

Marshall-Tufflex

Odyssey Trunking System

CI/SfB

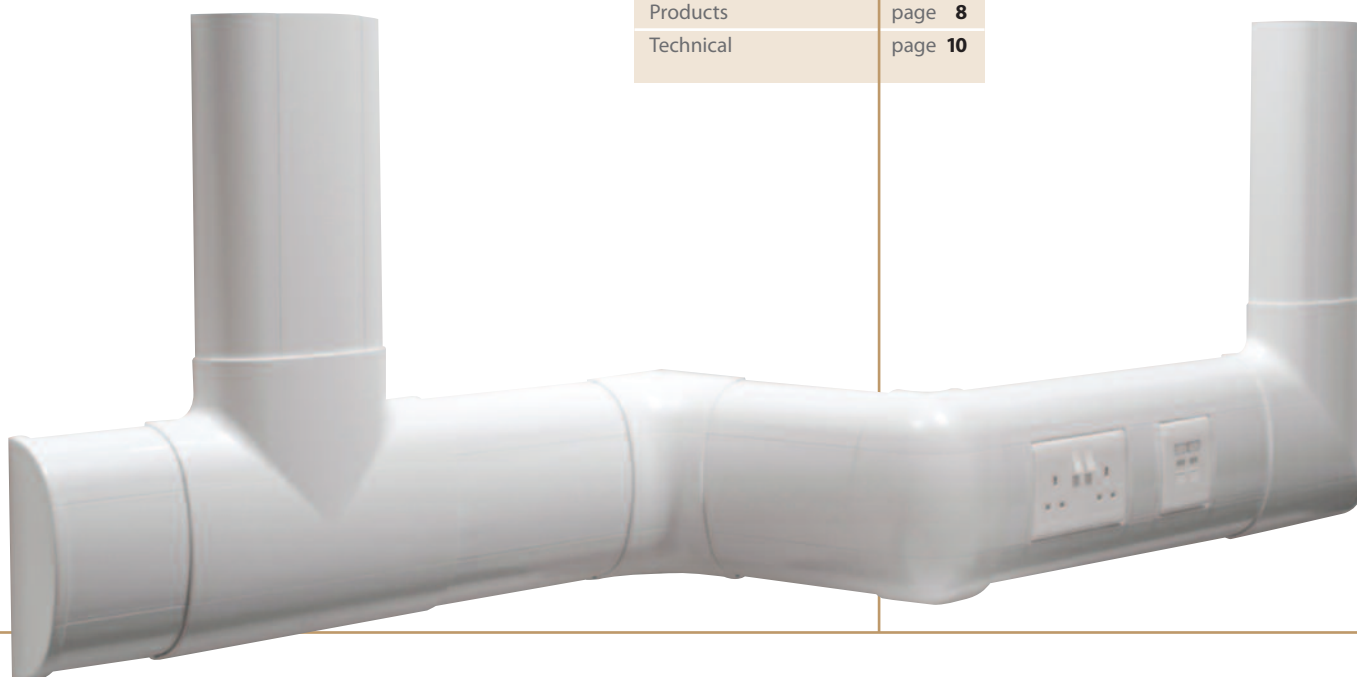
(62) In6



www.marshall-tufflex.com



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Odyssey from Marshall-Tufflex

Odyssey is the first and only trunking system with a completely curved profile and has been designed specifically with health, education and office environments in mind. Odyssey provides a full range of application features including:

- Design led aesthetics
- Cat 6 compliance
- Compliance with Part M of the UK Building Regulations
- Antimicrobial option available
- Electromagnetic Shielding option available

Marshall-Tufflex manufacture and supply a broad range of PVC-U, steel and aluminium products to ensure that whatever the building design and specification, there will always be the perfect product to suit.

Proud to be known as a leading cable management manufacturer and with 65 years experience, our extensive range of cable management products are available from a network of wholesalers nationwide and from distributors across the world.

As a British-based, family-owned company, our priority is to re-invest for the future and to constantly pioneer new and effective solutions.

Dedicated to achieving high service levels, we are in a position to react quickly to your requirements, and provide product accurately, on time, every time. Also our network of sales engineers, supported by advice from our technical team means immediate assistance and complete peace of mind.

We are holders of the ISO 14001 Environmental Management certification. However, we view this as a minimum and practice recycling throughout our operations, to minimise our impact on the environment.

Odyssey features & benefits

Odyssey has been designed both to enhance the look of a room and to provide all the practical features that ensure fast and easy installation.

The way it looks

- Easier on the eye with its impressively stylish curved profile.
- Curved profile avoids dust traps, cluttered surfaces and makes cleaning easy.
- A unique appearance with specially designed wrap-around covers that give added security.
- Aesthetic appearance is enhanced with sight lines on all fittings.
- Smoother lines with no couplers required on moulded tees, flat angles and recessed curved accessories.

The ease of installation

- Faster to install as no mitreing or cutting of corners is required.
- Cabling is easier with a specially designed internal cable tray.
- Difficult angles and building intolerances can be managed with Cat 6 adjustable bends +/- 5° flexibility.
- Cat 6 Fixed bend options are also available.
- Pre-punched base means quick installation as no drilling is required.

The special features

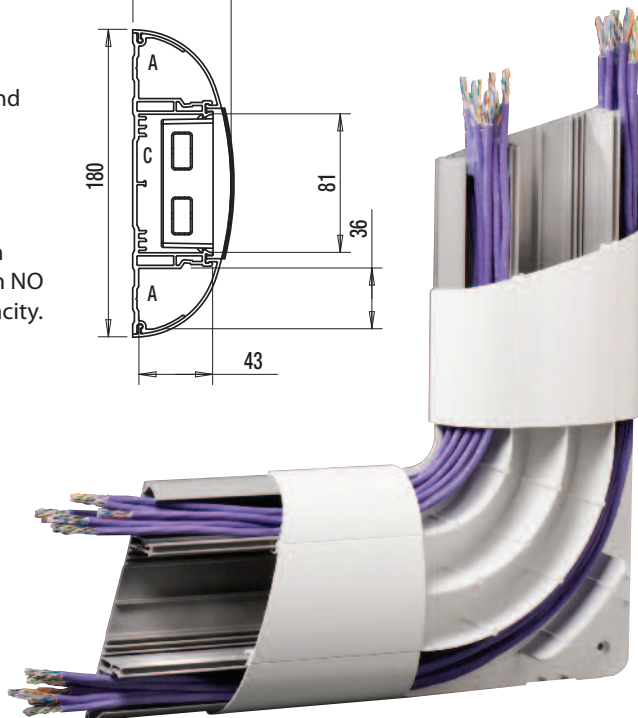
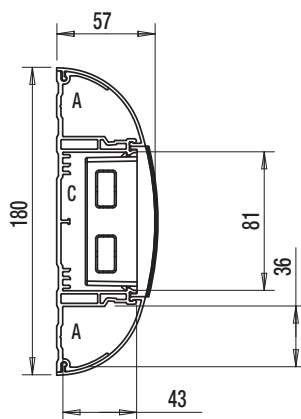
- Simple and cost-effective Part M compliance with coloured accessory boxes.
- Tamper resistant trunking (schools/high security) with fittings that locate with a special clip design. Also includes a lock feature for adjustable corners.
- Full segregation for data cables.
- EMI screening is available with no reduction of cable capacity with unique copper spray.
- Cat 6 corners fully contained for maximum protection and screening.
- High quality and strength with thicker gauge plastic.
- Excellent environmental performance using 100% recyclable materials.
- Steel screening divider is available to comply with BS EN 50174-2
- Cat 6 compliant moulded tees and flat angles.



Cat 6 Compliance

Accommodating the increasing performance requirements of current and future data networks requires a cable management system that is adaptable to those demands.

- Bend radius of 25mm.
- Adjustable depth data boxes for Cat 6 compliance.
- Using a steel screening divider and a minimum 50mm power/data separation gives compliance to BS EN 50174-2.
- Full compartment copper spray screening is available to assist in meeting EMC Directive and with NO reduction of compartment capacity.



Dimensions 180 x 57mm

Cable Capacity UTP

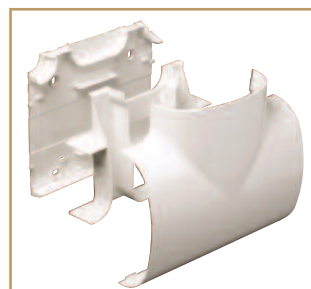
Compartment	45%	100%
A	13	30
C* (with accs box)	10	23
C (without accs box)	38	85

Cable Capacity STP

A	11	26
C* (with accs box)	9	20
C (without accs box)	32	74

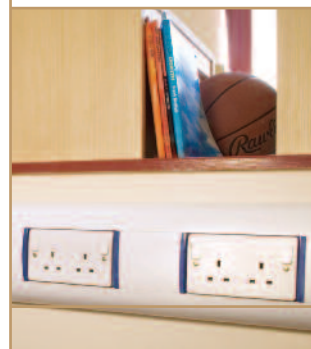
*Capacity calculated using 30mm deep accessory box.

When calculating number of cables for 100% capacity, reduce by 15% in compartments without accessory boxes to allow for internal and external corners.



Odyssey colours and compliance with PART M

Odyssey complies with Part M of the UK Building Regulations through a range of coloured accessory boxes. The boxes feature Odyssey's unique flange design which contrasts with the trunking and standard white plate accessories to meet Disability Discrimination Act regulations for visual impairment.



Odyssey Bio Trunking Solutions

Why use antimicrobial PVC-U trunking?

Certain microbial organisms are harmful to people and can proliferate to cause infections and disease. There is a need to control the spread of these organisms, particularly in environments such as

- Hospitals and laboratories
- Surgeries
- Nursing and care homes
- Schools
- Medical units
- Sports and health centres

Built-in protection

Where hygiene is a priority, we can now offer a range of Bio trunking systems with integral antimicrobial properties that prevent 99.9% of harmful bacteria growth.

The special bio formulation is integral to the PVC-U material and as a result there is no reduction in effectiveness – even if scratched or damaged.

Under test

Two tests, one for MRSA and one for Klebsiella Pneumoniae were carried out in accordance with ISO 22196:2007 which is a quantitative test – i.e. a Bio sample and non-Bio sample were exposed to a known quantity of bacteria under laboratory conditions. After 24 hours, the quantity of bacteria still present was measured.

TEST RESULTS: Marshall-Tufflex Report #2422431 **LABORATORY:** Thomson Research Associates Inc., Ontario, Canada

TEST ORGANISM: Methicillin Resistant Staphylococcus Aureus (MRSA)

Quantitative Assessment of Activity – ISO 22196:2007 MRSA					
Concentration of starting inoculum			4.94 x 10 ⁵ CFU/mL		
Sample Description		Number of bacteria recovered	Log Value	R = [log(B/C)]	% Survival
1.	Standard PVC	7.19 x 10 ⁶	6.9	-----	-----
2.	Marshall-Tufflex Bio PVC	<2.00 x 10 ¹	<1.3	>5.6	<0.1%

Sample 2 showed excellent control of both MRSA and Klebsiella Pneumoniae with a greater than 99.9% reduction in bacteria compared to the untreated Sample. The bacteria grew on the untreated sample.

TEST RESULTS: Marshall-Tufflex Report #2422435 **LABORATORY:** Thomson Research Associates Inc., Ontario, Canada

TEST ORGANISM: Klebsiella Pneumoniae

Quantitative Assessment of Activity – ISO 22196:2007 Klebsiella Pneumoniae					
Concentration of starting inoculum			4.94 x 10 ⁵ CFU/mL		
Sample Description		Number of bacteria recovered	Log Value	R = [log(B/C)]	% Survival
1.	Standard PVC	3.06 x 10 ⁶	6.5	-----	-----
2.	Marshall-Tufflex Bio PVC	4.01 x 10 ²	2.6	3.9	<0.1%

Sample 2 showed excellent control of both MRSA and Klebsiella Pneumoniae with a greater than 99.9% reduction in bacteria compared to the untreated sample 1. The bacteria grew on the untreated sample.

Bio solutions are available for most of the Marshall-Tufflex PVC-U trunking ranges.

For further information call our Technical Team on +44 (0) 1424 856688.

Bio Trunking Solutions offer:

- Prevention of harmful bacteria growth, such as MRSA, Klebsiella Pneumoniae, E-coli, Pseudomonas Aeruginosa, Salmonella and Streptococci.
- Antimicrobial properties inherently formulated into PVC-U.
- A durable, non-leaching antimicrobial treatment.
- Testing to ISO 22196:2007.
- Registration with the Environmental Protection Agency (EPA).
- Compliance with the European Biocidal Products Directive (BDP).
- Proven reductions in bacterial viable count by more than 99.9%.
- Antimicrobial treatments provide an extra level of protection when combined with normal cleaning procedures.



BIO TRUNKING CASE STUDY

FOR: Derriford Hospital, Plymouth

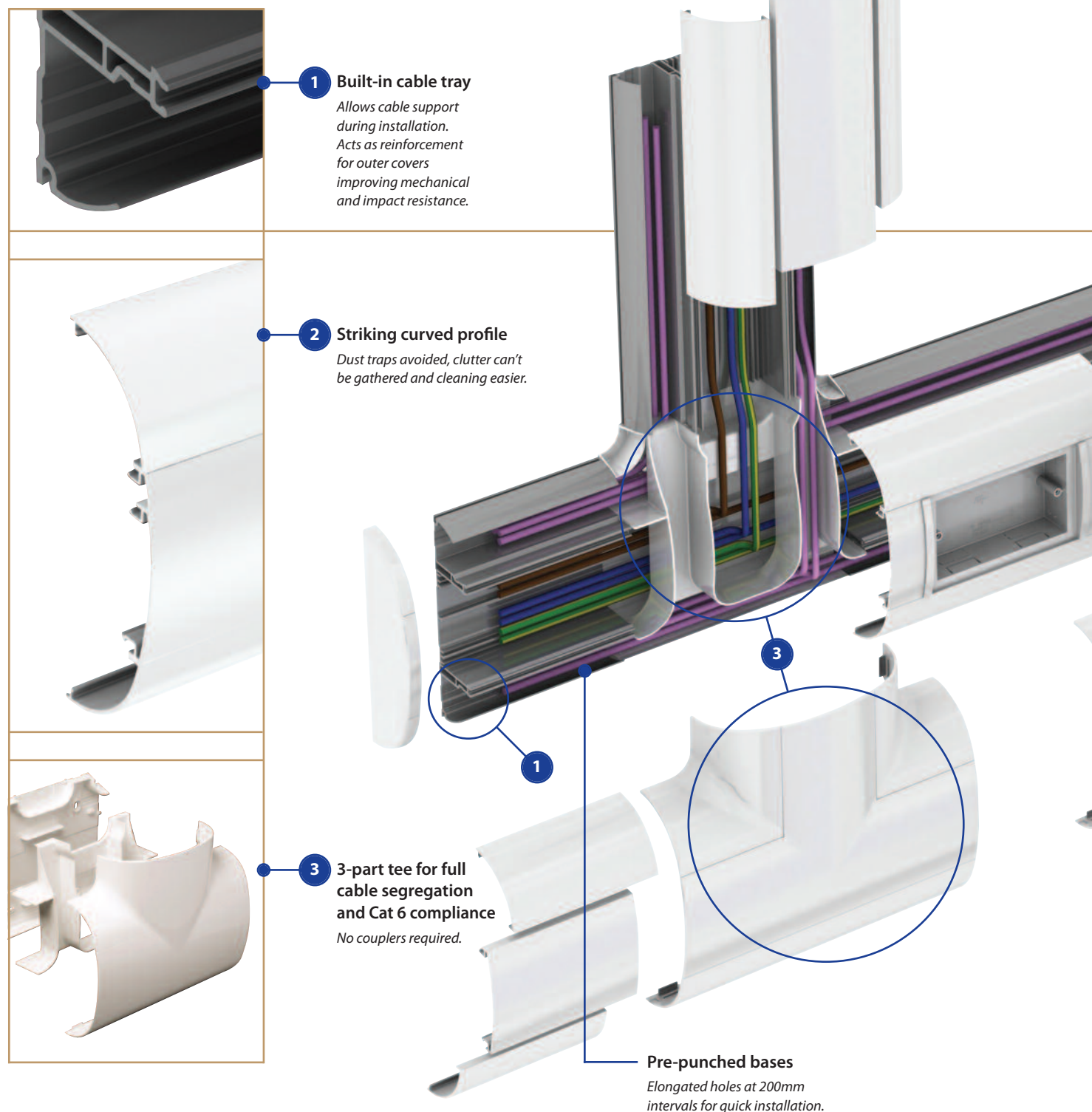
SPECIFIER: Plymouth Hospitals NHS Trust, Electrical Estates Department

INSTALLER: Dodd Group South Western

The Marshall-Tufflex Bio Trunking Solution proved perfect for the eleven operating theatres at Derriford Hospital, Plymouth, an acute general hospital that is part of Plymouth Hospitals NHS Trust.

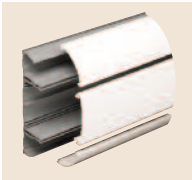
Odyssey components

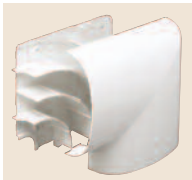
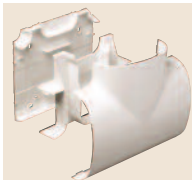
Odyssey has been designed both to enhance the look of an installation and provide all the practical features that ensure fast and easy installation.



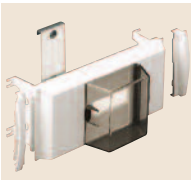
- Colours and foils available by request (minimum order quantities apply).
- Electromagnetic Shielding option assists in meeting EMC Directive and gives NO reduction of cable capacity.
- An Electromagnetic Shielding Bio option is also available.

Please call the Technical Hotline on +44 (0) 1424 856688 to discuss your requirements for any of these variations.

					
Description	Trunking Assembly	Coupler	End Cap	Internal Bend	Internal Bend Adjustable
Product Code	DD1	DD1210	DD1230	DD1310	DD1330
EMC Product Code	DD1001/DD1002##	DD1212	DD1232	DD1312	DD1330
Bio Product Code	DD1B	DD1213	DD1233	DD1313	DD1333
Size	180 x 57mm				85-95°
Pack	1 x 3m	1	2	1	1

				
Description	External Bend	External Bend Adjustable	Flat Angle	Flat Tee
Product Code	DD1350	DD1370	DD1410	DD1430 **
EMC Product Code	DD1352	-	DD1412	DD1432**
Bio Product Code	DD1353	DD1373	DD1413	DD1433
Size	180 x 57mm	85-95°		280mm wide
Pack	1	1	1	1

					
Description	Accessory Box 1 Gang	Accessory Box 2 Gang	Accessory Box 3 Gang	Acc Box Adjust 1 Gang	Acc Box Adjust 2 Gang
Product Code	DD1510	DD1520	DD1530*	DD1540*	DD1550*
EMC Product Code	DD1511	DD1521	-	-	-
Bio Product Code	DD1513	DD1523	DD1533	-	-
Depth	30mm	30mm	30mm	32-40mm	32-40mm
Pack	20 (EMC Pack=1)	10 (EMC Pack=1)	1	1	1

					
Description	Accessory Adaptor	RCD Housing	Bonding Strap	Steel Screening Divider	Steel Screening Divider Bonding Strap with clips
Product Code	DD1590	DD1580	DD1711	DD1730	DD1710
Bio Product Code	DD1593	DD1583	-	-	-
Size		1-4 modules		1.5m	
Pack	2	1	5	10	5

* Accessory Adaptor DD1590 required to align accessory box to centre cover.

##EMC on compartment 1 only – DD1001
EMC on compartment 1 & 3 – DD1002

**Flat Tee Cover only option available. Please call the Technical Hotline: +44 (0) 1424 856688.

Optional steel screening divider to comply with BS EN 50174-2.

Odyssey is compatible with MT32

The Marshall-Tufflex **MT32 Power Connection System** is pre-wired, pre-tested and designed for fast installation of complete cabling runs from power source to final accessory, outlet or application.

Using a patented compact 32amp connector, MT32 can be used to install power within Odyssey trunking and many other Marshall-Tufflex containment systems.

Click together without tools

The 3 or 4 pole, male and female connectors simply click together. No tools are required to connect or terminate cables.

Pre-wired, pre-tested

Safe and problem-free connections can be made with pre-wired, pre-tested components from our carefully controlled manufacturing facility. No on site cable preparation is needed, only final circuit testing is required.

Meet deadlines

The speed at which this system can be installed makes deadlines more achievable and offers significant time-savings to contractors.

Safe and simple

Connectors are keyed and cannot be incorrectly installed so guaranteeing consistent connection and polarity.

Adapt other systems

Virtually any existing wiring system can be adapted to interact with MT32.

Re-use or re-configure

MT32 is re-usable and is ideally suited to environments where layouts may need to be re-configured in the future or for temporary applications.

Save time, save cost!

Using MT32 allows you to complete an electrical installation up to 80% faster in comparison with traditional installation methods. Overall contract savings can be up to 50%.

MT32 can also be used for power installations such as, Main Distribution Board Home Runs, Lighting Systems, Underfloor Distribution Systems, Dry Lining and Surface Mount Applications.

For further details, visit www.mt32.co.uk or to discuss a future project call our Technical Team on +44 (0) 1424 856688.



Technical

STANDARDS & APPROVALS

- The Odyssey Trunking System is manufactured in accordance with the requirements of BS 4678 PT4 and BS EN 50085 Trunking Standards.
- The system complies with all the relevant requirements of the latest edition of BS 7671 (IEE Wiring Regulations).
- Marshall-Tufflex's commitment to continuous improvement and quality has been recognised through our certification to BS EN ISO 9001:2000
- Marshall-Tufflex products that come within the scope of the Low Voltage Directive (LVD) will be CE marked to confirm that they meet the necessary requirements of this directive.
- Optional steel screening divider to comply with BSEN 50174-2.

MANUFACTURE, FIRE PERFORMANCE AND CHEMICAL RESISTANCE

Extrusion

All bases and lids are produced in Extra Super High Impact PVC-U grade material capable of withstanding the most hazardous conditions on site. This material exceeds the most stringent requirements of the British Standards.

Characteristics of Marshall-Tufflex Extra Super High Impact PVC-U

Specific Gravity	1.42
Co Efficient of Linear Expansion	$7 \times 10^{-5}/m/^{\circ}C$
Water Absorption	Negligible
Electric Strength	To the requirements of BS 4678, BS EN 50085
Fire Performance	BS 476 PT6 & PT7 1Y BS 4678 PASS BS EN 50085 PASS UL94 V-0 @ 1.6mm
Oxygen Index	42%
Tensile Strength	492/562 kg/cm ² (7,000/8,000 lb per sq in)
Insulation Resistance	To the requirements of BS4678, BS4607, BS6099 BS EN 50085, BS EN 50086
Chemical Resistance	See below

Moulded Fittings

All moulded fittings are manufactured from High Impact Fire Retardant ABS.

Characteristics of Marshall-Tufflex High Impact Fire Retardant ABS

Vicat Softening Point	ISO 306	96°C
Density	1.18g/cm ³	
Material	UL listed	
Fire Performance	BS 4678 BS EN 50085 UL94	PASS PASS V-0 @ 1.6mm
Water Absorption	DIN53 495/L	0.3%

CHEMICAL RESISTANCE

Good chemical resistance to inorganic salt solutions, alkalis, mineral acids (except strong oxidising acids) and some mineral, vegetable and animal based oils. It is attacked by organic solvents such as alcohols, esters, ketones and ethers.

THERMAL PROPERTIES

Marshall-Tufflex trunking is designed to accommodate variations of ambient temperature equating to 5.25mm/3m for a temperature rise of 25°C.

Operating temperatures: -5 to 60°C.

INTERNAL AND EXTERNAL ADJUSTABLE BENDS

Internal and external adjustable bend angles will allow adjustment between 85° and 95° to accommodate building tolerances.

DIMENSIONAL REFERENCE FOR OFFSETS

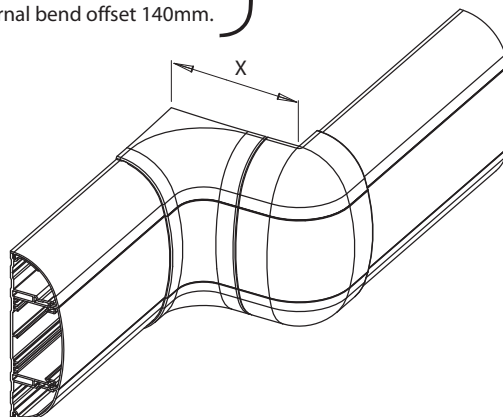
The minimum set that can be accommodated in the same plane (from internal to external bend) is shown below:

Fixed bend offset 138mm.

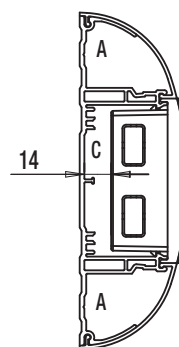
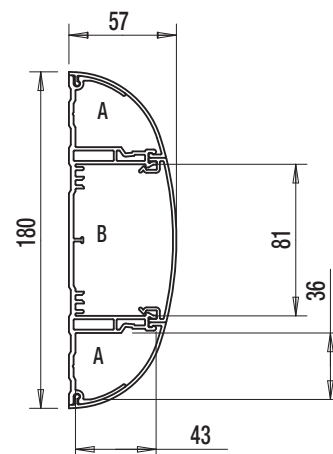
Adjustable bend offset 165mm.

Adjustable external bend fixed internal bend offset 163mm.

Adjustable internal bend fixed external bend offset 140mm.



DIMENSIONS



Cross section area :
A = 1256.2 sq mm
B = 4022.6 sq mm
C = 1230.5 sq mm

CABLE CAPACITIES

Conductor Type	Size	Cable Factor	Max Number of Cables in A @ 45% Fill	Max Number of Cables in B @ 45% Fill	Max Number of Cables in C @ 45% Fill
Stranded PVC Power	1.5mm ²	8.6	65	210	64
Stranded PVC Power	2.5mm ²	12.6	44	143	43
Stranded PVC Power	4.0mm ²	16.6	34	109	33
Stranded PVC Power	6.0mm ²	21.2	26	85	26
Cat.5e UTP	Ø 5.5mm*	30.2	18	60	18
Cat.5e STP	Ø 6.0mm*	36	15	50	15
Cat.6 UTP	Ø 6.5mm*	42.2	13	43	13
Cat.6 STP	Ø 7.0mm*	49	11	37	11

*Typical values, check with manufacturer

Environmental



Marshall-Tufflex actively pursues a comprehensive programme to develop material formulations based on environmentally acceptable materials, whilst still maintaining and, where possible, improving on long-term performance properties.

Jim Fletcher, Managing Director

Marshall-Tufflex is recognised by the BSI as a firm of Assessed Capability to BS EN ISO 14001:2004.

Carbon assessment

The Carbon Trust was set up by Government in 2001 as an independent company. Their mission is to accelerate the move to a low carbon economy by working with organisations to reduce carbon emissions and develop commercial low carbon technologies.

Marshall-Tufflex was assessed by the Carbon Trust in 2007 and received an excellent report.

Sustainability

Odyssey is manufactured from PVC-U, a material that is 100% recyclable and has excellent fire performance.

MT32 Power Connection is an LSOH wiring system that is completely re-usable. Where layouts may need to be re-configured in the future, or for temporary applications, all major components can be disassembled and re-used.



Marshall-Tufflex and Vinyl 2010

Marshall-Tufflex is dedicated to meeting the requirements of Vinyl 2010 and its Voluntary Commitment to the European Commission. www.vinyl2010.org

RECYCLING

Marshall-Tufflex is active in and financially supports various industry bodies in driving the industry forward in the use and control of PVC-based materials, with the aim of increasing awareness and use of recycled material.

All materials used in the manufacture of the Odyssey Trunking System are 100% recyclable.



Certificate No. Q05393
Registration
BS EN ISO 9001:2000

Quality Management Systems:

Marshall-Tufflex is totally committed to quality and customer satisfaction and the Company is recognised by the British Standards Institution as a firm of Assessed Capability to BS EN ISO 9001:2000.



Certificate No. EMS 539245
Registration
BS EN ISO 14001:2004

Environmental Management Systems:

PVC-U is a proven superior material and offers major environmental benefits. Marshall-Tufflex is recognised by the BSI as a firm of Assessed Capability to BS EN ISO 14001:2004.

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In pursuance of our policy of continued product improvement Marshall-Tufflex reserve the right to change the design or specification of its products without notification.

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