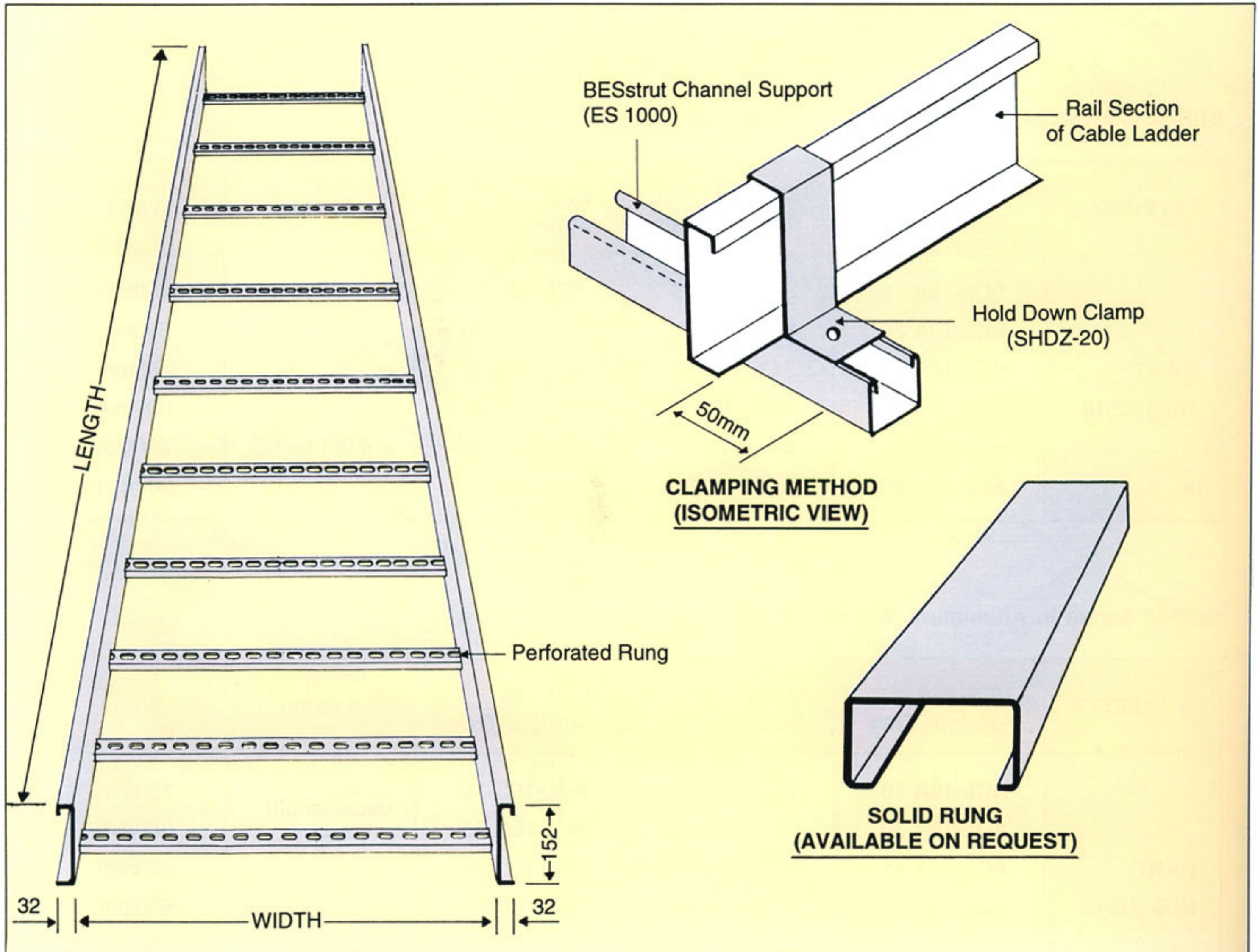
BES-16 Series In Aluminium Mill Finish

TYPES	BES-16A Straight Tray	BES-16B Straight Tray	BES-16C Straight Tray	Length	Width
PART NUMBERS	ACL-16A 15	ACL-16B 15	ACL-16C 15	Usual length = 3.0m.	150mm
	ACL-16A 30	ACL-16B 30	ACL-16C 30		300mm
	ACL-16A 45	ACL-16B 45	ACL-16C 45		450mm
	ACL-16A 60	ACL-16B 60	ACL-16C 60	Max length = 4.0m on request	600mm
	ACL-16A 76	ACL-16B 76	ACL-16C 76		760mm
	ACL-16A 90	ACL-16B 90	ACL-16C 90		900mm

BES-16 Series In Stainless Steel 2B Finish (Specify Grade)

TYPES	BES-16A Straight Tray	BES-16B Straight Tray	BES-16C Straight Tray	Length	Width	Grade
PART NUMBERS	SSL-16A 15	SSL-16B 15	SSL-16C 15	Usual length 2.4m or 3.0m	150mm	AISI 304 or AISI 316L
	SSL-16A 30	SSL-16B 30	SSL-16C 30		300mm	
	SSL-16A 45	SSL-16B 45	SSL-16C 45		450mm	
	SSL-16A 60	SSL-16B 60	SSL-16C 60		600mm	
	SSL-16A 76	SSL-16B 76	SSL-16C 76		760mm	
	SSL-16A 90	SSL-16B 90	SSL-16C 90		900mm	

BES-20 SERIES CABLE TRAY (LADDER TYPE)



DESCRIPTIONS

1) **BES-20 Series** cable trays, ladder type, are classified into 3 main categories which provide for different loading capacities:-

- | | | |
|--------------------------|---|-------------|
| a) BES-20A Series | = | 75kg/m run |
| b) BES-20B Series | = | 112kg/m run |
| c) BES-20C Series | = | 150kg/m run |

2) The length of each tray is 6m* long, comprising of 20 rungs spaced at 300mm nominal centres.

3) Standard widths available are - 150mm, 300mm, 450mm, 600mm, 760mm, 900mm.

4) All rungs are perforated in accordance to the manufacturer's design.

5) Maximum Cable laying depth = 125mm.

6) Materials:-

a) Steel in hot dip galvanised finish in accordance to BS 729 : 1971

b) Aluminium alloy AA 3105/1100 in half hard temper and natural finish.

c) Stainless Steel 2B grade AISI 304 or AISI 316.

7) Recommended support span = 6m. max*

ORDERING PART NUMBERS

BES-20 Series Cable Tray In Hot Dip Galvanised Finish

TYPES	BES-20A Straight Tray	BES-20B Straight Tray	BES-20C Straight Tray	Length	Width
PART NUMBERS	SCL-20A 15	SCL-20B 15	SCL-20C 15	Usual length = 3.0m or Max length = 6.0m on request.	150mm
	SCL-20A 30	SCL-20B 30	SCL-20C 30		300mm
	SCL-20A 45	SCL-20B 45	SCL-20C 45		450mm
	SCL-20A 60	SCL-20B 60	SCL-20C 60		600mm
	SCL-20A 76	SCL-20B 76	SCL-20C 76		760mm
	SCL-20A 90	SCL-20B 90	SCL-20C 90		900mm

BES-20 Series In Aluminium Mill Finish

TYPES	BES-20A Straight Tray	BES-20B Straight Tray	BES-20C Straight Tray	Length	Width
PART NUMBERS	ACL-20A 15	ACL-20B 15	ACL-20C 15	Usual length = 3.0m or Max length = 6.0m on request.	150mm
	ACL-20A 30	ACL-20B 30	ACL-20C 30		300mm
	ACL-20A 45	ACL-20B 45	ACL-20C 45		450mm
	ACL-20A 60	ACL-20B 60	ACL-20C 60		600mm
	ACL-20A 76	ACL-20B 76	ACL-20C 76		760mm
	ACL-20A 90	ACL-20B 90	ACL-20C 90		900mm

BES-20 Series In Stainless Steel 2B Finish (Specify Grade)

TYPES	BES-20A Straight Tray	BES-20B Straight Tray	BES-20C Straight Tray	Length	Width	Grade
PART NUMBERS	SSL-20A 15	SSL-20B 15	SSL-20C 15	Usual length 2.4m or 3.0m	150mm	AISI 304 or 316L
	SSL-20A 30	SSL-20B 30	SSL-20C 30		300mm	
	SSL-20A 45	SSL-20B 45	SSL-20C 45		450mm	
	SSL-20A 60	SSL-20B 60	SSL-20C 60		600mm	
	SSL-20A 76	SSL-20B 76	SSL-20C 76		760mm	
	SSL-20A 90	SSL-20B 90	SSL-20C 90		900mm	