

Material

Electrogalvanised (ELECTROZINC/EZ)

A steel base coated with a zinc layer by electrolysis, by means of submerging the lengths in a bath composed of a zinc solution, in accordance with BS EN ISO 2081. Depending on the type of zinc layer, it shall have a different degree of protection on the steel, avoiding corrosion and enhancing the visual appearance of the length. This treatment is carried out once the length has been formed. The IEC 61537 Standard classifies the degree of resistance to corrosion of the system's components depending on the steel's electrolytic covering, belonging to Class 1 those with a minimum thickness of 5µm and to Class 2 those of 12µm. Marshall-Tufflex uses Class 2 as its standard material in order to guarantee the quality of its products against corrosion. This treatment is used in dry environments free of pollutants.

Hot Dip Galvanised Steel (HDG) Non-standard material

Laminated or rust removed galvanised after forming steel according to BS EN ISO 1461 Standard. The steel's protection is covered by a zinc coating which varies depending on the steel's thickness, offering a uniform covering. The zinc coating's thickness depends on the thickness of the base material. The IEC 61537 Standard classifies the resistance against corrosion of these galvanised steels as Class 5 for the covering of 45µm, Class 6 for 55µm, Class 7 for 70µm and Class 8 for 85µm. Hot dip galvanised steel is used in humid environments, granting a high protection during adverse atmospheric situations, light chemical situations, light marine situations and urban situations.

Stainless Steel AISI 316 (I316) Non-standard material

Denominated 14401 according to the numerical classification established by the BS EN 10088 Standard. Steel's protection happens due to the great affinity which metals such as chromium have with oxygen, which gives place to the creation of a protective chromium oxide layer which avoids the corrosion of iron. Type I316 stainless steels are similar to type 1304, but they contain a 2.5% of molybdenum which confers it a greater resistance to localised corrosion. It is ideal for use in very corrosive environments, even at high temperatures. Under special conditions, and always under order, there is the possibility of conducting a passivation process. Passivation is a treatment which enhances stainless steel's protection against corrosion by means of forming a relatively inert film on the surface of a material which protects it against the action of external agents. The passivation

film or layer does not allow these agents to interact, reducing or stopping the chemical reaction from happening.

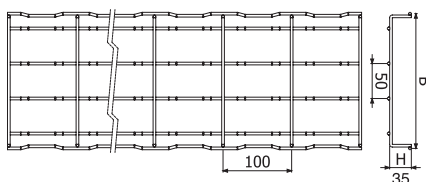
IEC 61537 Standard classifies this steel's resistance to corrosion as Class 9B without the passivation treatment and as Class 9D with the passivation treatment.

Stainless Steel AISI 316L, denominated 14401 according to the numerical classification established by the BS EN 10088 Standard has the same characteristics regarding corrosion as steel AISI 316, but offers a higher degree of welding and easier forming of the lengths with a thickness of more than 6mm.

Dimensions

Height 35mm

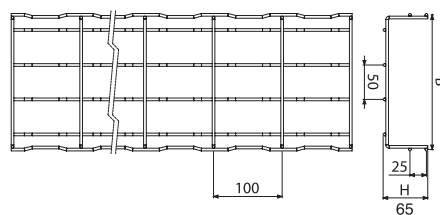
Standard Wire Basket



Please note:
B is equal to listed width of basket.

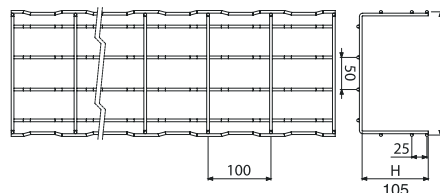
Height 65mm

Fast-Coupling Wire Basket

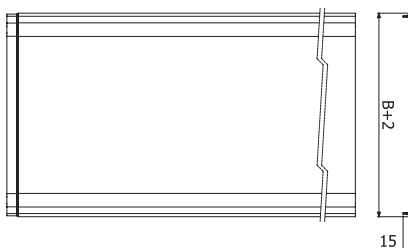


Height 105mm

Fast-Coupling Wire Basket



Cover



Working temperature

	Minimum working temperature	Maximum working temperature	According to Standard
Standard Wire Basket 35mm	-50°C	+150°C	IEC 61537
Fast-Coupling Wire Basket 65mm	-50°C	+150°C	IEC 61537
Fast-Coupling Wire Basket 105mm	-50°C	+150°C	IEC 61537

Resistance to corrosion

Atmospheric corrosion

Atmospheric corrosion happens when metal is exposed to liquids, solids or gases. Humidity, salt corrosive gases and dirt are its main factors. Atmospheric corrosion takes place in open air conditions, areas with poor ventilation and marine environments.

Saline corrosion happens when a metallic surface is exposed to different saline concentration levels forming a galvanic pile. At times where the surface is exposed to the lowest degree of saline concentration this will then behave as an anode for the corrosion to take place.

Chemical corrosion

Chemical corrosion happens when metal is directly exposed to chemical solutions. Depending on the concentration of the solution, contact time, cleaning frequency and ambient temperature the level of corrosion will be higher or lower.

Galvanic corrosion

Galvanic corrosion is the most common type of corrosion, and happens when two different metals are in contact with one another. When two different metals come into contact a small galvanic particle is created, as one metal acts as an anode the other acts as a cathode. The metal with the most negative reduction potential shall oxidise whilst the metal with the most positive charge shall have less corrosion.

Storage conditions

The product must be stored in a dry and well ventilated area. The product must not be stored outside even in low humidity conditions.

Free base area

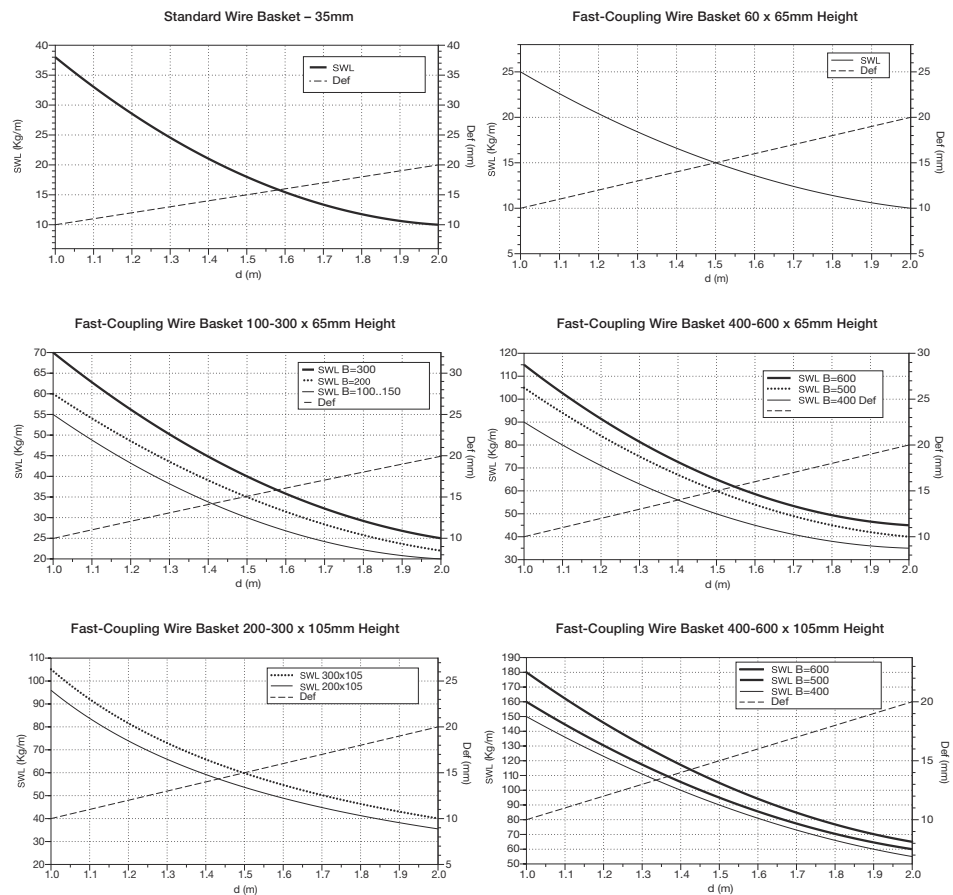
Base size	Classification	Free base area
60	Y	Over 80% and up to 90%
100	Y	Over 80% and up to 90%
150	Y	Over 80% and up to 90%
200	Y	Over 80% and up to 90%
300	Y	Over 80% and up to 90%
400	Y	Over 80% and up to 90%
500	Y	Over 80% and up to 90%
600	Y	Over 80% and up to 90%

To show the installation designer the level of ventilation allowed for the cable tray, the IEC 61537 standard established that the manufacturer has to inform of the percentage of the base 'free' (without material, in solid cable trays this means the "degree of perforation").

Safe working load (SWL)

The safe working load (SWL) is the maximum load which can be applied during normal use, without danger. Therefore, the workload shall always be less than the SWL.

The SWL of our products are calculated in accordance with IEC 61537. For any further information contact our Technical Team in +44 (0)1424 856688.



Please note:
 d is equal to distance between supports
 Def = deflection

Cable capacities

- All calculations allow for a 45% space factor.

As there can be differences between data cable sizes, Marshall-Tufflex recommend that cable dimensions are confirmed with the manufacturing company.

Basket Width (mm)	35mm Standard Basket			65mm Fast-coupling Wire Basket			105mm Fast-coupling Wire Basket		
	Without Matting	Flexible Matting	Rigid Matting	No Cablelay	With Cablelay Matting	With Cablelay Rigid	No Cablelay	With Cablelay Matting	With Cablelay Rigid
Data Cable: Ø5.5mm									
60	-	-	-	43	39	41	-	-	-
100	51	42	46	89	80	84	-	-	-
150	79	65	72	142	127	134	-	-	-
200	109	89	99	193	173	183	365	345	355
300	168	137	152	297	266	281	562	531	546
400	-	-	-	401	358	380	759	716	738
500	-	-	-	505	451	478	956	902	929
600	-	-	-	609	544	577	1153	1088	1120
Data Cable: Ø6mm									
60	-	-	-	36	33	34	-	-	-
100	42	35	39	74	67	71	-	-	-
150	66	54	60	119	107	113	-	-	-
200	92	75	83	162	145	153	307	290	298
300	141	115	128	249	223	236	472	446	459
400	-	-	-	337	301	319	638	602	620
500	-	-	-	424	379	402	803	758	781
600	-	-	-	512	457	485	969	914	941
Data Cable: Ø6.5mm									
60	-	-	-	31	28	29	-	-	-
100	36	30	33	63	57	60	-	-	-
150	56	46	51	101	91	96	-	-	-
200	78	64	71	138	124	131	261	247	254
300	120	98	109	212	190	201	402	380	391
400	-	-	-	287	256	272	543	513	528
500	-	-	-	362	323	342	684	646	665
600	-	-	-	436	389	413	825	779	802
Data Cable: Ø7mm									
60	-	-	-	26	24	25	-	-	-
100	31	26	28	54	49	52	-	-	-
150	49	40	44	87	78	83	-	-	-
200	67	55	61	119	106	113	225	213	219
300	104	84	94	183	164	173	347	327	337
400	-	-	-	247	221	234	468	442	455
500	-	-	-	312	278	295	590	557	573
600	-	-	-	376	336	356	712	671	691
Data Cable: Ø8.4mm									
60	-	-	-	18	16	17	-	-	-
100	21	18	20	38	34	36	-	-	-
150	34	28	31	60	54	57	-	-	-
200	47	38	42	82	74	78	156	148	152
300	72	58	65	127	114	120	241	227	234
400	-	-	-	172	153	163	325	307	316
500	-	-	-	216	193	205	410	386	398
600	-	-	-	261	233	247	494	466	480

Load table

Find out the load capacity of all our wire baskets. We recommend that you plan for extra space in cable pathways during the initial installation to allow capacity for future cable additions.

For spacing factors please refer to the current version of the BS 7671 Wiring Regulations.

MT Code	Description	Weight kg/m
MT2/3616	Standard 100x35mm	0.55
MT2/3617	Standard 150x35mm	0.69
MT2/3618	Standard 200x35mm	0.83
MT2/3619	Standard 300x35mm	1.18
MT2/7389	Fast coupling 60x65mm	0.54
MT2/7248	Fast coupling 100x65mm	0.79
MT2/7249	Fast coupling 150x65mm	0.84
MT2/7250	Fast coupling 200x65mm	1.09
MT2/7251	Fast coupling 300x65mm	1.60
MT2/7394	Fast coupling 400x65mm	1.94
MT2/7395	Fast coupling 500x65mm	2.72
MT2/7396	Fast coupling 600x65mm	3.13
MT2/7397	Fast coupling 200x105mm	1.59
MT2/7398	Fast coupling 300x105mm	1.93
MT2/7399	Fast coupling 400x105mm	2.71
MT2/7400	Fast coupling 500x105mm	3.12
MT2/7401	Fast coupling 600x105mm	3.53

EMC and data

It is recommended to separate power and data circuits by a minimum of 20cm. (EN 50174-2)

Where power and data circuits must cross, this must be done at 90 degrees.

Wire Basket systems without electrical continuity do not protect against electromagnetic fields. Make sure electrical continuity is preserved by using the appropriate earth bonding accessories.

Electrical continuity

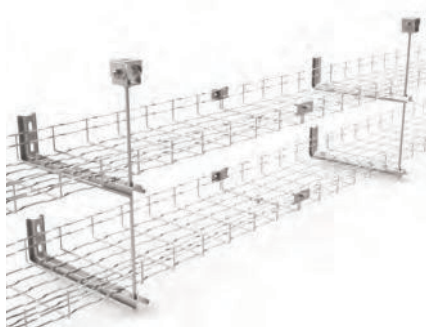
Our Fast-Coupling Wire Basket conforms to IEC 61537. The wire mesh basket has an impedance lower than:

- ⚡ 50mΩ across the joint
- ⚡ 5mΩ per metre in a straight section

Fire resistance

Marshall-Tufflex and Basor Electric certifies that the wire basket installed with the below mentioned characteristics complies with Class E90 of function maintenances, in accordance with Standard DIN 4102, Section 12.

This system incorporates Standard Wire Basket with a height of 65mm. This system uses Fast Fix Wall Bracket supports fixed to the wall and reinforced on the ceiling using the Variable Support Bracket, M8 Threaded Rod and M8 Nut on one side, as per the below image.



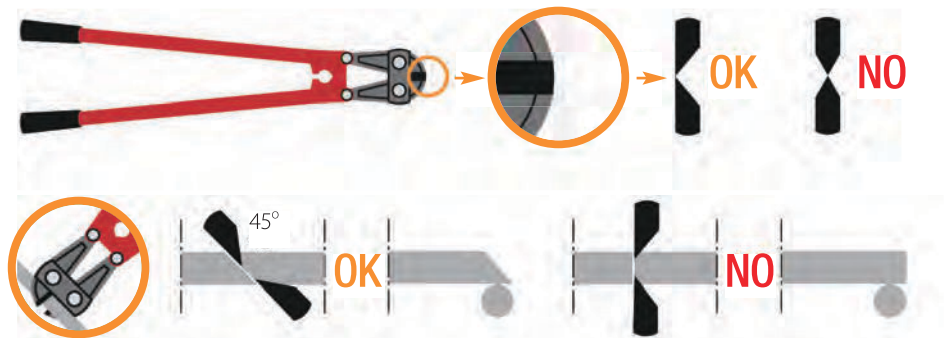
The distance between supports is of 1.2m and the maximum load is of 10kg/m. The system may have one or two levels.

Earth bonding

For earth bonding requirements please refer to the current version of the BS 7671 Wiring Regulations.

Cutting

Always use asymmetrical cut wire cutters. Cut as close as you can to where horizontal and vertical rods cross each other, as shown.

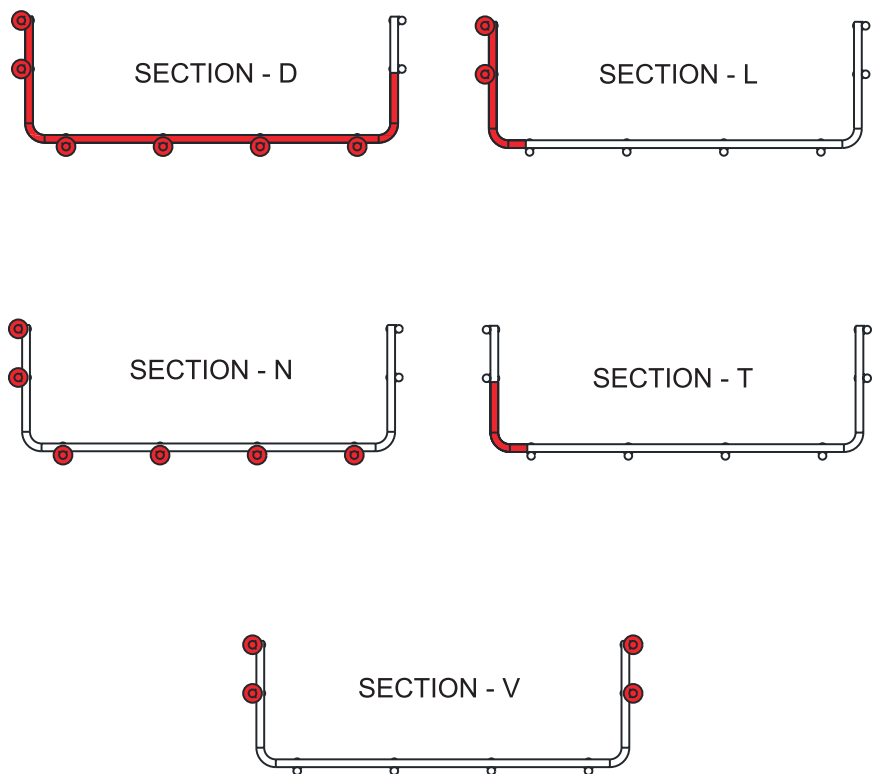


We recommend always placing the basket on a flat surface to make the cuts.

Wire gauge:

- 100mm - 200mm Width = 4.0mm
- 300mm - 400mm Width = 4.3mm
- 500mm - 600mm Width = 4.6mm

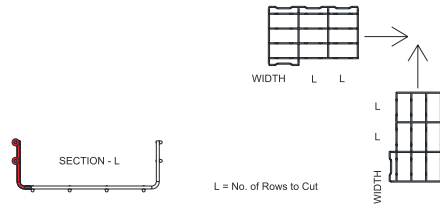
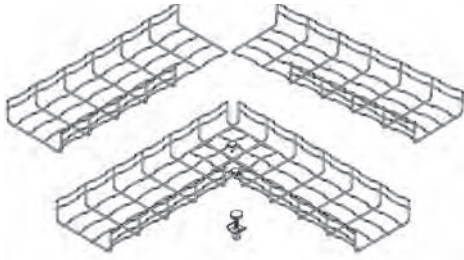
The below drawings show in red the section cuts that are needed for the bends, tees and changing levels as explained in the Installation section on pages 291-292.



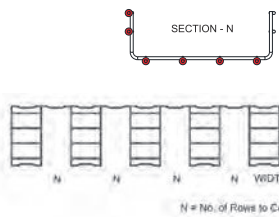
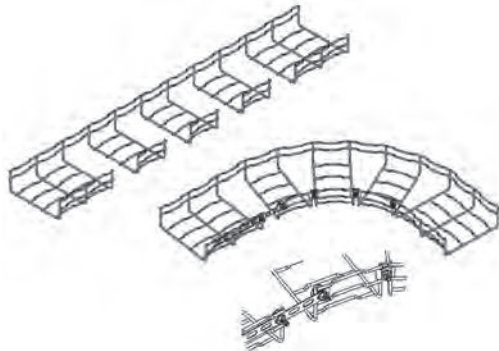
Installation

The following drawings show in red the sections that should be removed to make the associated join or bend.

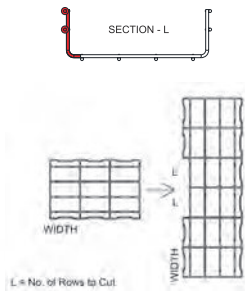
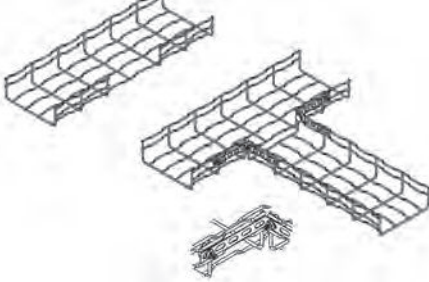
Horizontal bend from two straight sections



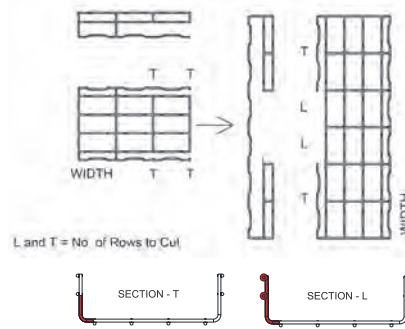
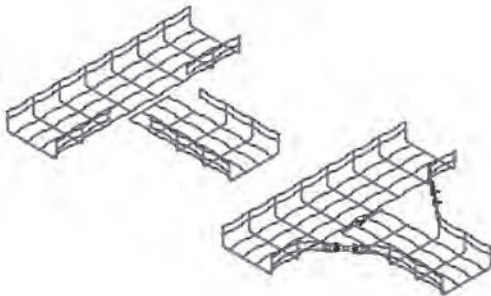
Horizontal bends long radius – right angle



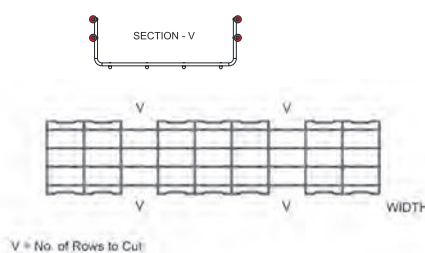
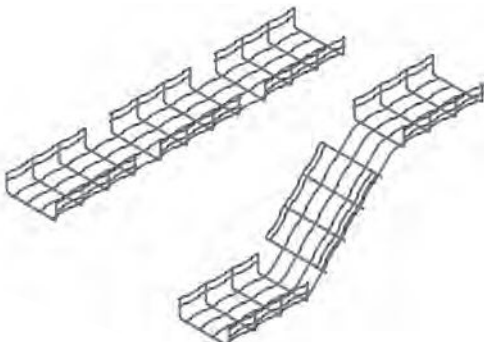
Horizontal tees



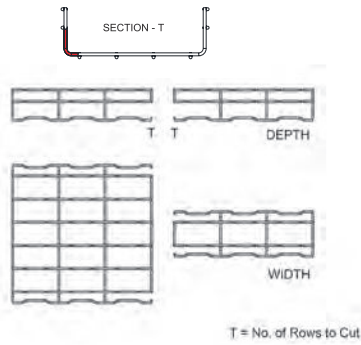
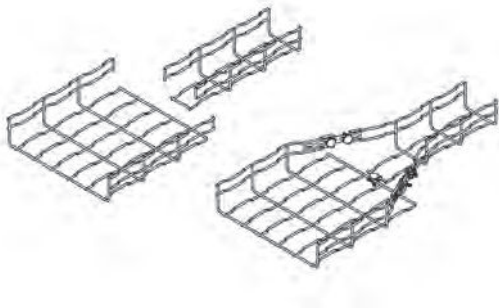
Tee with large radius



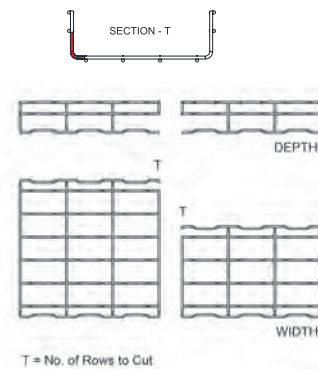
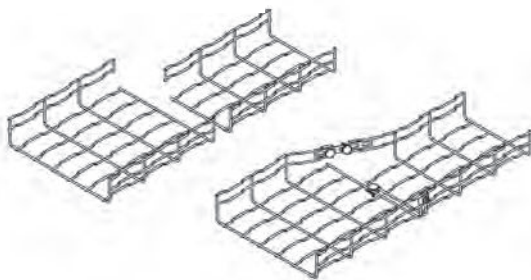
Vertical inside and outside bends



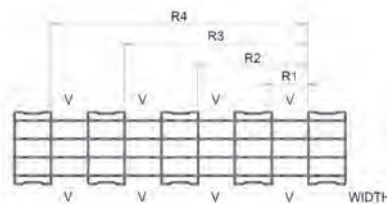
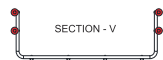
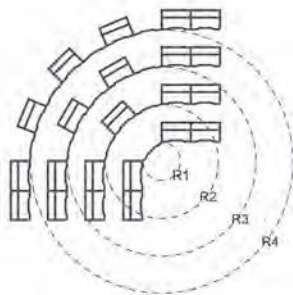
Reducers straight



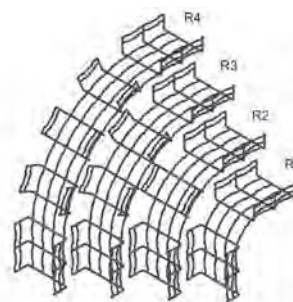
Reducers left or right



Vertical bends



V = No. of Rows to Cut



Radius	Radius diameter	Number of rows that will need to be cut
R1	64mm	1 row
R2	190mm	2 rows
R3	320mm	3 rows
R4	445mm	4 rows