THINKING PRECAST?
THINK FP MCCANN

POWER & INFRASTRUCTURE SOLUTIONS

v.2.8

SERVICE TRENCH SOLUTIONS

AIRPORT PITS

COMMS BOXES

TROUGH SYSTEMS

FIRE WALLS

POWER & INFRASTRUCTURE SOLUTIONS

bsi. ISO 9001 Quality Management

bsi. OHSAS 18001 Occupational Health and Safety Management

OUR COMPANY

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our fourteen UK manufacturing facilities, FP McCann offers solutions that include architectural and structural solutions, rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power and agricultural products. FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

OUR COMPREHENSIVE PRECAST CONCRETE BUSINESS EXTENDS TO INCLUDE:

AGRICULTURE | BOX CULVERTS | BUILDING PRODUCTS | CONCRETE ROOF TILES DOCK LEVELLER PITS | DRAINAGE | FENCING | FILTER BED SYSTEMS FLOORING | POWER & INFRASTRUCTURE | PRECAST OFF-SITE BUILDING SOLUTIONS RAIL | SPECIALIST PRECAST | TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING

Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Leicestershire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Toomebridge (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

ENGLAND & WALES ENQUIRIES

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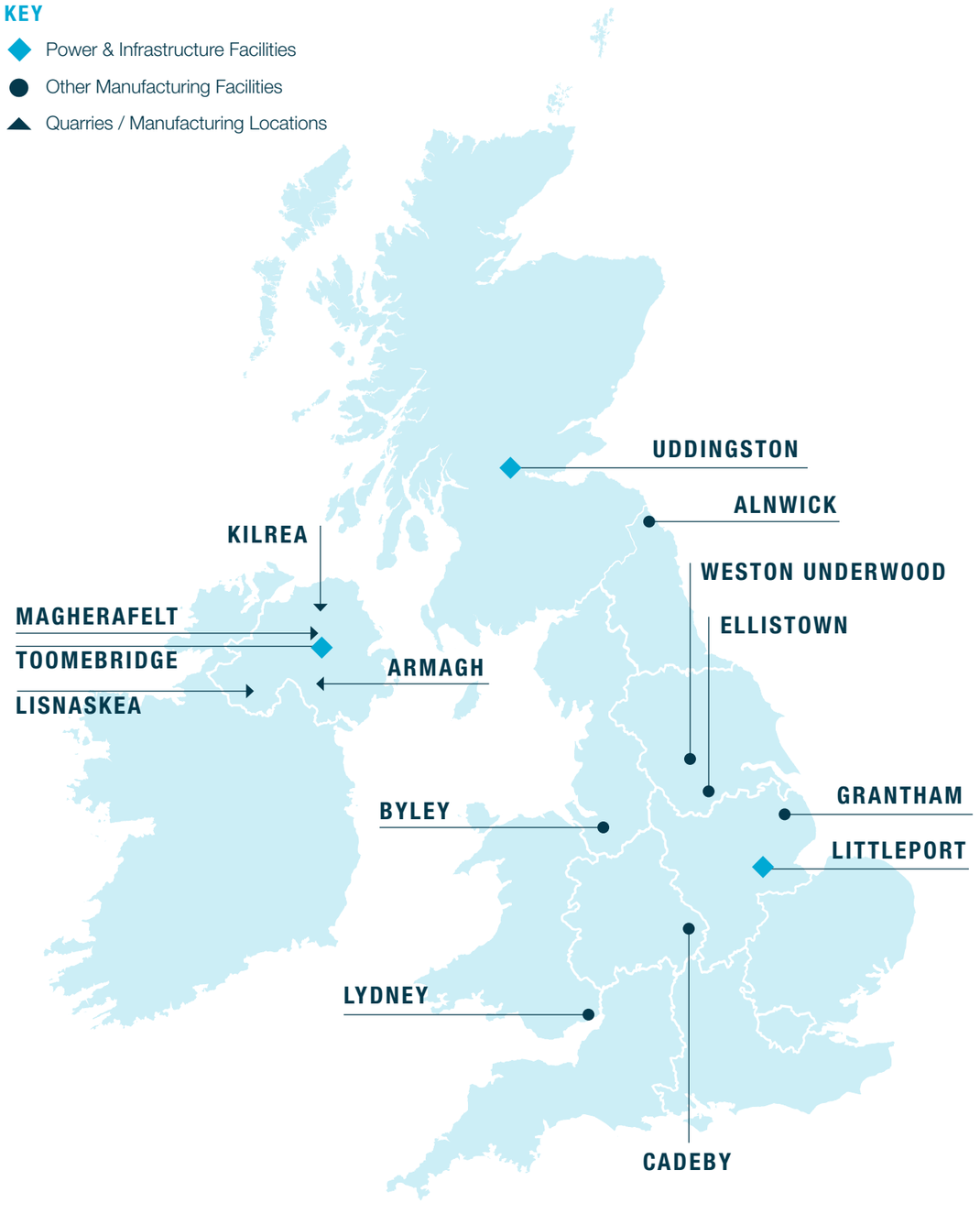
OUR COMPANY



INTRODUCTION

FP McCann offers a specialist range of precast reinforced concrete cable troughs and service trench systems, used to house and protect most types of services, including power and communication cables and pipes for gas, water and chemicals. Our ground level duct and trough systems provide protection against accidental or malicious damage and offers easy access for maintenance and repair.

Three types of flush fitting lids are supplied in either reinforced precast concrete, GRP composite or steel tray. Heavy duty steel & concrete composite lids are rated in accordance with the loading groups specified in BS EN 124.

FP McCann is an Achilles Utility Vendor Database (UVDB) approved supplier, Supplier No 061598, and have opted for a Verify Category B2 audit.

A site visit can be arranged for technical and procurement personnel. Please contact our sales team for further details.

BENEFITS / APPLICATIONS

PRODUCT BENEFITS

FP McCann's service duct and trough systems have a number of advantages:

- High pressure steam and water pipes
- Applicable to power and telecom cables, as well as pipes for liquids and gases
- Chemically-resistant concrete
- Services buried at depth are unexposed to weather changes (i.e. freezing or overheating)
- High-strength load-bearing units
- Easy access for repairs, jointing or new service additions
- Whole life costs of precast concrete is lower than other forms of service trench construction
- Non-conductive to electricity
- Bespoke units can be made to specification
- No concrete surround required
- Units can be sealed to prevent water ingress

PRODUCT APPLICATIONS

- Substations
- Data centres
- Power stations
- Converter stations
- Wind farms
- Gas compressor plants
- Energy from waste plants
- Battery storage plants
- Biomass plants
- Waste treatment plants
- Oil, gas and fuel pipelines
- Hospitals
- Commercial infrastructure
- Prisons
- MOD

DESIGN FEATURES

The troughs and lids are designed for the load classes ABC and D, as defined in BS EN 1433 and BS EN 124. Units to achieve load classes E and F can be designed to order.

Concrete design certification available upon request.

FP McCann's trough and service duct systems are designed and manufactured to comply with loading criteria as set out in accordance with BS EN 1433 (Troughs) and BS EN 124 (Lids). All standard troughs are one metre long. Two metre units are available on a made-to-order basis. All operations are conducted in accordance with FP McCann's quality management system, accredited to BS EN ISO 9001.

STANDARD TROUGH AVAILABILITY

Dimensions - Width x Depth	5t Conc Lid A/B Class	11.5t Conc/ Steel Lid C/D Class	A15 GRP lid (2t)	B125 GRP lid (5t)	C250 GRP lid	D400 GRP lid
350 x 300mm	✓	✓	✓	✓	✓	✓
450 x 450mm	✓	✓	✓	✓	✓	✓
600 x 300mm	✓	✓	✓	✓	✓	✓
600 x 600mm	✓	✓	✓	✓	✓	✓
750 x 500mm	✓	✓	✓	✓	✓	✓
750 x 750mm	✓	✓	✓	✓	✓	✓
1000 x 500mm	✓	✓	✓	✓	✓	✓
1000 x 750mm	✓	✓	✓	✓	✓	✓
1000 x 1000mm	✓	✓	✓	✓	✓	✓
1250 x 750mm	✓	✓	✓	✓	✓	✓
1250 x 1000mm	✓	✓	✓	✓	✓	✓
1250 x 1250mm	✓	✓	✓	✓	✓	✓
Rebate	100mm	100mm	50mm	50mm	100mm	100mm
1250 Trough Rebate	150mm	150mm	75mm	150mm	N/A	N/A

LL Long Leg = Rebate of 100mm except on 1250 trough the rebate = 150mm

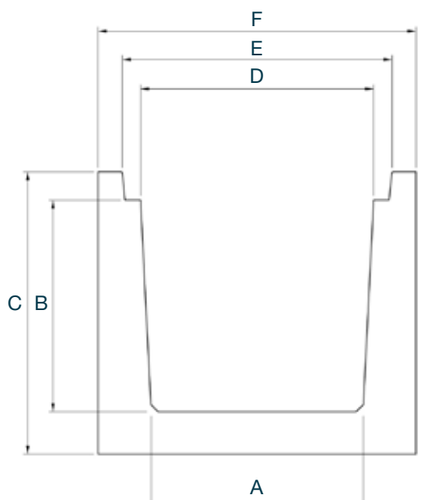
SL Short Leg = Rebate of 50mm except 1250 trough rebate = 75mm

Top hat lid - Further information available on request

All GRP available in Solid Top or Open Mesh

Lid lengths 498mm or 998mm

*STRAIGHT UNIT TROUGH DIMENSIONS



*STRAIGHT UNIT TROUGH DIMENSIONS

Coding	Width x Depth x Length (mm)	Rebate Depth mm	s/w† nominal (kg)	Supplied with Lid reference	Trough Dimensions (mm)					
					A	B	C	D	E	F
MT 350 300 ABCD SL	350 x 300 x 1000 Trough SL	50	450	GRP Load Class A or B	350	350	525	385	510	635
MT 350 300 ABCD LL	350 x 300 x 1000 Trough LL	100	450	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C or D	350	300	525	380	510	635
MT 450 450 ABCD SL	450 x 450 x 1000 Trough SL	50	596	GRP Load Class A or B	450	500	675	500	625	750
MT 450 450 ABCD LL	450 x 450 x 1000 Trough LL	100	596	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C or D	450	450	675	495	625	750
MT 600 300 ABCD SL	600 x 300 x 1000 Trough SL	50	633	GRP Load Class A or B	570	350	550	605	750	900
MT 600 300 ABCD LL	600 x 300 x 1000 Trough LL	100	633	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C or D	570	300	550	600	750	900
MT 600 600 ABCD SL	600 x 600 x 1000 Trough SL	50	810	GRP Load Class A or B	570	600	800	630	750	900
MT 600 600 ABCD LL	600 x 600 x 1000 Trough LL	100	810	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C or D	570	550	800	625	750	900
MT 750 500 ABCD SL	750 x 500 x 1000 Trough SL	50	923	GRP Load Class A or B - Top Hat Lid	750	550	750	805	955	1125
MT 750 500 ABCD LL	750 x 500 x 1000 Trough LL	100	923	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C	750	500	750	800	955	1125
MT 750 750 ABCD SL	750 x 750 x 1000 Trough SL	50	1115	GRP Load Class A or B - Top Hat Lid	750	800	1000	830	955	1125
MT 750 750 ABCD LL	750 x 750 x 1000 Trough LL	100	1115	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C	750	750	1000	825	955	1125
MT 1000 500 ABCD SL	1000 x 500 x 1000 Trough SL	50	1108	GRP Load Class A or B - Top Hat Lid	1000	550	750	1055	1230	1425
MT 1000 500 ABCD LL	1000 x 500 x 1000 Trough LL	100	1108	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C	1000	500	750	1050	1230	1425
MT 1000 750 ABCD SL	1000 x 750 x 1000 Trough SL	50	1331	GRP Load Class A or B - Top Hat Lid	1000	800	1000	1080	1230	1425
MT 1000 750 ABCD LL	1000 x 750 x 1000 Trough LL	100	1331	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C	1000	750	1000	1075	1230	1425
MT 1000 1000 ABCD SL	1000 x 1000 x 1000 Trough SL	50	1539	GRP Load Class A or B - Top Hat Lid	1000	1050	1250	1105	1230	1425
MT 1000 1000 ABCD LL	1000 x 1000 x 1000 Trough LL	100	1539	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class C	1000	1000	1250	1100	1230	1425
MT 1250 750 ABCD SL	1250 x 750 x 1000 Trough SL	75	1484	GRP Load Class A - Top Hat Lid	1250	775	1000	1330	1505	1700
MT 1250 750 ABCD LL	1250 x 750 x 1000 Trough LL	150	1484	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class B	1250	700	1000	1320	1505	1700
MT 1250 1000 ABCD SL	1250 x 1000 x 1000 Trough SL	75	1707	GRP Load Class A - Top Hat Lid	1250	1025	1250	1355	1505	1700
MT 1250 1000 ABCD LL	1250 x 1000 x 1000 Trough LL	150	1707	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class B	1250	950	1250	1345	1505	1700
MT 1250 1250 ABCD SL	1250 x 1250 x 1000 Trough SL	75	1915	GRP Load Class A - Top Hat Lid	1250	1275	1500	1380	1505	1700
MT 1250 1250 ABCD LL	1250 x 1250 x 1000 Trough LL	150	1915	Concrete A/B Class - Steel Concrete Composite C/D Class - GRP Load Class B	1250	1200	1500	1370	1505	1700

*All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances.
† maximum self weight = nominal self + 5%, which should be used to size lifting equipment

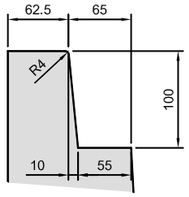
Available as 2.0m units as a made to order

TROUGHS – STRAIGHT UNITS

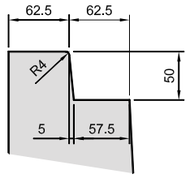
All cable troughs are available with Long Leg or Short Leg rebates.

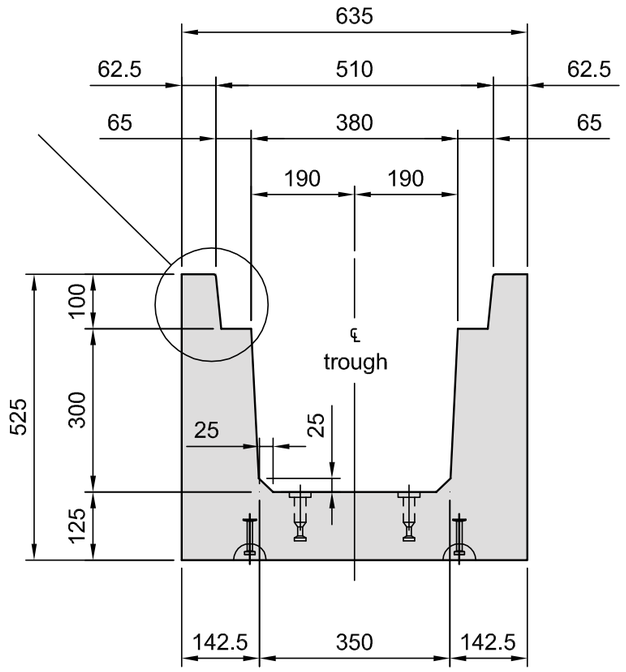
350X300

Long Leg rebate



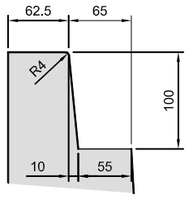
Short Leg rebate





450X450

Long Leg rebate



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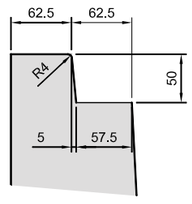
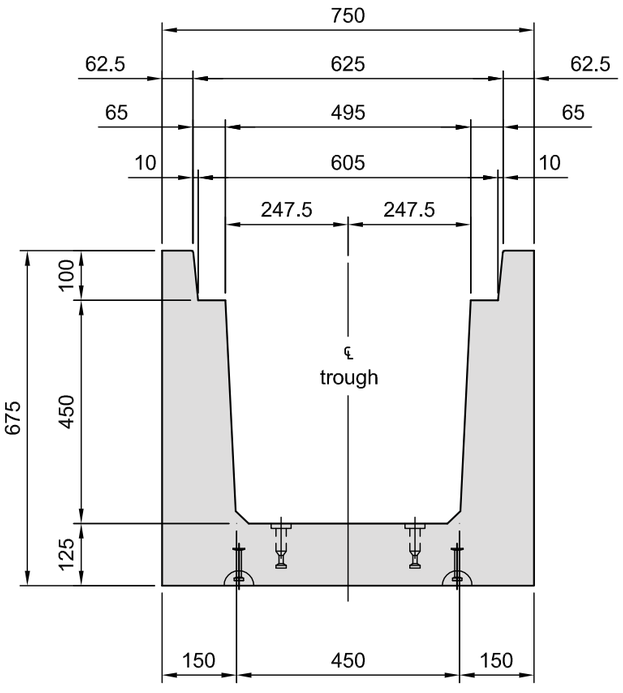
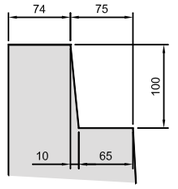




600X300

Long Leg rebate



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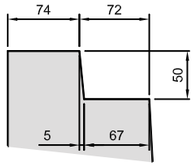
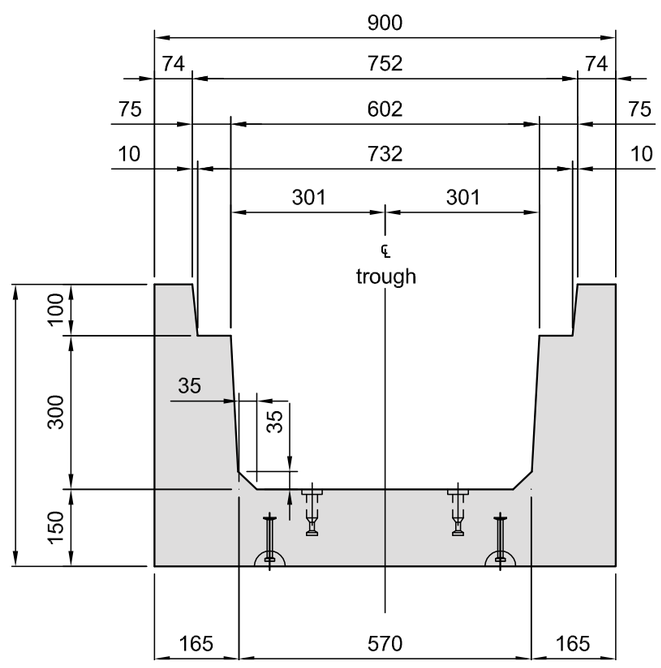
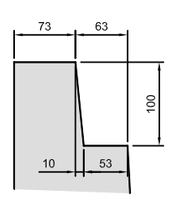




600X600

Long Leg rebate



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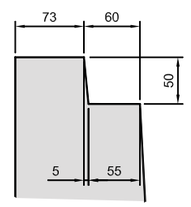
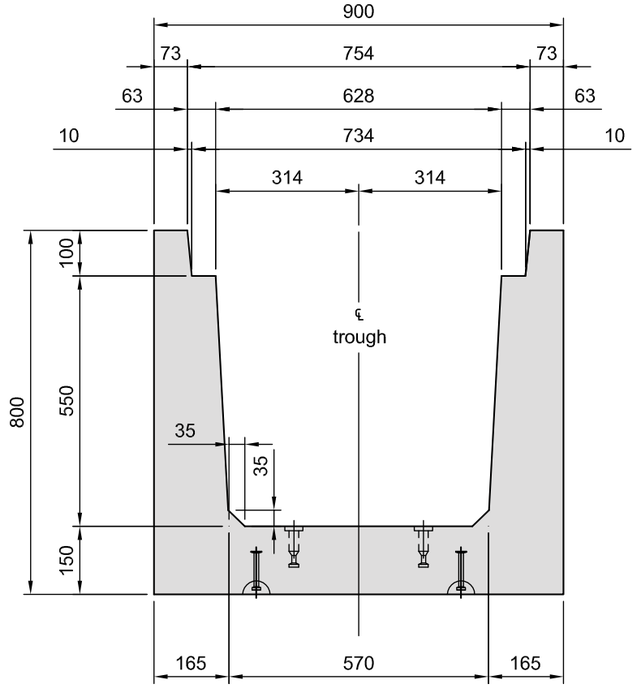
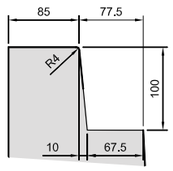




TROUGHS – STRAIGHT UNITS

750X500

Long Leg rebate



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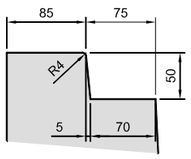

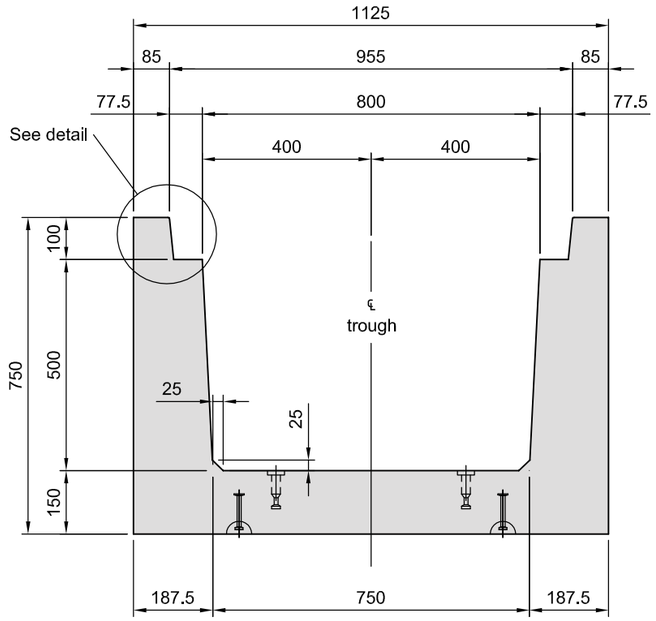

750X750

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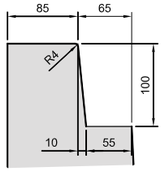

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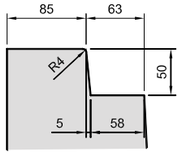

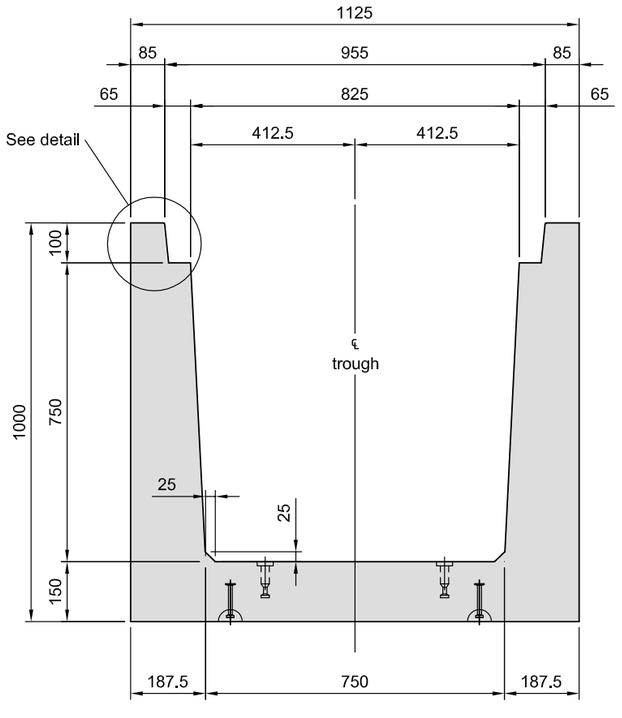

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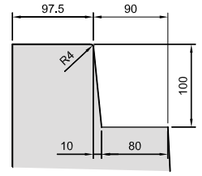

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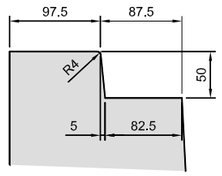

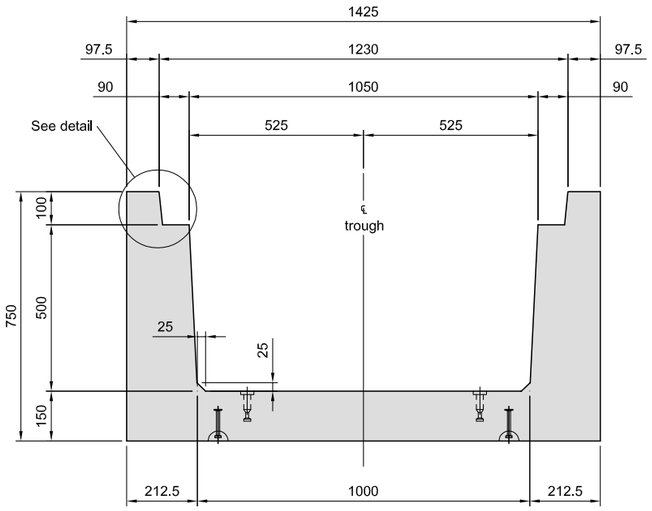

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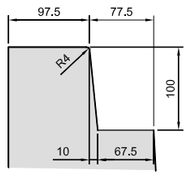

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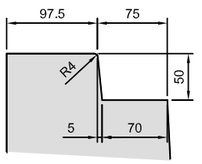

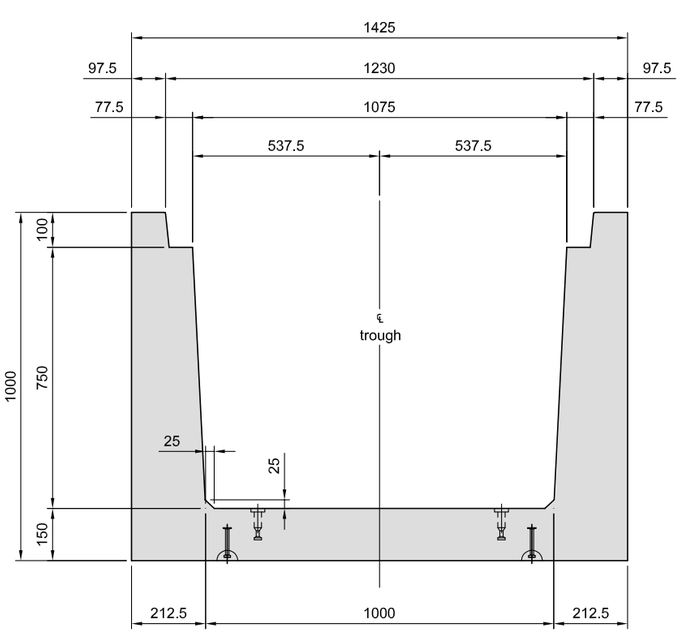

TROUGHS – STRAIGHT UNITS

1000X1000

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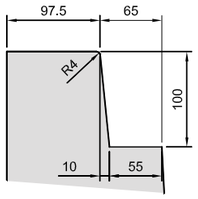

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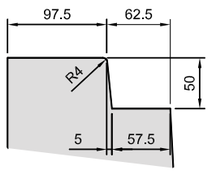

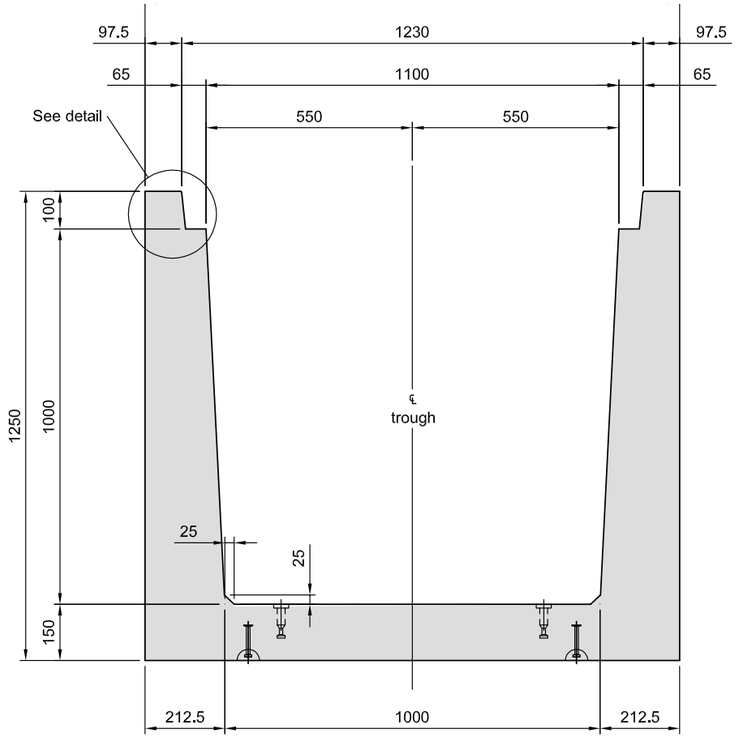

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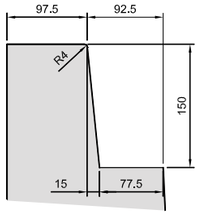

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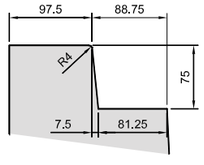

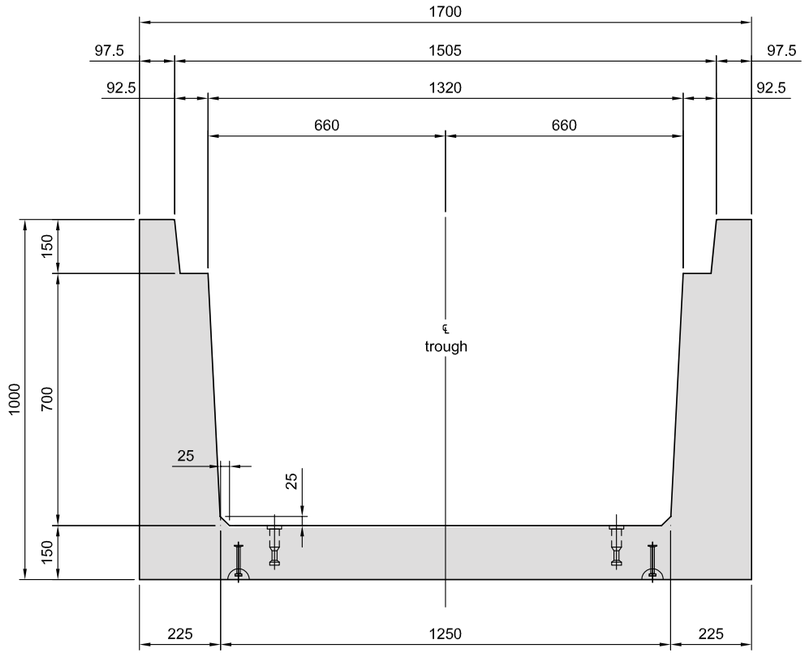

1250X1000

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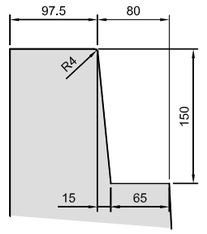

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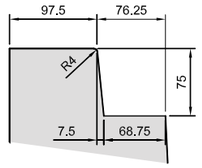
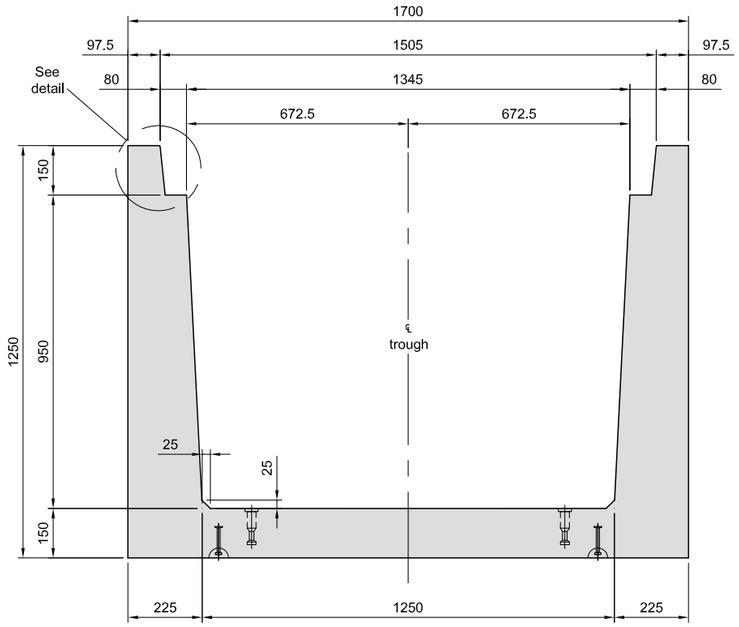
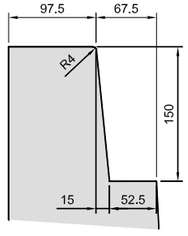


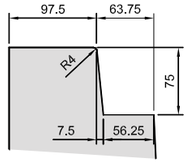


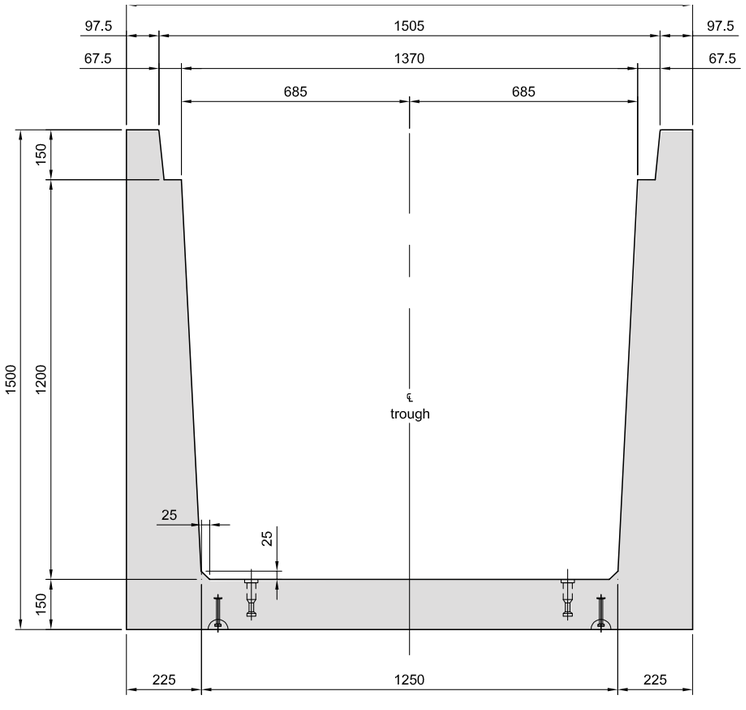
1250X1250

Long Leg rebate



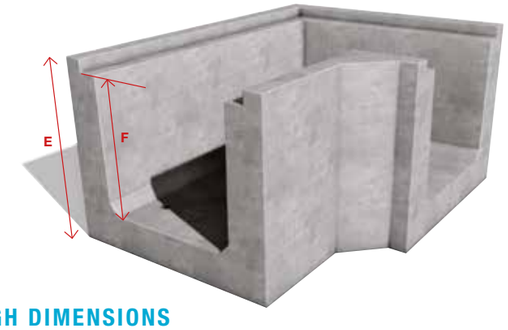
Short Leg rebate

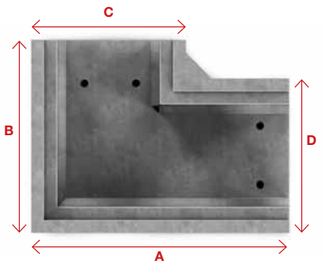




CORNER UNITS

90° turn unit





*CORNER UNIT TROUGH DIMENSIONS

Coding	Width x Depth x Length (mm)	s/w† nominal (kg)	Trough Dimensions (mm)					
			A	B	C	D	E	F
MT 350 300 1085 ABCD SL	350 x 300 x 1085 Trough SL Corner	690	1085	1070	635	635	525	350
MT 350 300 1085 ABCD LL	350 x 300 x 1085 Trough LL Corner	668	1085	1070	635	635	525	300
MT 450 450 1198 ABCD SL	450 x 450 x 1198 Trough SL Corner	913	1198	1073	750	750	675	500
MT 450 450 1198 ABCD LL	450 x 450 x 1198 Trough LL Corner	892	1198	1073	750	750	675	450
MT 600 300 1335 ABCD SL	600 x 300 x 1335 Trough SL Corner	970	1335	1085	900	900	550	350
MT 600 300 1335 ABCD LL	600 x 300 x 1335 Trough LL Corner	945	1335	1085	900	900	550	300
MT 600 600 1335 ABCD SL	600 x 600 x 1335 Trough SL Corner	1245	1335	1085	900	900	800	600
MT 600 600 1335 ABCD LL	600 x 600 x 1335 Trough LL Corner	1220	1335	1085	900	900	800	550
MT 750 500 1550 ABCD SL	750 x 500 x 1550 Trough SL Corner	1871	1595	1550	1125	1125	750	550
MT 750 500 1550 ABCD LL	750 x 500 x 1550 Trough LL Corner	1836	1595	1550	1125	1125	750	500
MT 750 750 1550 ABCD SL	750 x 750 x 1550 Trough SL Corner	2262	1595	1550	1125	1125	1000	800
MT 750 750 1550 ABCD LL	750 x 750 x 1550 Trough LL Corner	2262	1595	1550	1125	1125	1000	750
MT 1000 500 1220 ABCD SL	1000 x 500 x 1220 Trough SL Corner	2254	1845	1608	1425	1425	750	550
MT 1000 500 1220 ABCD LL	1000 x 500 x 1220 Trough LL Corner	2213	1845	1608	1425	1425	750	500
MT 1000 750 1220 ABCD SL	1000 x 750 x 1220 Trough SL Corner	2707	1845	1608	1425	1425	1000	800
MT 1000 750 1220 ABCD LL	1000 x 750 x 1220 Trough LL Corner	2675	1845	1608	1425	1425	1000	750
MT 1000 1000 1220 ABCD SL	1000 x 1000 x 1220 Trough SL Corner	3137	1845	1608	1425	1425	1250	1050
MT 1000 1000 1220 ABCD LL	1000 x 1000 x 1220 Trough LL Corner	3108	1845	1608	1425	1425	1250	1000
MT 1250 750 2125 ABCD SL	1250 x 750 x 2125 Trough SL Corner	3745	2125	2113	1700	1700	1000	775
MT 1250 750 2125 ABCD LL	1250 x 750 x 2125 Trough LL Corner	3668	2125	2113	1700	1700	1000	700
MT 1250 1000 2125 ABCD SL	1250 x 1000 x 2125 Trough SL Corner	4315	2125	2113	1700	1700	1250	1025
MT 1250 1000 2125 ABCD LL	1251 x 1000 x 2125 Trough LL Corner	4250	2125	2113	1700	1700	1250	950
MT 1250 1250 2125 ABCD SL	1250 x 1250 x 2125 Trough SL Corner	4853	2125	2113	1700	1700	1500	1275
MT 1250 1250 2125 ABCD LL	1250 x 1250 x 2125 Trough LL Corner	4797	2125	2113	1700	1700	1500	1200

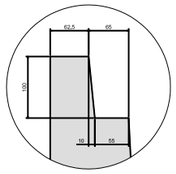
*All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances. Supporting angle iron is included.
† maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.

CORNER UNITS

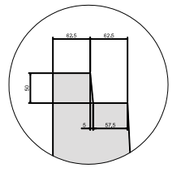
90° turn unit

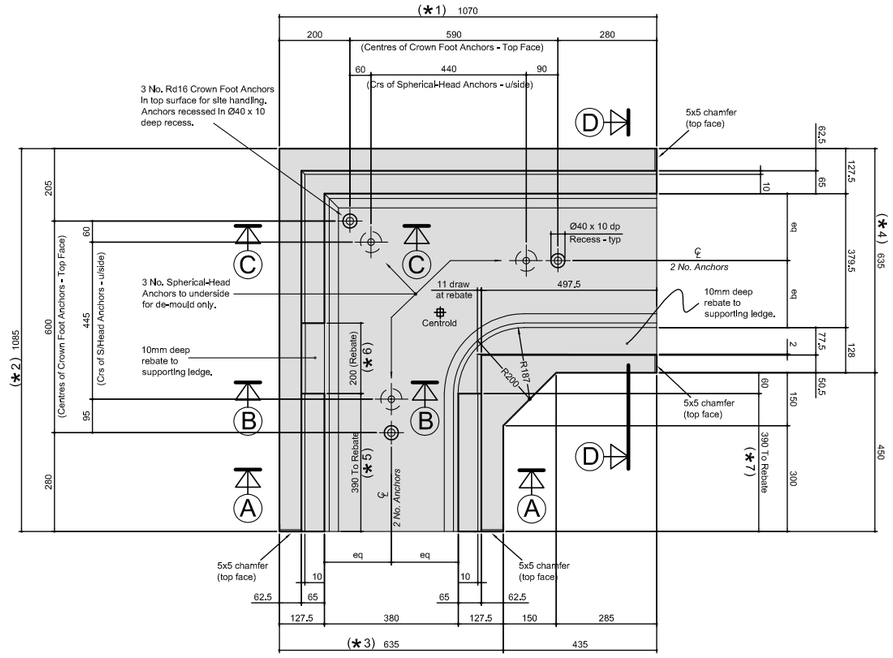
350X300

Long Leg rebate



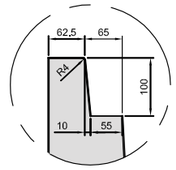
Short Leg rebate



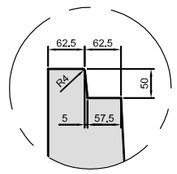


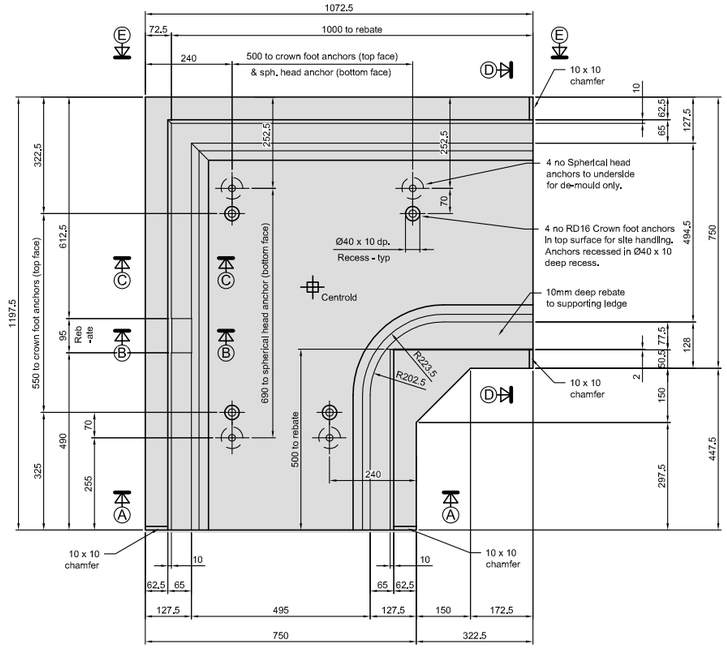
450X450

Long Leg rebate



Short Leg rebate

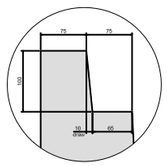




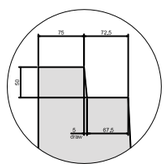
CORNER UNITS

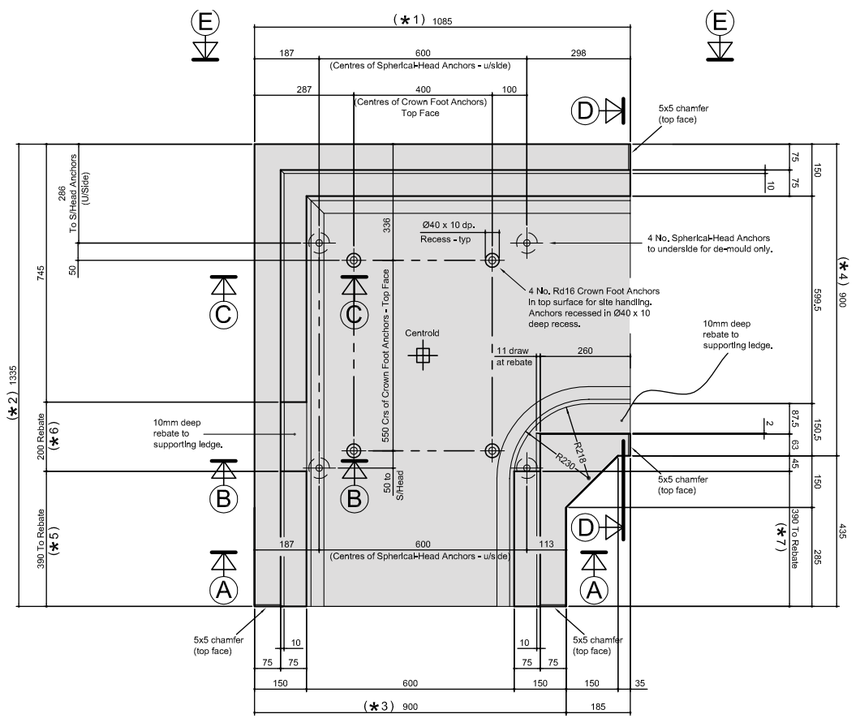
600X300

Long Leg rebate



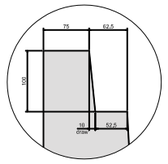
Short Leg rebate



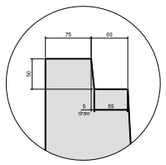


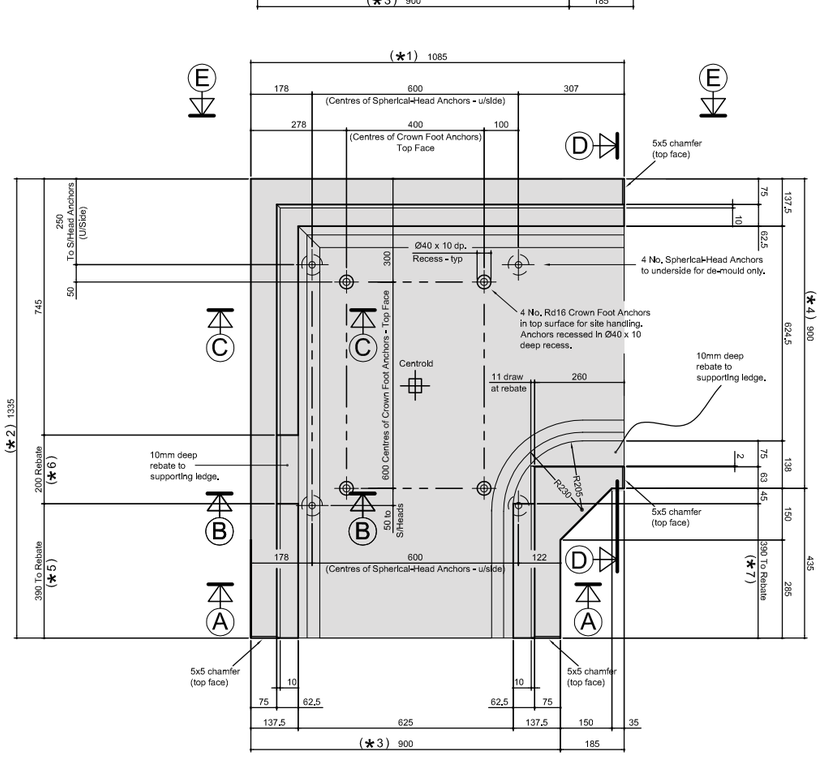
600X600

Long Leg rebate



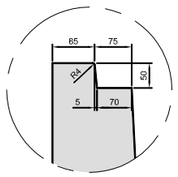
Short Leg rebate



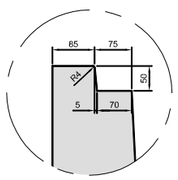


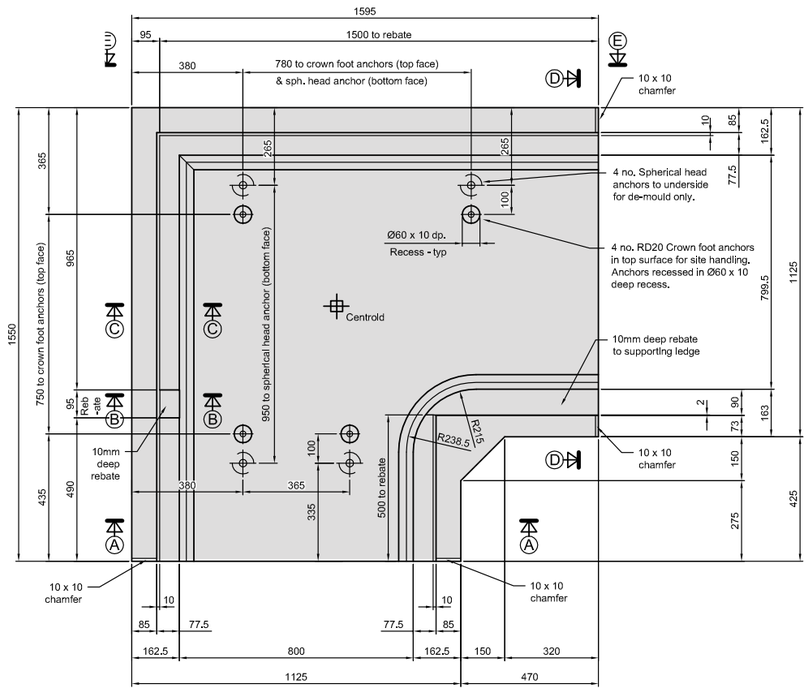
750X500

Long Leg rebate



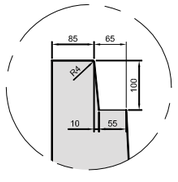
Short Leg rebate



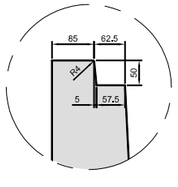


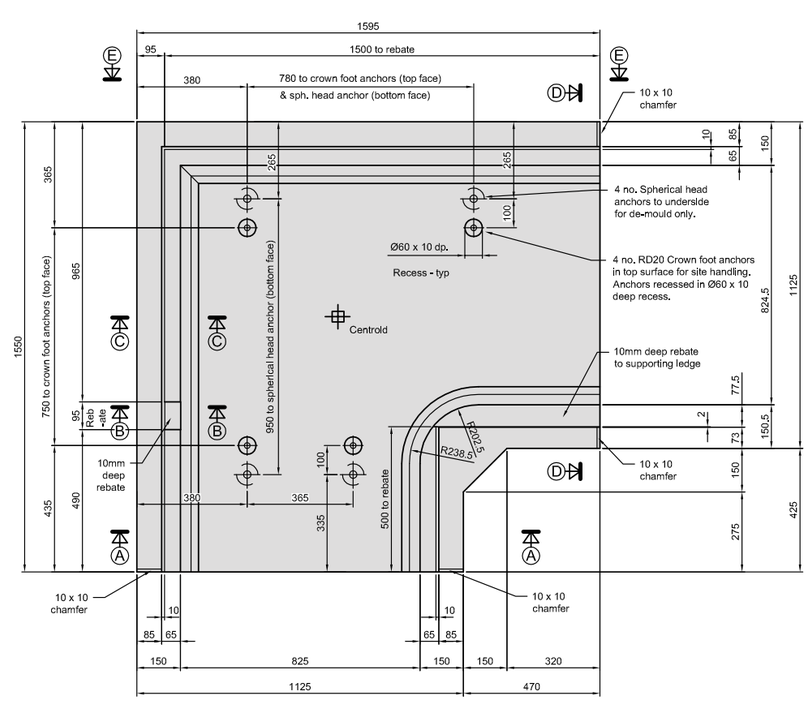
750X750

Long Leg rebate



Short Leg rebate

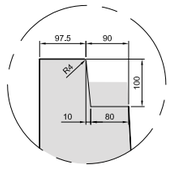




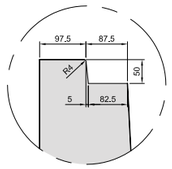
CORNER UNITS

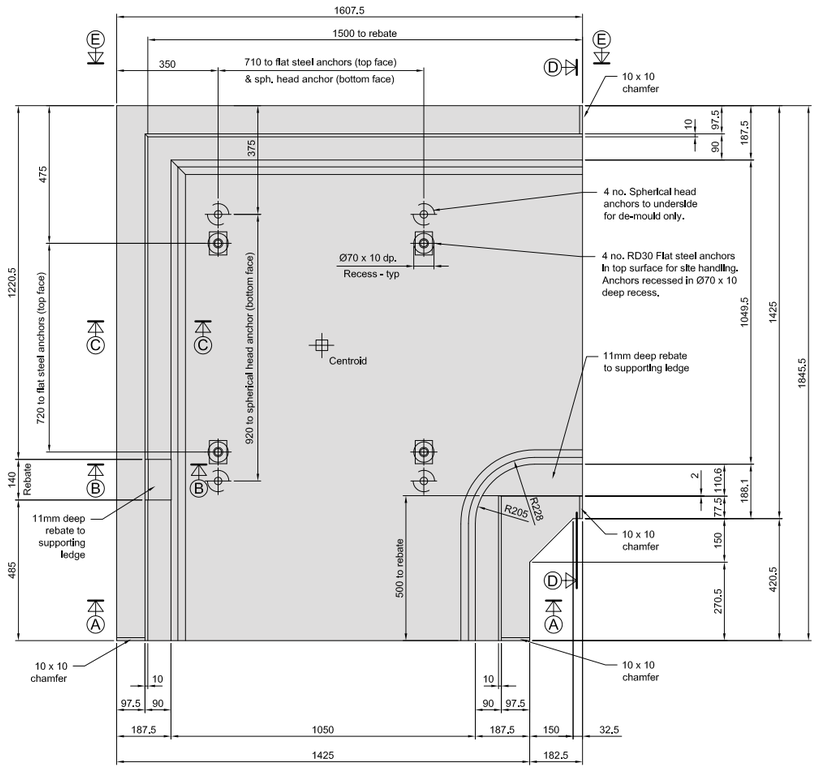
1000X500

Long Leg rebate



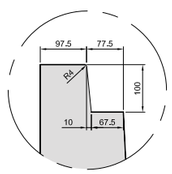
Short Leg rebate



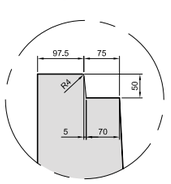


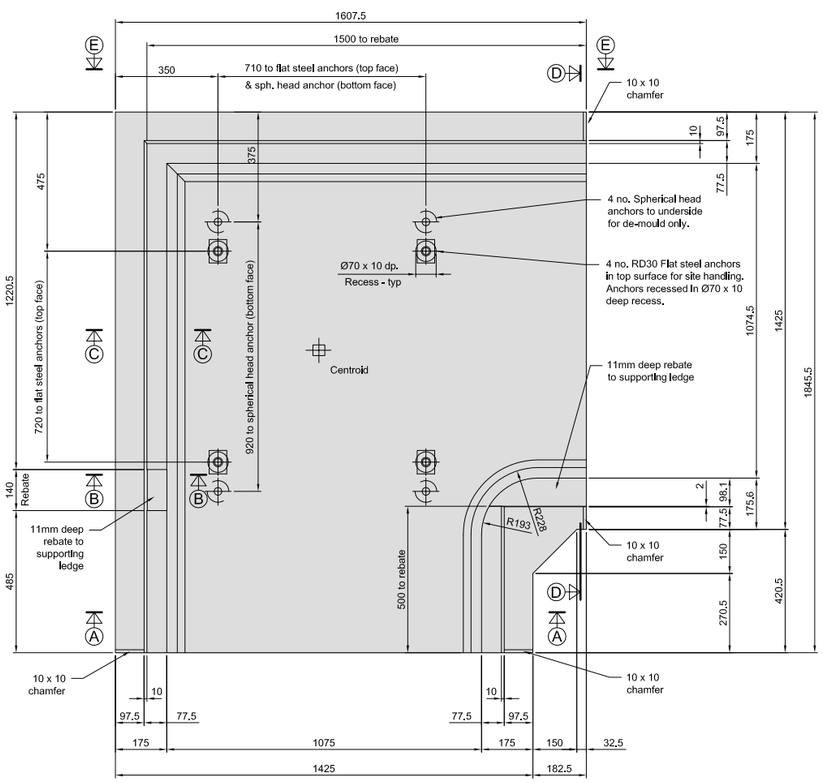
1000X750

Long Leg rebate



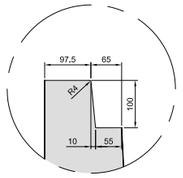
Short Leg rebate



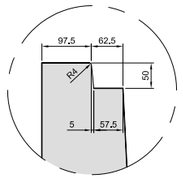


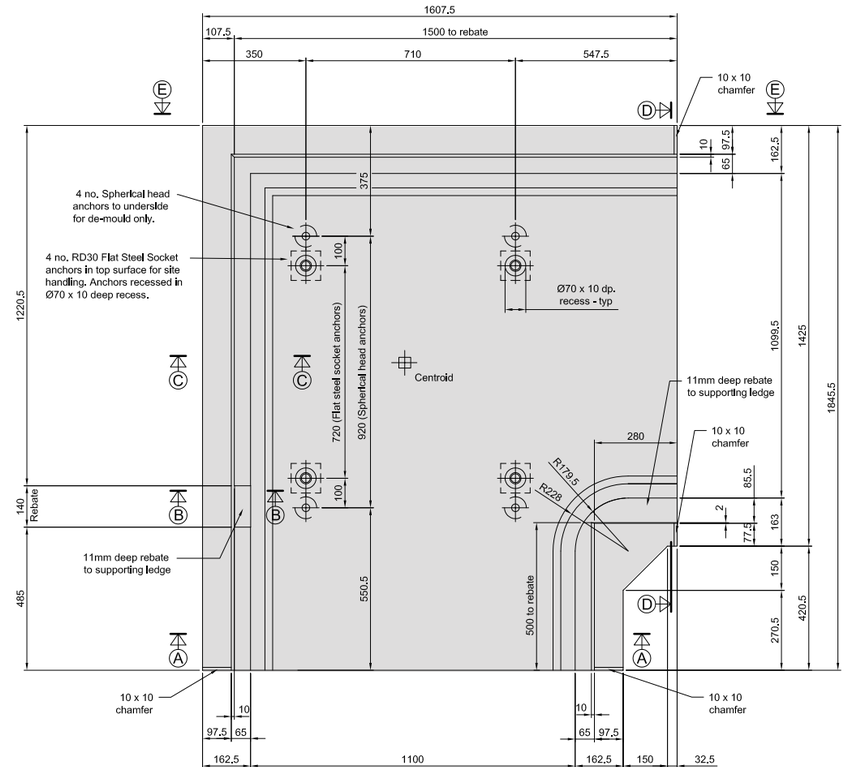
1000X1000

Long Leg rebate



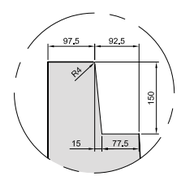
Short Leg rebate



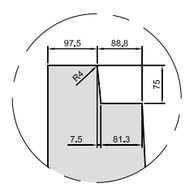


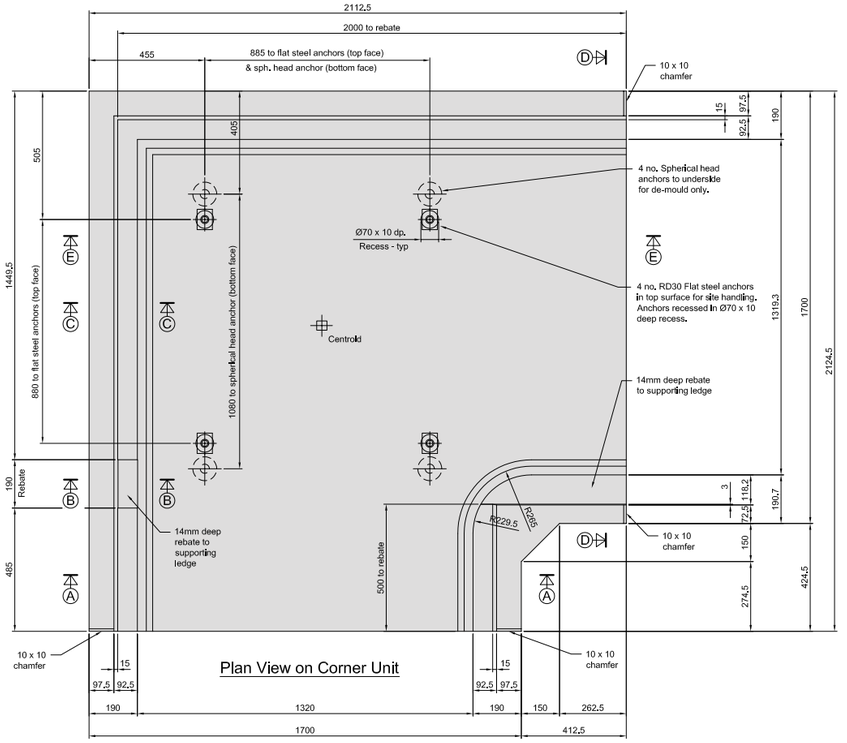
1250X750

Long Leg rebate



Short Leg rebate



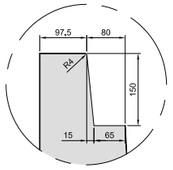


Plan View on Corner Unit

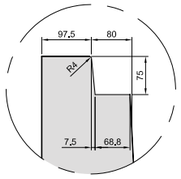
CORNER UNITS

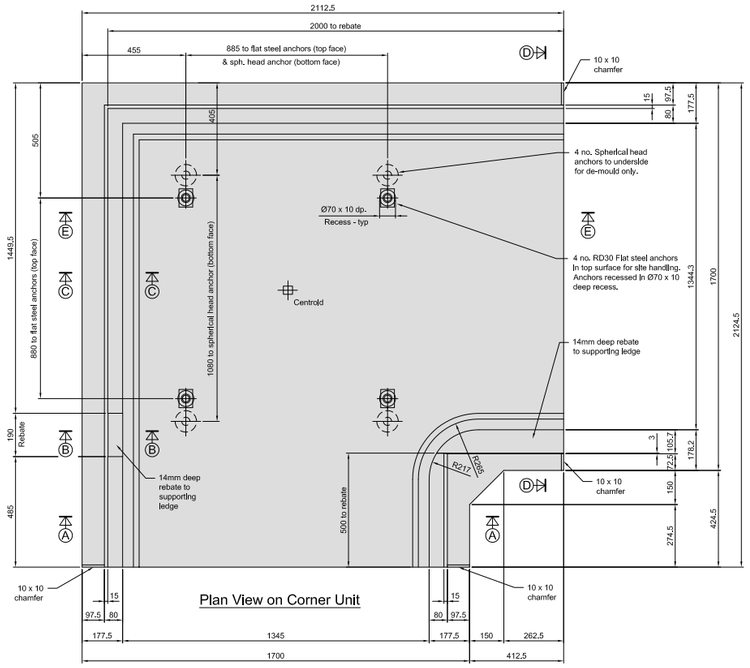
1250X1000

Long Leg rebate



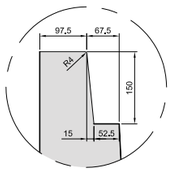
Short Leg rebate



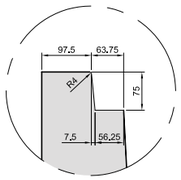


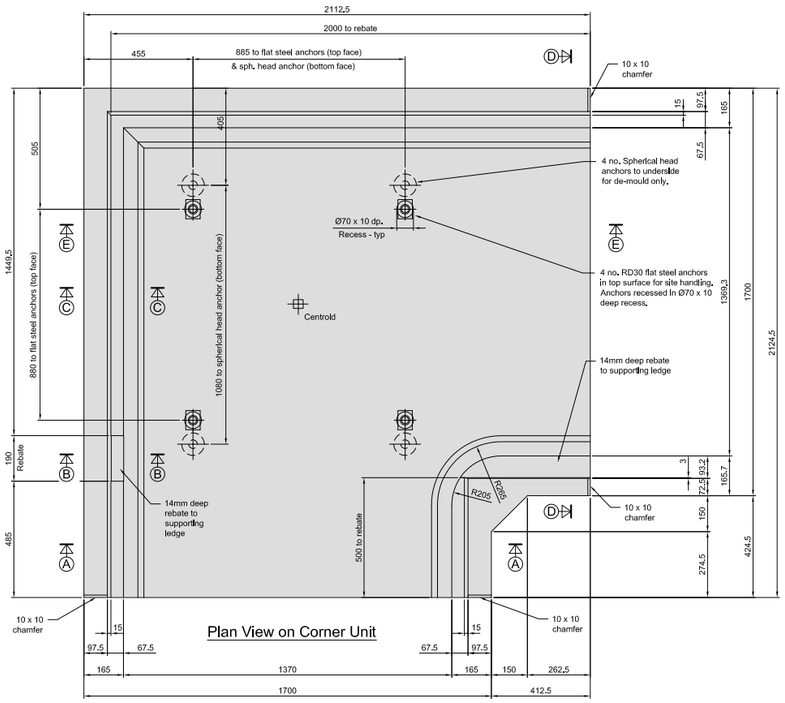
1250X1250

Long Leg rebate

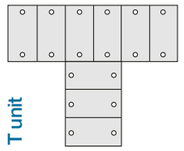


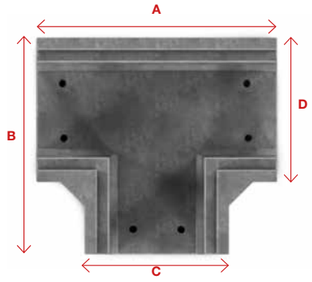
Short Leg rebate

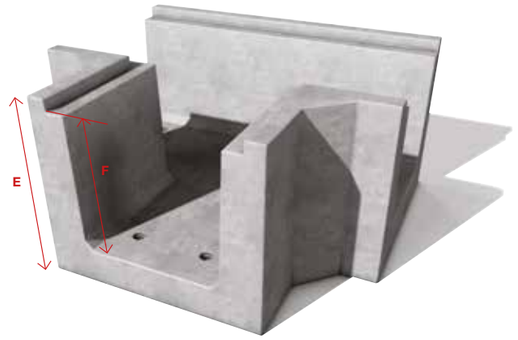




TEE UNITS





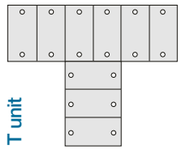


*TEE UNIT TROUGH DIMENSIONS

Coding	Width x Depth x Length (mm)	s/w† Nominal (kg)	Trough Dimensions (mm)					
			A	B	C	D	E	F
MT 350 300 1500 ABCD SL	350 x 300 x 1085 Trough SL Tee	843	1500	1085	635	635	525	350
MT 350 300 1500 ABCD LL	350 x 300 x 1085 Trough LL Tee	818	1500	1085	635	635	525	300
MT 450 450 1500 ABCD SL	450 x 450 x 1500 Trough SL Tee	1085	1500	1198	750	750	675	500
MT 450 450 1500 ABCD LL	450 x 450 x 1500 Trough LL Tee	1060	1500	1198	750	750	675	450
MT 600 300 1500 ABCD SL	600 x 300 x 1500 Trough SL Tee	1150	1500	1335	900	900	550	350
MT 600 300 1500 ABCD LL	600 x 300 x 1500 Trough LL Tee	1123	1500	1335	900	900	550	300
MT 600 600 1500 ABCD SL	600 x 600 x 1500 Trough SL Tee	1448	1500	1335	900	900	800	600
MT 600 600 1500 ABCD LL	600 x 600 x 1500 Trough LL Tee	1423	1500	1335	900	900	800	550
MT 750 500 2000 ABCD SL	750 x 500 x 2000 Trough SL Tee	2055	2000	1550	1125	1125	1000	550
MT 750 500 2000 ABCD LL	750 x 500 x 2000 Trough LL Tee	2013	2000	1550	1125	1125	1000	500
MT 750 750 2000 ABCD SL	750 x 750 x 2000 Trough SL Tee	2449	2000	1550	1125	1125	1000	800
MT 750 750 2000 ABCD LL	750 x 750 x 2000 Trough LL Tee	2449	2000	1550	1125	1125	1000	750
MT 1000 500 2000 ABCD SL	1000 x 500 x 2000 Trough SL Tee	2391	2000	1838	1425	1425	750	550
MT 1000 500 2000 ABCD LL	1000 x 500 x 2000 Trough LL Tee	2357	2000	1846	1425	1425	750	500
MT 1000 750 2000 ABCD SL	1000 x 750 x 2000 Trough SL Tee	2818	2000	1838	1425	1425	1000	800
MT 1000 750 2000 ABCD LL	1000 x 750 x 2000 Trough LL Tee	2792	2000	1846	1425	1425	1000	750
MT 1000 1000 2000 ABCD SL	1000 x 1000 x 2000L Trough SL Tee	3205	2000	1838	1425	1425	1250	1050
MT 1000 1000 2000 ABCD LL	1000 x 1000 x 2000 Trough LL Tee	3198	2000	1846	1425	1425	1250	1000
MT 1250 750 2500 ABCD SL	1250 x 750 x 2500 Trough SL Tee	3783	2500	2125	1700	1700	1000	775
MT 1250 750 2500 ABCD LL	1250 x 750 x 2500 Trough LL Tee	3707	2500	2125	1700	1700	1000	700
MT 1250 1000 2500 ABCD SL	1250 x 1000 x 2500 Trough SL Tee	4295	2500	2125	1700	1700	1250	1025
MT 1250 1000 2500 ABCD LL	1250 x 1000 x 2500 Trough LL Tee	4229	2500	2125	1700	1700	1250	950
MT 1250 1250 2500 ABCD SL	1250 x 1250 x 2500 Trough SL Tee	4768	2500	2125	1700	1700	1500	1275
MT 1250 1250 2500 ABCD LL	1250 x 1250 x 2500 Trough LL Tee	4714	2500	2125	1700	1700	1500	1200

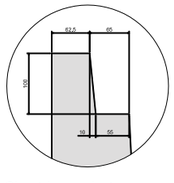
*All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances. Supporting angle iron is included.
† maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.

TEE UNITS

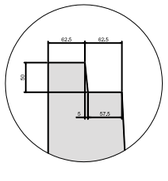


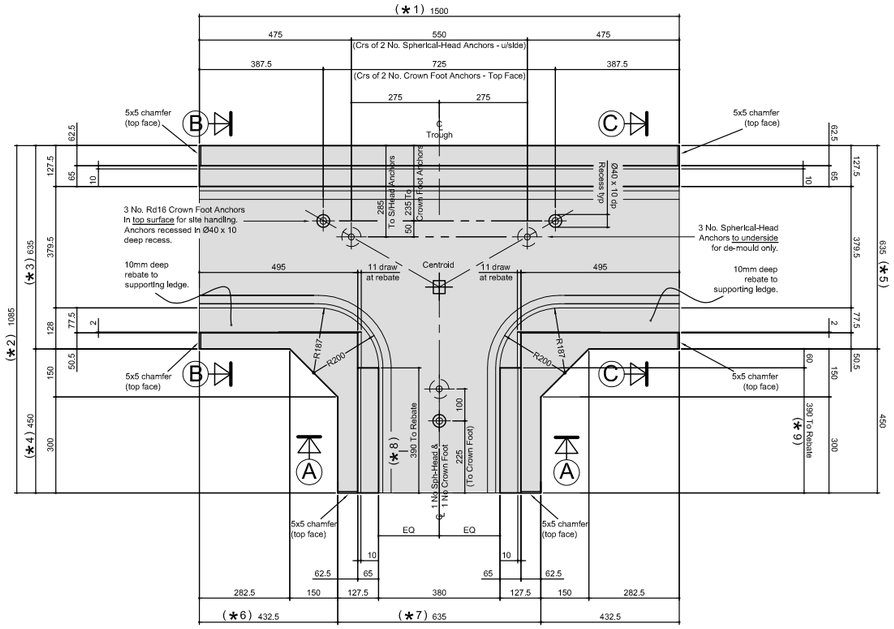
350X300

Long Leg rebate



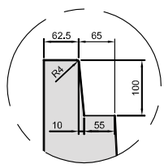
Short Leg rebate



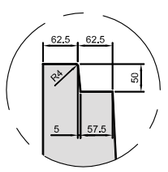


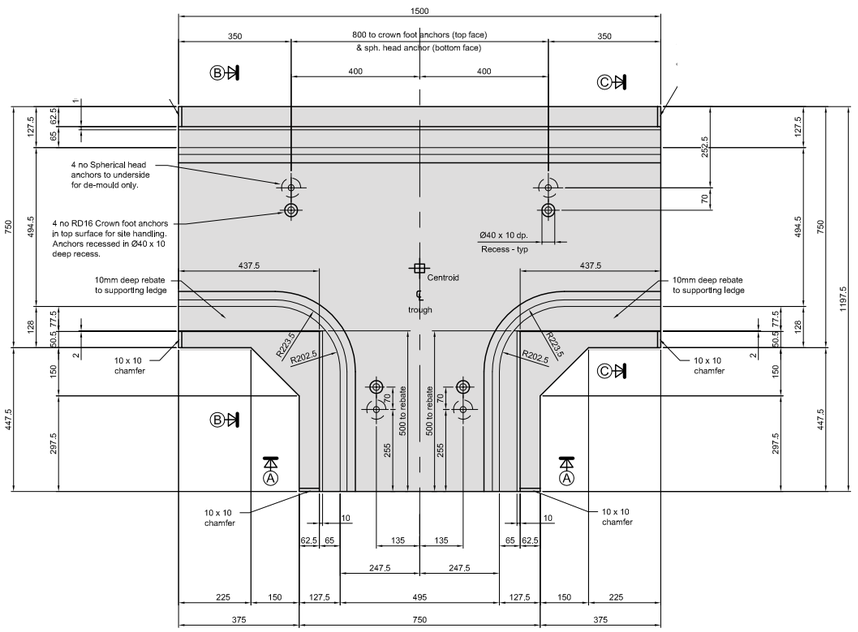
450X450

Long Leg rebate



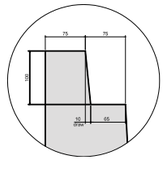
Short Leg rebate



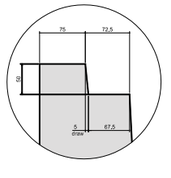


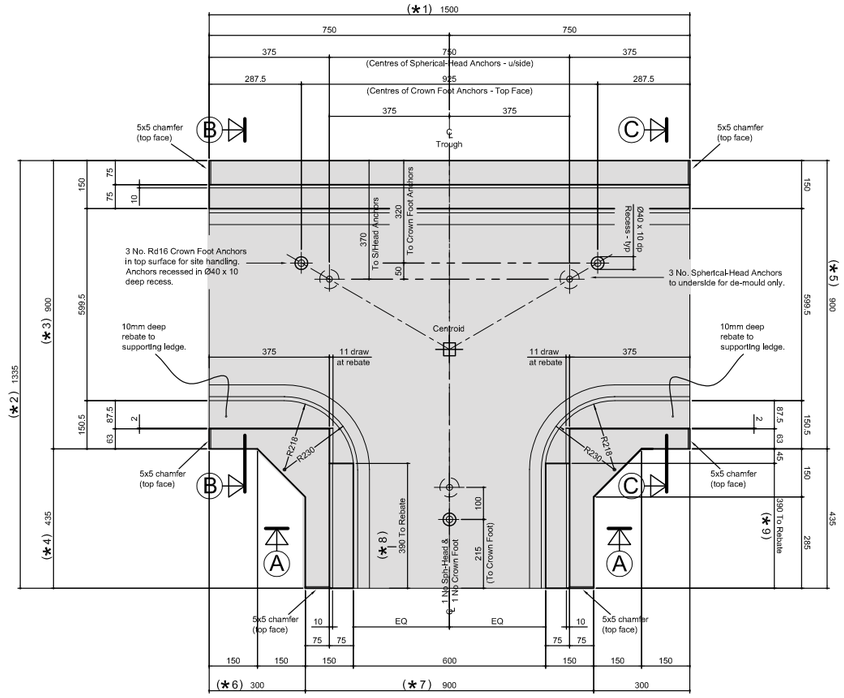
600X300

Long Leg rebate



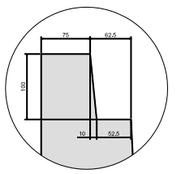
Short Leg rebate



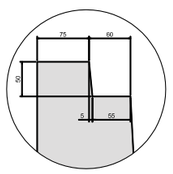


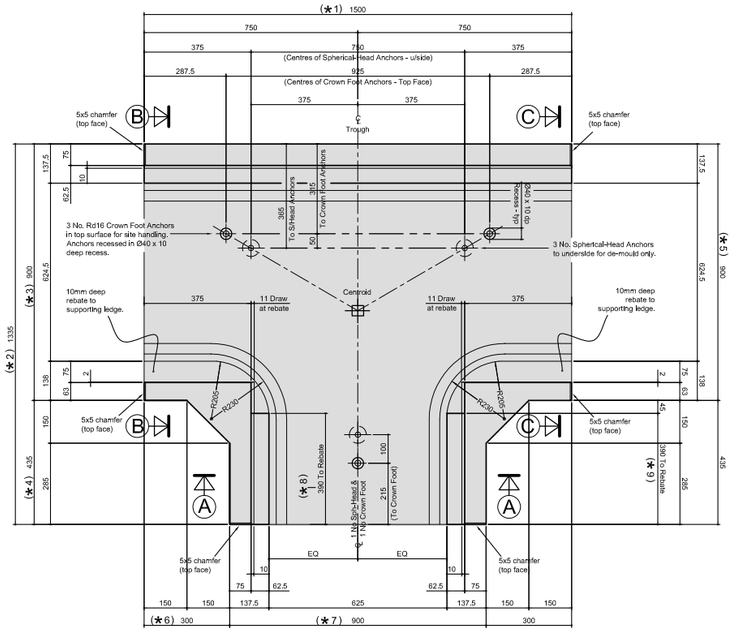
600X600

Long Leg rebate



Short Leg rebate

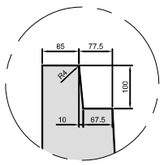




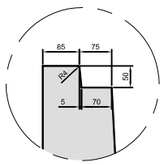
TEE UNITS

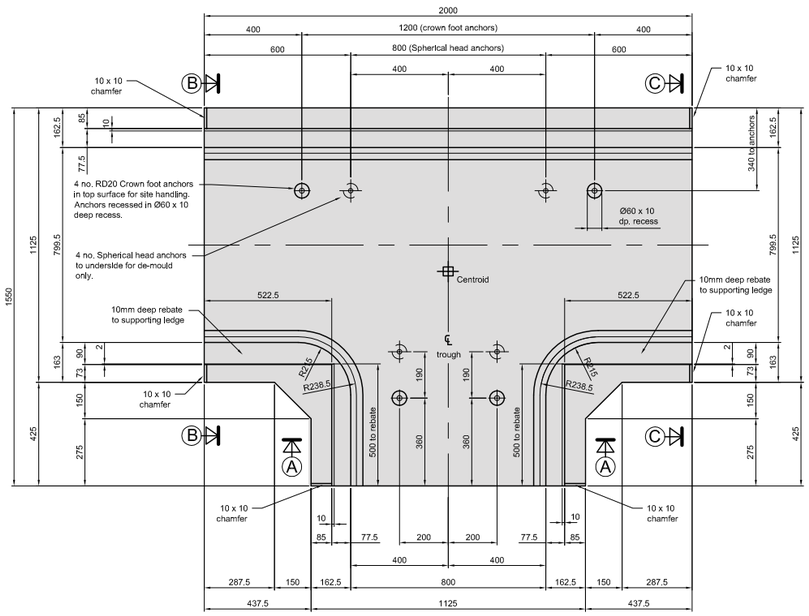
750X500

Long Leg rebate



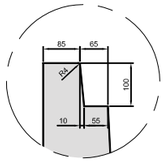
Short Leg rebate



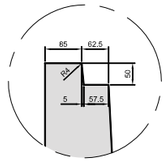


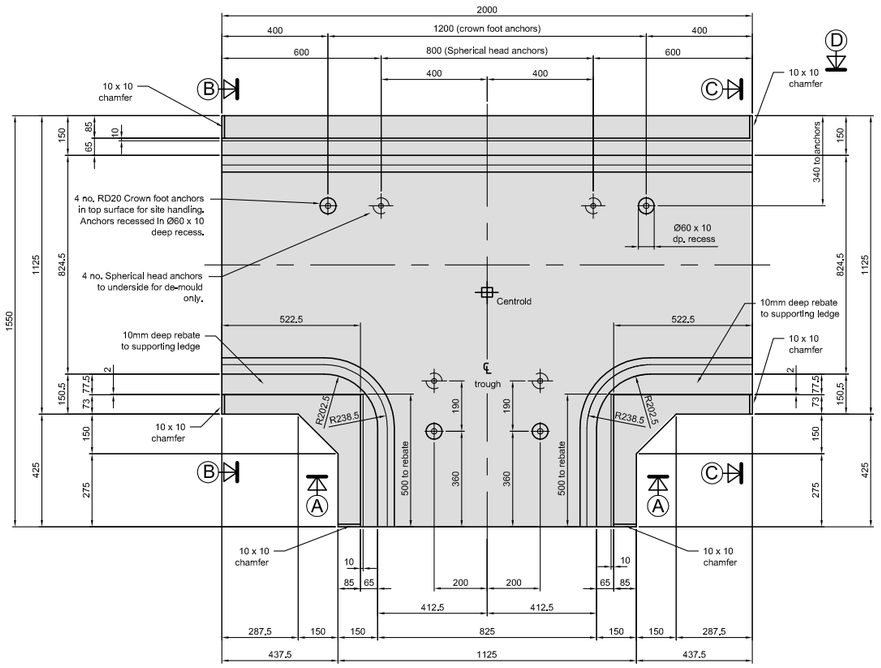
750X750

Long Leg rebate



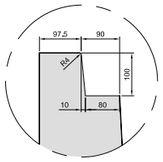
Short Leg rebate



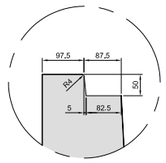


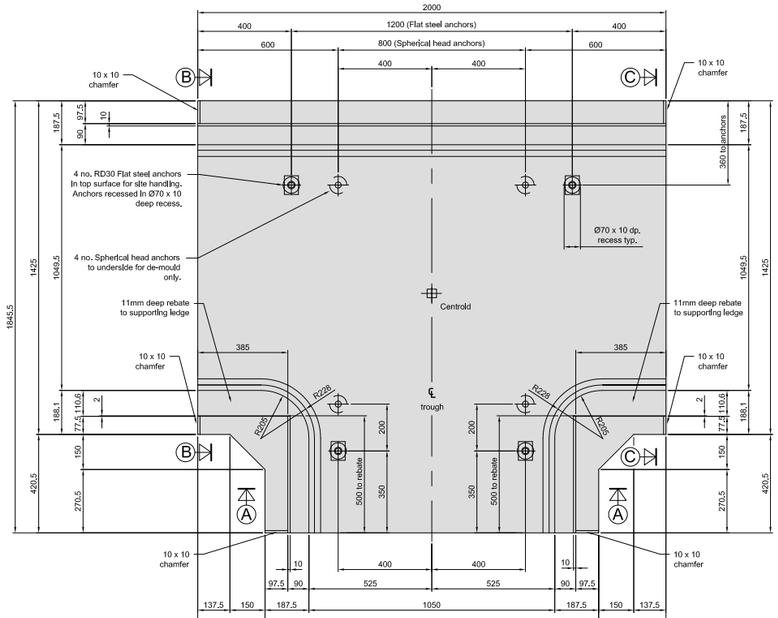
1000X500

Long Leg rebate



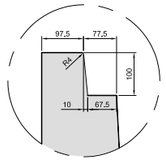
Short Leg rebate



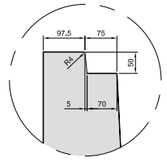


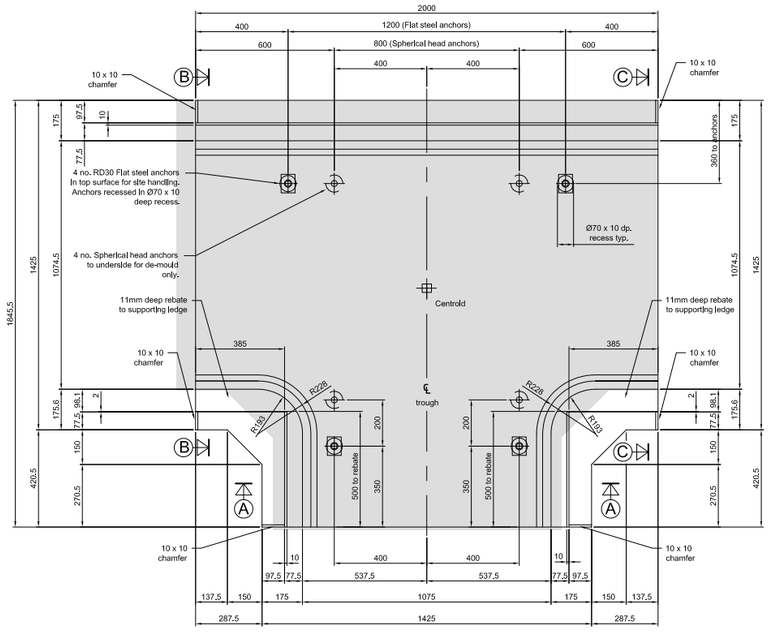
1000X750

Long Leg rebate



Short Leg rebate

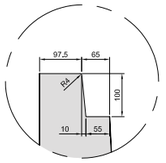




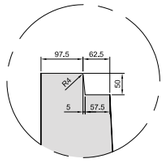
TEE UNITS

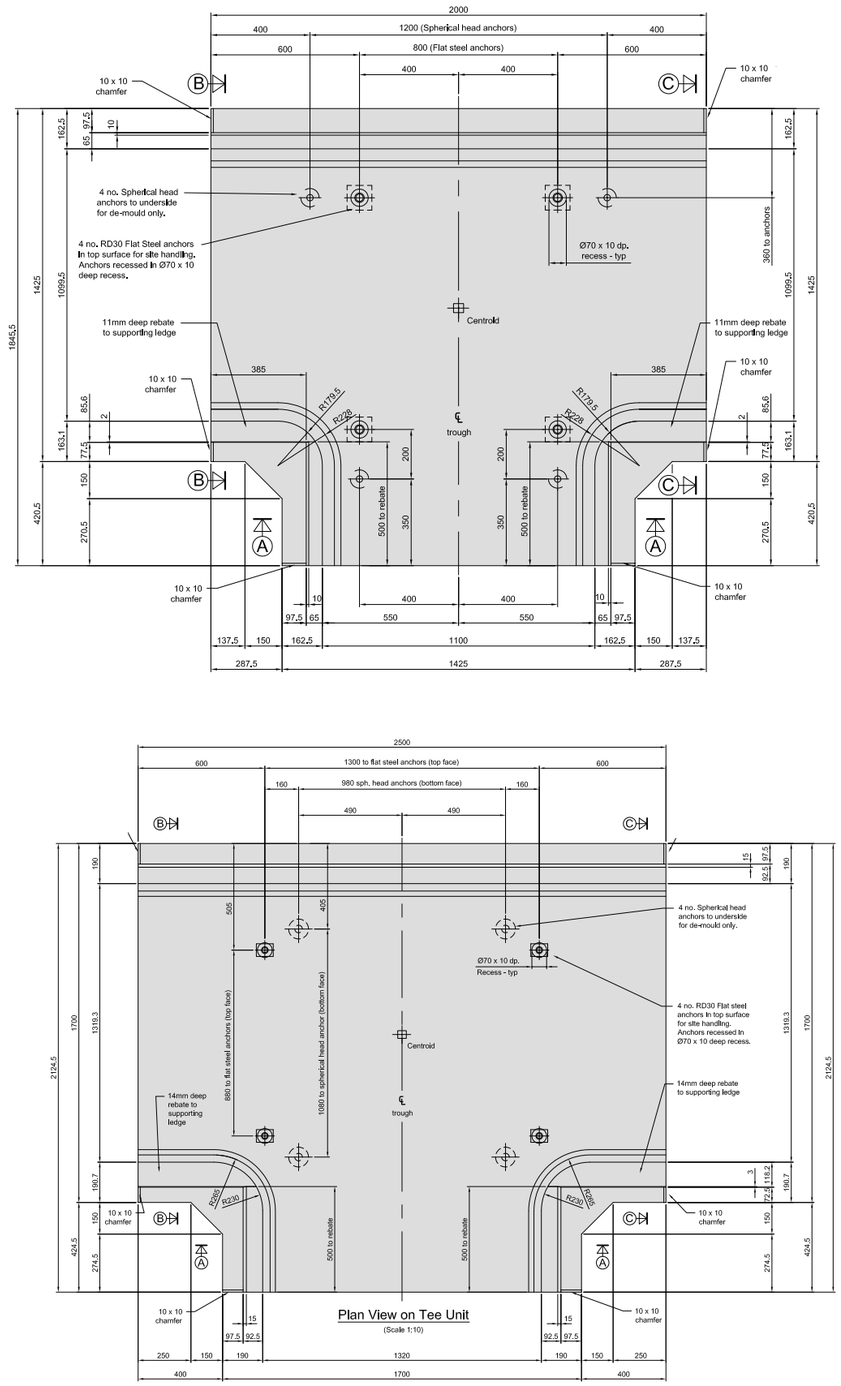
1000X1000

Long Leg rebate



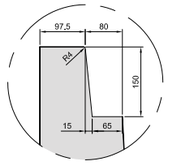
Short Leg rebate



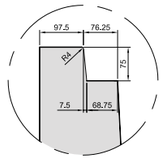


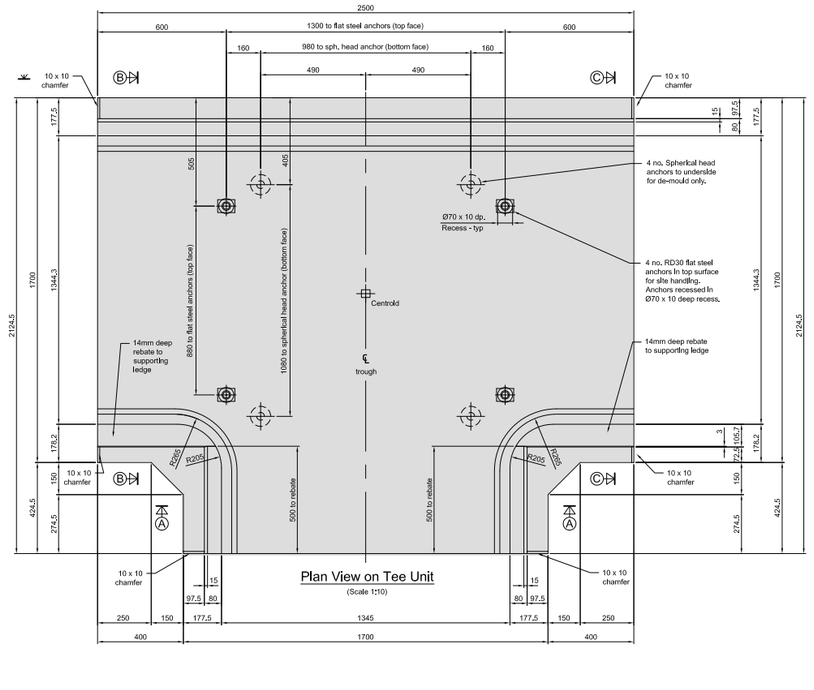
1250X1000

Long Leg rebate



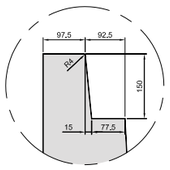
Short Leg rebate



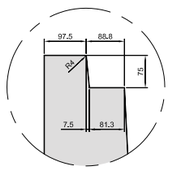


1250X750

Long Leg rebate

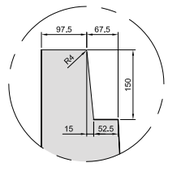


Short Leg rebate

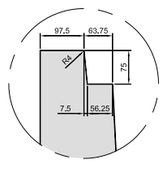


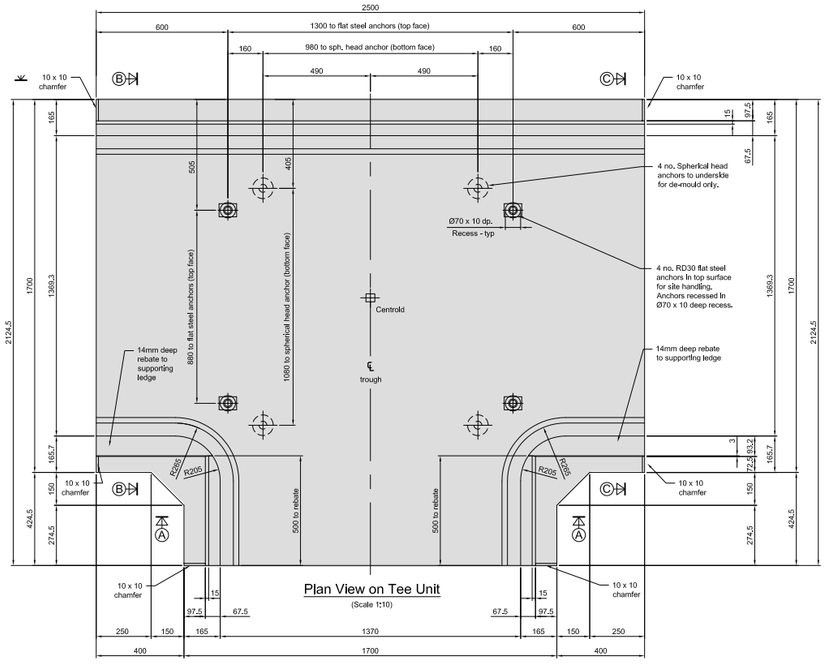
1250X1250

Long Leg rebate



Short Leg rebate

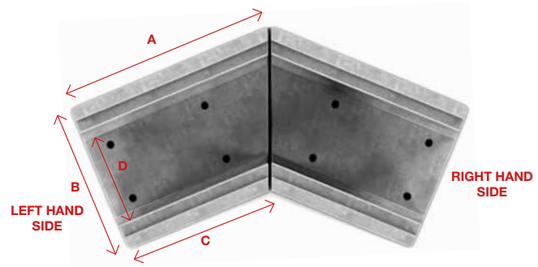


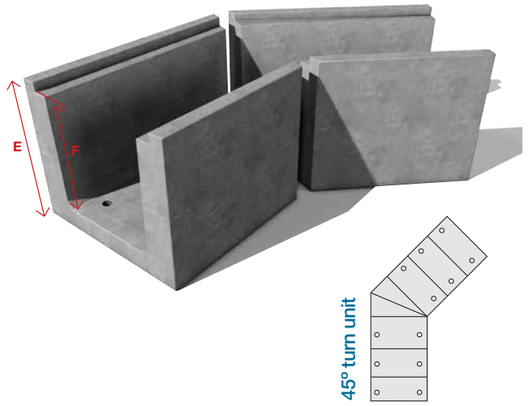


ANGLED UNITS

Angled units are available from stock, care must be taken to ensure suitable for the anticipated traffic/ site movement over these lids. Bespoke designs to suit particular conditions can be provided. Corner, tee and specific angled units are usually available ex-stock. Please contact our sales office to discuss availability.

TYPICAL 22.5º ANGLED UNITS



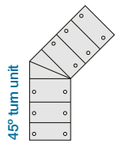


*ANGLED UNIT TROUGH DIMENSIONS

Coding	Width x Depth x Length (mm)	s/w* nominal (kg)	Trough Dimensions (mm)					
			A	B	C	D	E	F
MT 350 300 ABCD 22.5 LH/RH SL	350 x 300 x 1000 TROUGH 22.5 DEG SL	391	1000	635	737	350	525	350
MT 350 300 ABCD 22.5 LH/RH LL	350 x 300 x 1000 TROUGH 22.5 DEG LL	391	1000	635	737	350	525	300
MT 450 450 ABCD 22.5 LH/RH SL	450 x 450 x 1000 TROUGH 22.5 DEG SL	503	1000	750	690	450	675	500
MT 450 450 ABCD 22.5 LH/RH LL	450 x 450 x 1000 TROUGH 22.5 DEG LL	503	1000	750	690	450	675	450
MT 600 300 ABCD 22.5 LH/RH SL	600 x 300 x 1000 TROUGH 22.5 DEG SL	515	1000	900	628	570	550	350
MT 600 300 ABCD 22.5 LH/RH LL	600 x 300 x 1000 TROUGH 22.5 DEG LL	515	1000	900	628	570	550	300
MT 600 600 ABCD 22.5 LH/RH SL	600 x 600 x 1000 TROUGH 22.5 DEG SL	659	1000	900	628	570	800	600
MT 600 600 ABCD 22.5 LH/RH LL	600 x 600 x 1000 TROUGH 22.5 DEG LL	659	1000	900	628	570	800	550
MT 750 500 ABCD 22.5 LH/RH SL	750 x 500 x 1000 TROUGH 22.5 DEG SL	708	1000	1125	534	750	750	550
MT 750 500 ABCD 22.5 LH/RH LL	750 x 500 x 100L TROUGH 22.5 DEG LL	723	1000	1125	534	750	750	500
MT 750 750 ABCD 22.5 LH/RH SL	750 x 750 x 100L TROUGH 22.5 DEG SL	840	1000	1125	534	750	1000	800
MT 750 750 ABCD 22.5 LH/RH LL	750 x 750 x 100L TROUGH 22.5 DEG LL	840	1000	1125	534	750	1000	750
MT 1000 500 ABCD 22.5 LH/RH SL	1000 x 500 x 1590 TROUGH 22.5 DEG SL	1434	1590	1425	1000	1000	750	550
MT 1000 500 ABCD 22.5 LH/RH LL	1000 x 500 x 1590 TROUGH 22.5 DEG LL	1410	1590	1425	1000	1000	750	500
MT 1000 750 ABCD 22.5 LH/RH SL	1000 x 750 x 1590 TROUGH 22.5 DEG SL	1724	1590	1425	1000	1000	1000	800
MT 1000 750 ABCD 22.5 LH/RH LL	1000 x 750 x 1590 TROUGH 22.5 DEG LL	1701	1590	1425	1000	1000	1000	750
MT 1000 1000 ABCD 22.5 LH/RH SL	1000 x 1000 x 1590 TROUGH 22.5 DEG SL	1975	1590	1425	1000	1000	1250	1050
MT 1000 1000 ABCD 22.5 LH/RH LL	1000 x 1000 x 1590 TROUGH 22.5 DEG LL	1975	1590	1425	1000	1000	1250	1000
MT 1250 750 ABCD 22.5 LH/RH SL	1250 x 750 x 1705 TROUGH 22.5 DEG SL	1993	1705	1700	1000	1250	1000	775
MT 1250 750 ABCD 22.5 LH/RH LL	1250 x 750 x 1705 TROUGH 22.5 DEG LL	1953	1705	1700	1000	1250	1000	700
MT 1250 1000 ABCD 22.5 LH/RH SL	1250 x 1000 x 1705 TROUGH 22.5 DEG SL	2297	1705	1700	1000	1250	1250	1025
MT 1250 1000 ABCD 22.5 LH/RH LL	1250 x 1000 x 1705 TROUGH 22.5 DEG LL	2297	1705	1700	1000	1250	1250	950
MT 1250 1250 ABCD 22.5 LH/RH SL	1250 x 1250 x 1705 TROUGH 22.5 DEG SL	2580	1705	1700	1000	1250	1500	1275
MT 1250 1250 ABCD 22.5 LH/RH LL	1250 x 1250 x 1705 TROUGH 22.5 DEG LL	2553	1705	1700	1000	1250	1500	1200

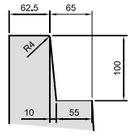
*All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances.
† maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.
Other angled units, including 11.25º, 15º and 30º are available on request

TYPICAL 22.5º ANGLED UNITS

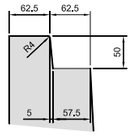


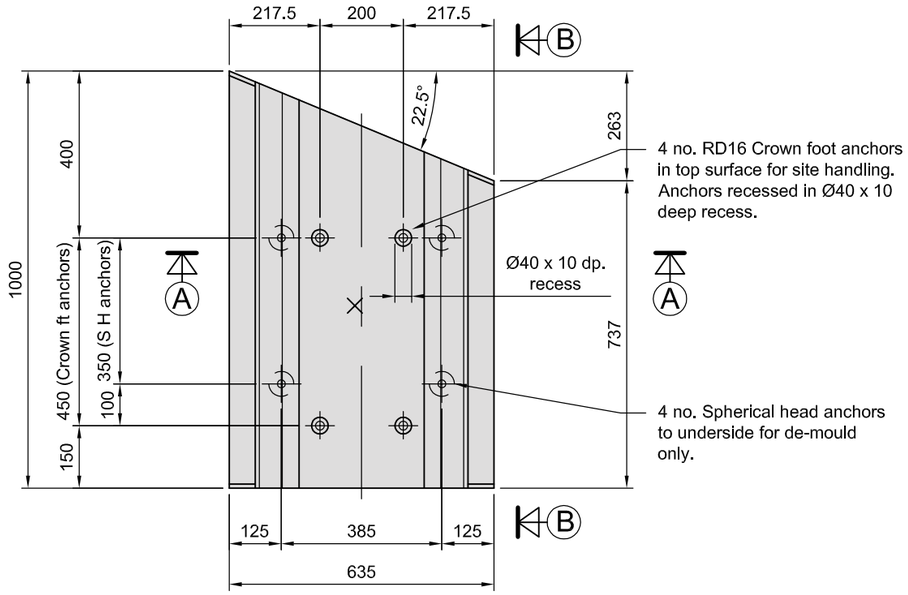
350X300

Long Leg rebate



Short Leg rebate



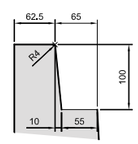


4 no. RD16 Crown foot anchors in top surface for site handling. Anchors recessed in Ø40 x 10 deep recess.

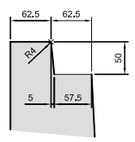
4 no. Spherical head anchors to underside for de-mould only.

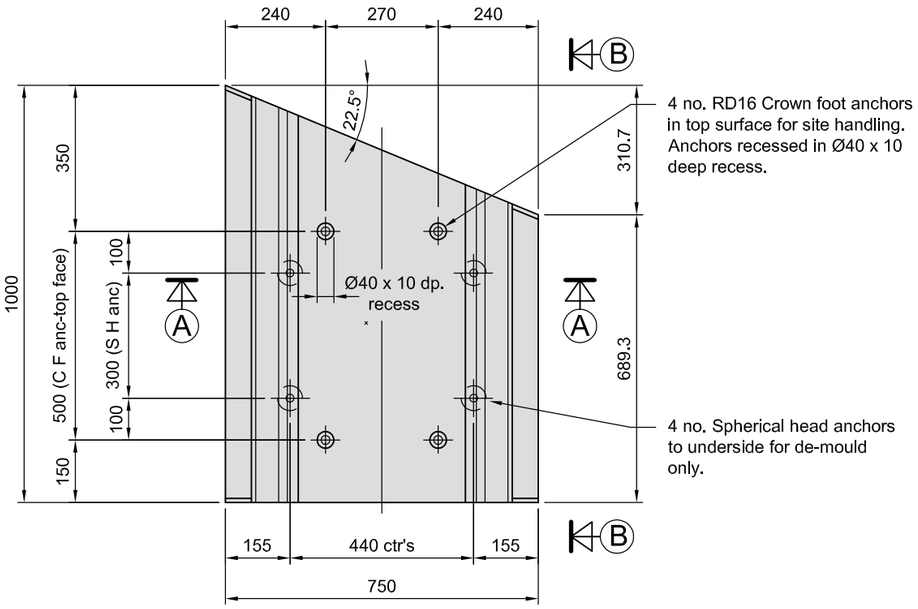
450X450

Long Leg rebate



Short Leg rebate



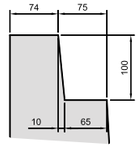


4 no. RD16 Crown foot anchors in top surface for site handling. Anchors recessed in Ø40 x 10 deep recess.

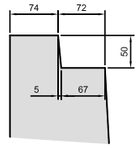
4 no. Spherical head anchors to underside for de-mould only.

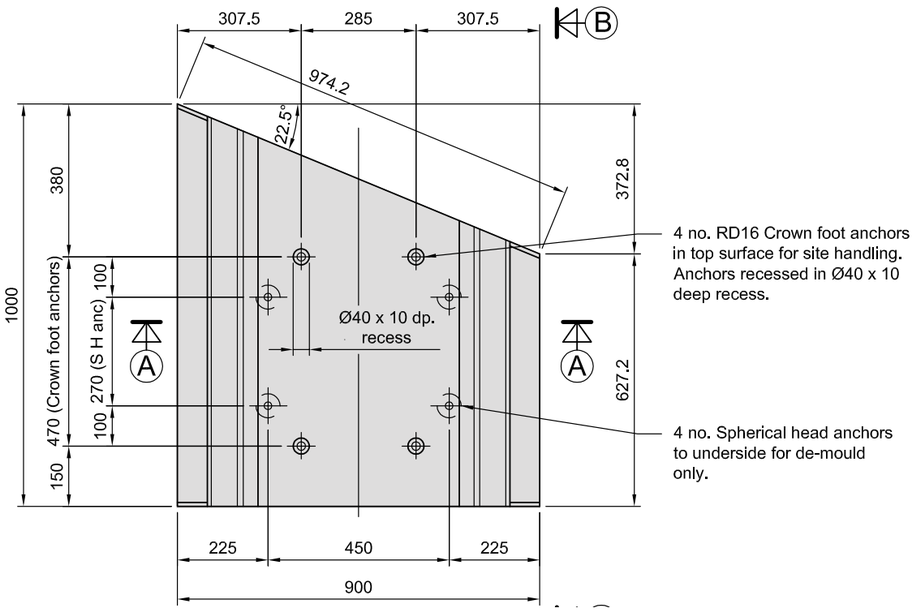
600X300

Long Leg rebate



Short Leg rebate



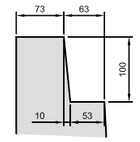


4 no. RD16 Crown foot anchors in top surface for site handling. Anchors recessed in Ø40 x 10 deep recess.

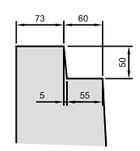
4 no. Spherical head anchors to underside for de-mould only.

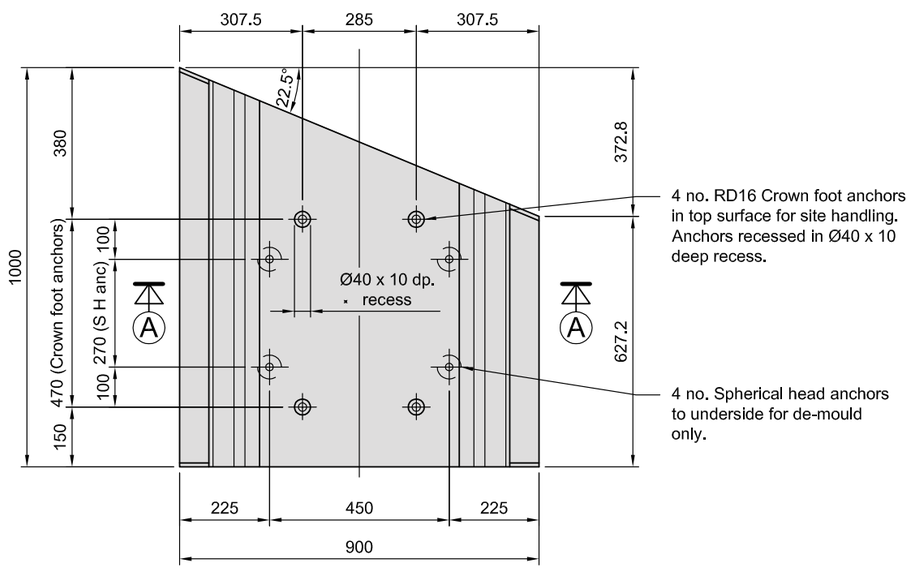
600X600

Long Leg rebate



Short Leg rebate





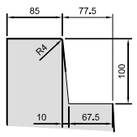
4 no. RD16 Crown foot anchors in top surface for site handling. Anchors recessed in Ø40 x 10 deep recess.

4 no. Spherical head anchors to underside for de-mould only.

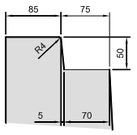
TYPICAL 22.5º ANGLED UNITS

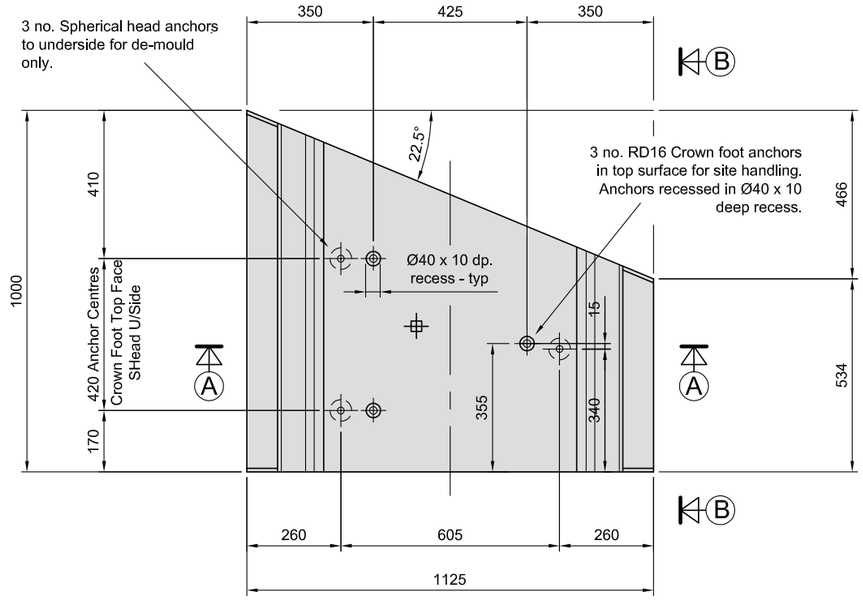
750X500

Long Leg rebate



Short Leg rebate





750X750

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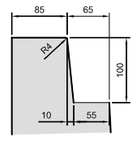

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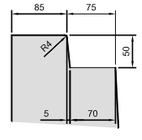
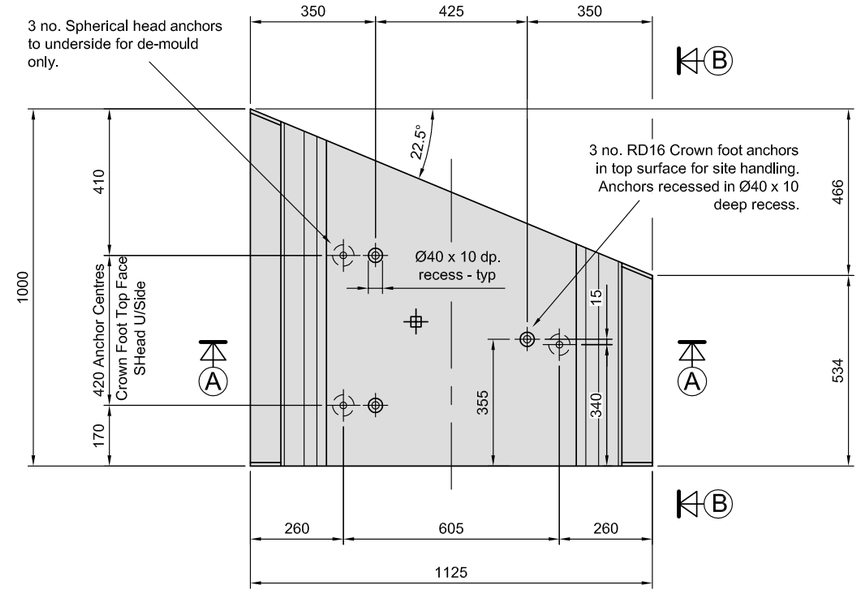
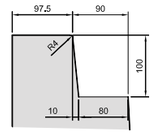




1000X500

Long Leg rebate



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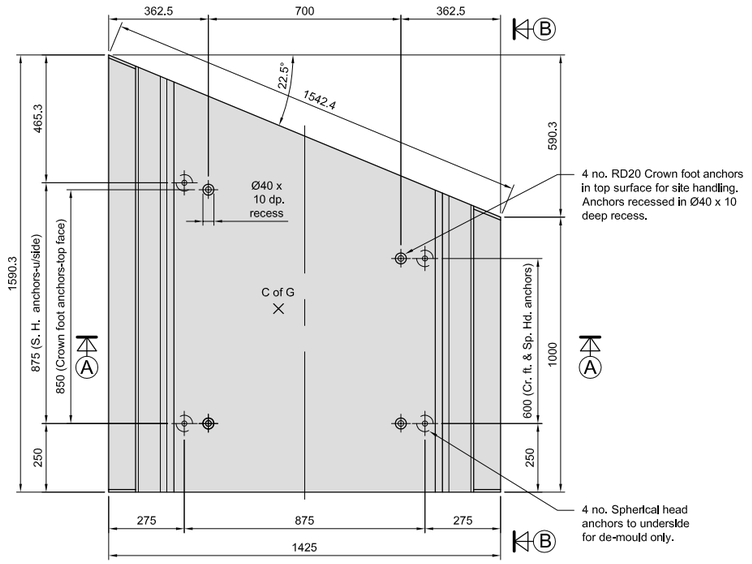

1000X750

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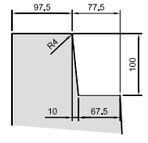

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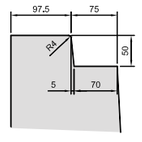
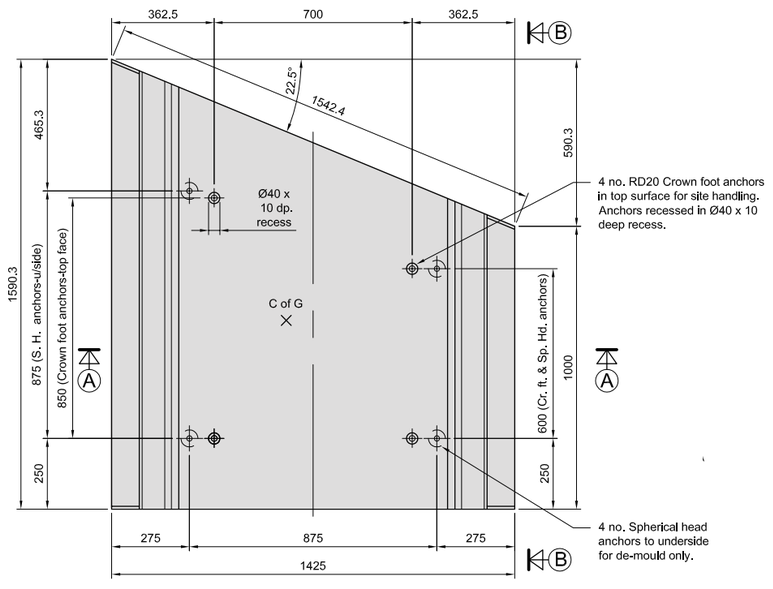
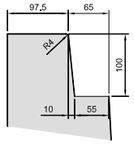




TYPICAL 22.5º ANGLED UNITS

1000X1000

Long Leg rebate



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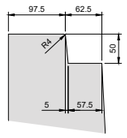
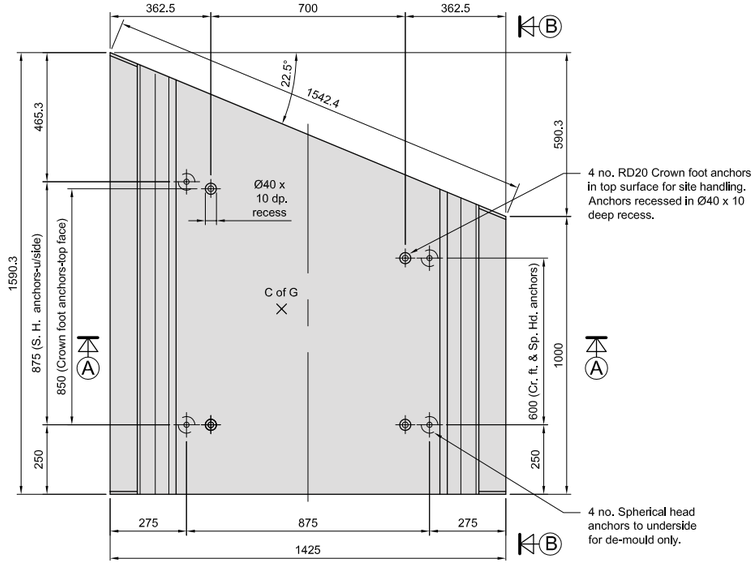
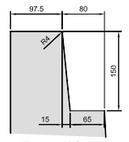


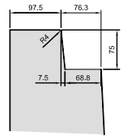


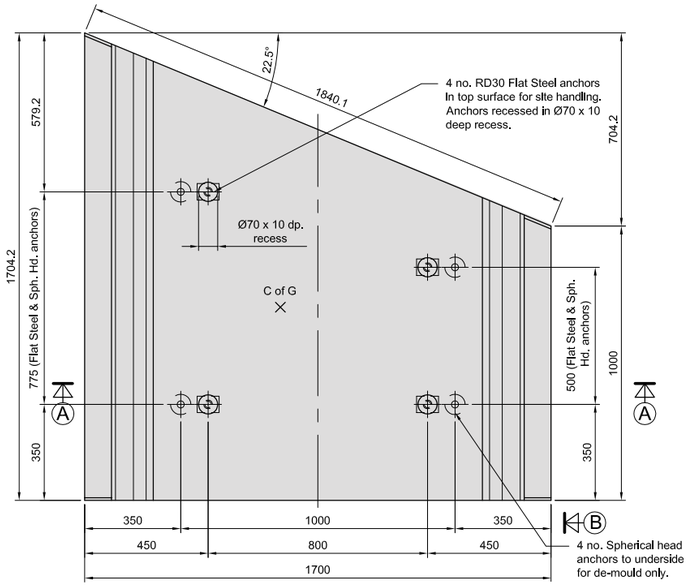
1250X1000

Long Leg rebate



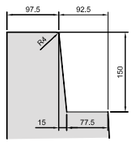
Short Leg rebate





1250X750

Long Leg rebate



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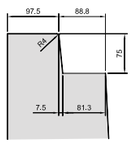

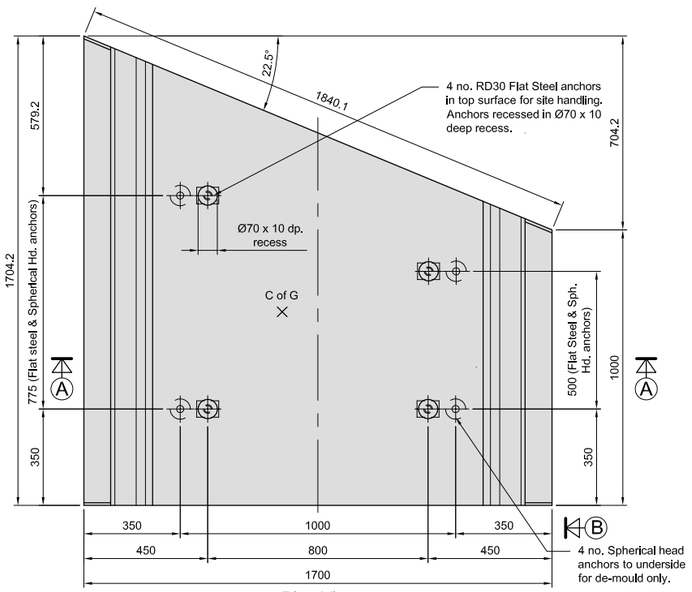

1250X1250

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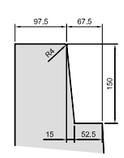
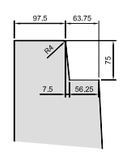
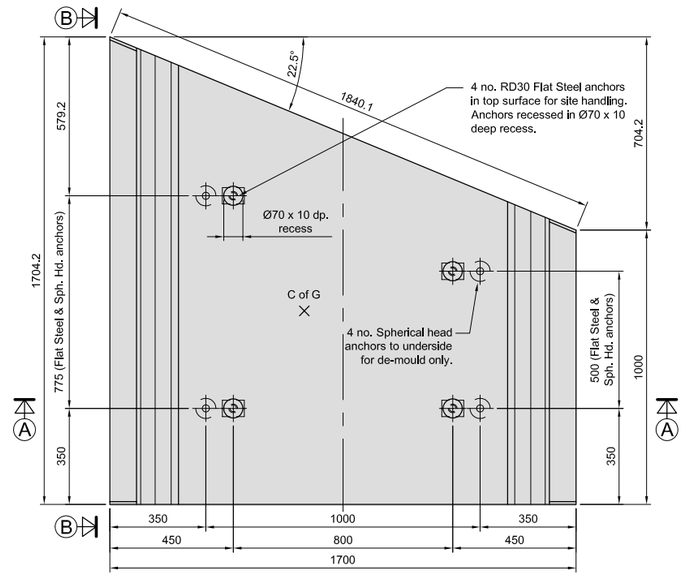


Short Leg rebate





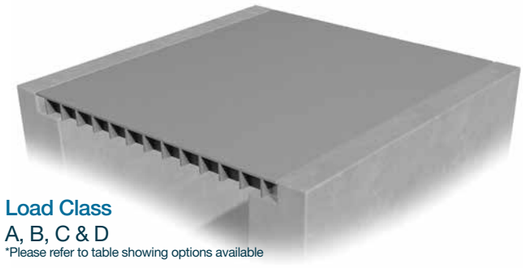
Drawings shown are all Left Hand variations, Right Hand drawings are an opposite hand version of the ones shown above. We also provide 11.25 degree and 15 degree units as a bespoke offering.

TROUGH LIDS

CONCRETE

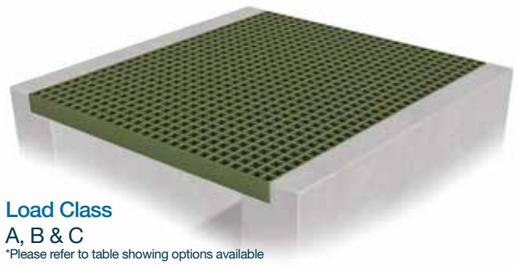
Load Class
A & B

GRP SOLID TOP WITH ANTI-SLIP FINISH



Load Class
A, B, C & D
*Please refer to table showing options available

GRP OPEN MESH WITH ANTI-SLIP FINISH



Load Class
A, B & C
*Please refer to table showing options available

HD STEEL CONCRETE COMPOSITE

Load Class
C & D

NB: All concrete and steel composite covers have cast-in lifting sockets. GRP covers can have lifting slots and locking devices, if required.

TROUGH LID LOADING CLASSES

	Comparison	Wheel Loads		Load Test Data	
FACTA Class	EN124	Wheel Loads (slow moving) Pneumatic	Wheel Loads (slow moving) Solid	Test 1 (Service)	Test 2 (Ultimate)
A	A15	0.6 Tonne (5kN) Please refer to FACTA document on pages 52 & 53	N/A	5.0 x 1.0 x 1.0 = 5.0kN	5.0 x 1.6 = 8.0kN
AA	N/A	1.5 Tonne (15kN) Please refer to FACTA document on pages 52 & 53	N/A	15.0 x 1.1 x 1.15 = 19.0kN	19.0 x 1.6 = 31.0kN
AAA	N/A	2.5 Tonne (25kN) Please refer to FACTA document on pages 52 & 53	0.5 Tonne	25.0 x 1.1 x 1.15 = 32.0kN	32.0 x 1.6 = 52.0kN
B	B125	5.0 Tonne (50kN) Please refer to FACTA document on pages 52 & 53	0.75 Tonne	50.0 x 1.1 x 1.15 = 63.25kN	63.25 x 1.6 = 101.0kN
C	C250	6.5 Tonne (65kN) Please refer to FACTA document on pages 52 & 53	1.0 Tonne	65.0 x 1.1 x 1.15 = 82.5kN	82.5 x 1/6 = 132.0kN
D	D400	11.0 Tonne (108kN) Please refer to FACTA document on pages 52 & 53	3.0 Tonne	108.0 x 1.1 x 1.15 = 137.5kN	137.5 x 1.6 = 220.0kN

LIFTING METHOD

1. Position trough on a level flat area. Fix in lifting loops to each of the four lifting points. Check loops are secure.

2. Attach lifting chains to all four lifting loops.

3. Ensure lifting chains are symmetrical then begin lift.

4. Lift slowly and with care, then place trough in position. Ensure trough is in line and level. Then remove lift chains and unscrew lifting loops.

5. Rubber membrane is required underneath all concrete lids. Minimum thickness of 2mm to reduce noise and vibration effects.

6. Position troughs and where required, apply polyurethane sealant between units.

INSTALLATION

INSTALLATION OPTIONS

There are two ways in which troughs may be installed, as shown in the diagrams opposite:

NOTES

1. The details shown are for guidance only and should be suitably reviewed with regard to actual ground conditions and applied loading. Please request technical details from FP McCann.
2. A Class 1 mortar bed (min 25mm thickness) may be provided between trough and concrete / stone bedding to aid alignment.
3. Where troughs are laid to provide a sealed unit, or where the haunching serves to retain water, the formation of a sump may be necessary. (FP McCann can advise further). Waterproofing specification by 'others'.
4. Where units are to be sealed, a proprietory sealant may be used e.g. polyurethane sealant.
5. Transitions in horizontal and vertical alignment can be achieved by tee and angled units. Various sizes and configurations are available. When using cast in-situ infill sections, FP McCann recommends getting the structural integrity of the units checked, especially in trafficked areas.
6. Rubber membrane is required underneath all concrete lids. Minimum thickness of 2mm rubber bearing strip to reduce noise and vibration effects.
7. Parallel lengths of troughs should not be installed immediately adjacent to each other, minimum 50mm gap is required. However, subject to actual loading conditions, this may be acceptable. For advice, contact FP McCann's technical department.
8. Where lids are subject to frequent slewing by commercial vehicles, the lids may need to be fixed in position with an epoxy mortar.

SURFACE LAID

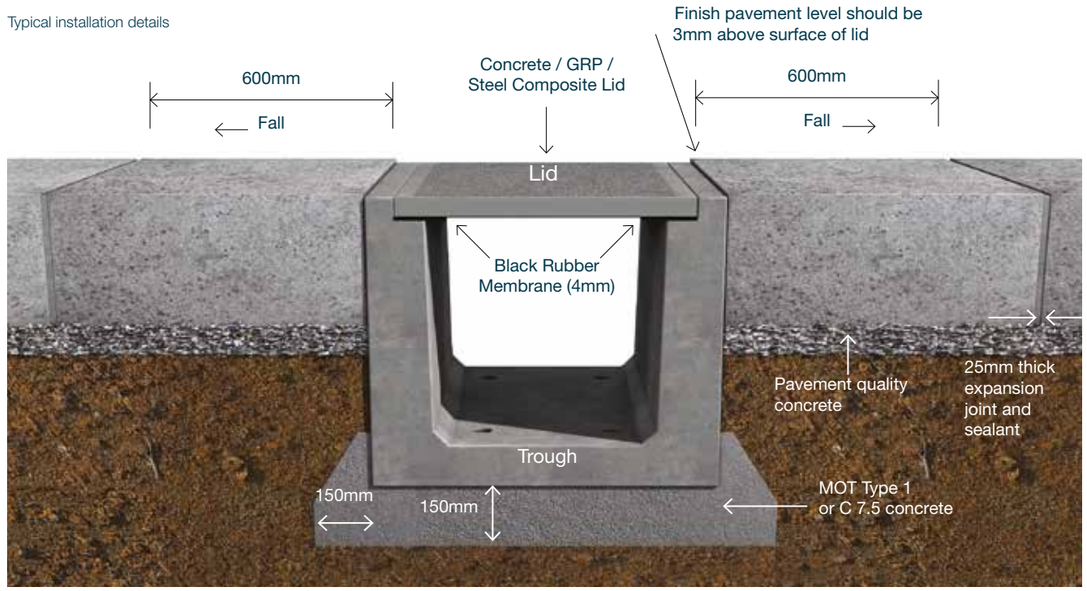
FLUSH WITH THE SURFACE

INSTALLATION PROCEDURE

1. Prepare formation to required level and lay granular/concrete base.
2. Position trough to required line and level.
3. Position adjacent trough and, where required, apply polyurethane sealant between units.
4. Place stone / concrete haunching to sides of trough as installation proceeds.
5. Continue installation procedure to form required length of ducting.
6. Carefully place suitable backfill material around trough to re-form required finished levels. Machinery must not exceed the loading capacity of our units.
7. Install adjacent construction.
8. Install services into ducting.

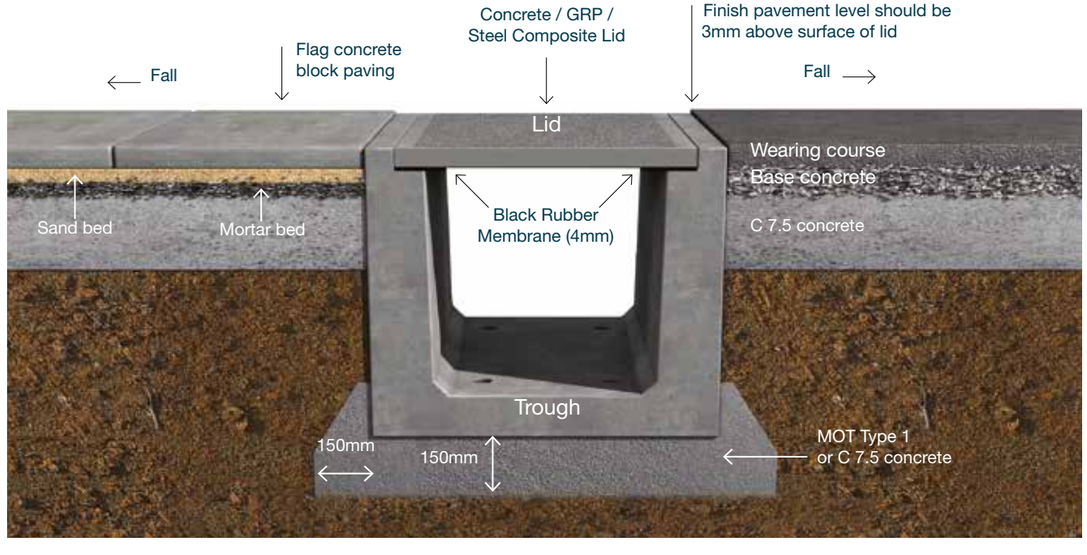
FLUSH IN RIGID CONSTRUCTION

Typical installation details



FLUSH IN FLEXIBLE CONSTRUCTION

Typical installation details



BESPOKE TROUGHS

TRANSITION T

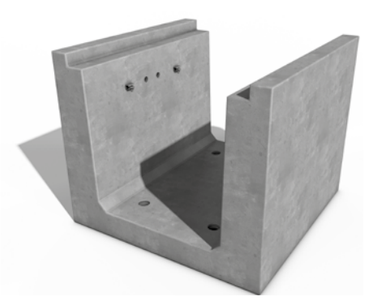
CRUCIFORM

TRANSITION STRAIGHT

STOP END

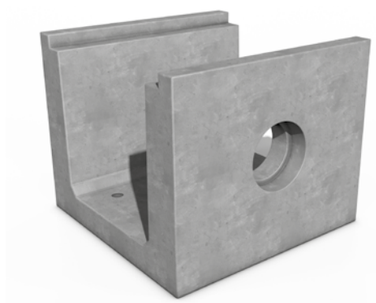
Bespoke troughs are available in two metre lengths for all sizes from 350mmx300mm to 1250mmx1250mm. Further information is available on request.

BESPOKE FEATURES



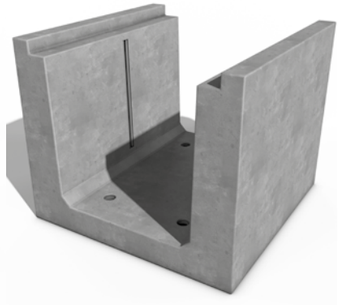
CAST-IN FIXING SOCKETS

For fixing brackets in the sidewall.



SIDEWALL HOLES & BASE HOLES`

Side entry points for pipes, ducts and cables



UNI-STRUT CHANNELS

For fixing brackets at different levels.

FOUNDATION BASES

FP McCann's precast concrete foundation bases are durable, factory-manufactured foundations designed to support electrical switchgear and related utility equipment. Engineered for strength, stability, and long-term performance, these bases provide a level, non-corrosive platform that simplifies the installation and maintenance of electrical infrastructure.

These are made to order, complete with cast-in sockets, fixings and protrusions to the client's design or by FP McCann's bespoke design [subject to commercial and design parameters]. We can also quote precast base units suitable for cctv, marshalling kiosks and palisade fencing panels. Please contact our sales office for more details.

FIRE WALLS

FP McCann manufactures two types of prestressed panels that are ideal for fire walling. With the choice of vertical cantilever panels or horizontal panels and columns, fire walling is designed to contain fire from 30 minutes up to 4 hours, depending on the thickness of the panel.

Rapid installation is possible due to the tongue and grooved joints. Standard column sections vary dependant on overall wall height and are made to order to suit customer requirements. Fire walls and columns can be manufactured to the clients' own design or to FP McCann's design specification.

KEY FEATURES AND BENEFITS

Vertical Cantilever Panels

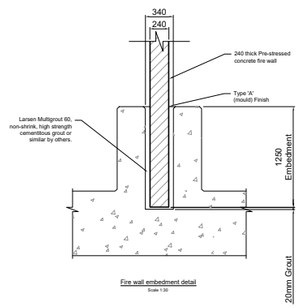
- Overall wall heights of up to 7.5 metres effective height can be achieved
- The panels are slotted and grouted into a preformed pocket in the bund/ foundation

Horizontal Panels

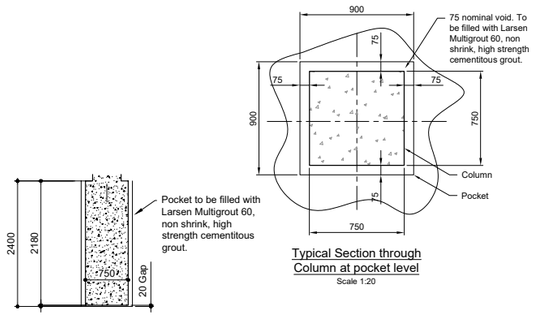
- Overall wall heights of up to 10 metres effective height can be achieved
- Panels slot between precast columns and are embedded into the ground via preformed pockets, which are then grouted into position using high-strength grout
- It negates the need for a full length trench to be excavated and poured with concrete, instead favouring easily formable localised pockets at specific centres

Panel Thickness (mm)	Fire Rating (hrs)
80	0.5
120	1.5
160	3.0
200	4.0
240	4.0

EXAMPLE OF VERTICAL POCKET DETAIL



EXAMPLE OF HORIZONTAL POCKET DETAIL



BLACKHILLOCK SYCON FIREWALLS

FP McCann has supplied and installed a 4-hour rated firewall as part of a new development to construct the Blackhillock Synchronous Condenser facility at a 400kV substation in Keith, Moray. The energy management facility uses the dedicated substation for the Beatrice offshore wind farm to connect to the National Grid.The site comprises a new electricity infrastructure compound including plant rooms, transmission compound and access road.

To protect the high voltage transformer and the Grid Stability Building, FP McCann, working alongside Dingwall based specialist civil engineer RJ McLeod (Contractors) Ltd, has installed an 8 bay precast concrete firewall measuring approximately 72 metres long with 200mm thick panel walls.

The wall has been constructed using FP McCann steel reinforced precast concrete 'H' columns and special prestressed precast concrete horizontal wall panels, all manufactured at the Company's Lydney factory in Gloucestershire.

COMMUNICATION BOXES

Unique cable and junction protection boxes are made from reinforced concrete and can be installed in minutes, with the one piece construction design providing easy access for cable jointing and maintenance.

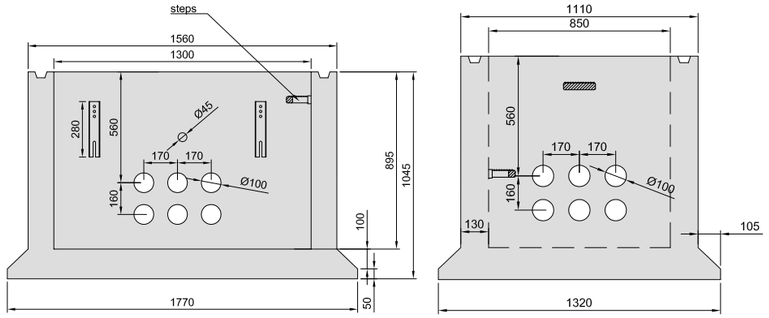
Communications boxes are mainly used in infrastructure works to include airports, railway projects, roads and housing developments. Cable pit chambers and other units for street lighting are also available in different sizes.

FEATURES

- Reinforced concrete walls
- Integrated reinforced base*
- Base incorporating sump*
- Splayed base to aid stability*
- Preformed cable entry points
- Easily manoeuvred with lifting eyes
- Suitable for up to 30 units HB loading
- Ironmongery fitted^
- Plastic encapsulated steps fitted*^
- Complementary lids are available from good Builders Merchants
- Bespoke duct arrangements available on request

* Comms J4 has no base, sump or steps
^ Comms DP has no ironmongery or steps fitted

COMMS MCX

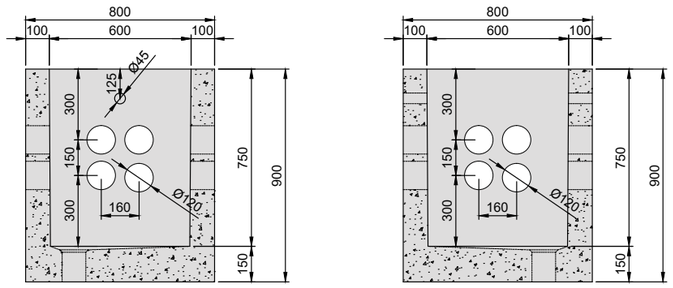


Dimensions	Length mm	Width mm	Height mm	Weight kg
Chamber	1300	850	900	2100
Riser	1300	850	300	300
Concrete Cover Slab*	1570	1120	150	300

COMMS MCX ADDITIONAL FEATURES

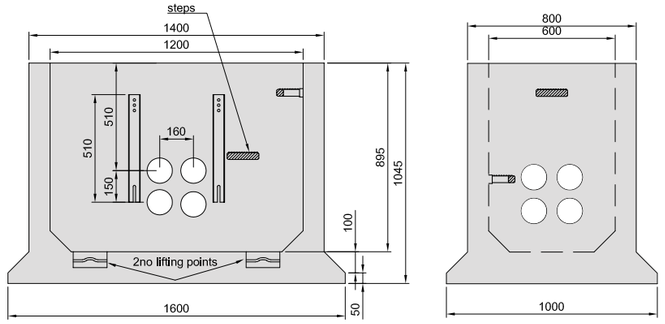
- Highway construction details MCX compliant
- *Complementary reinforced concrete riser and cover slab are available from FP McCann

COMMS 600



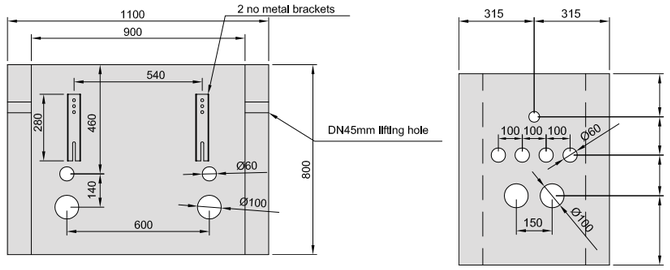
Length mm	Width mm	Height mm	Weight kg
600	600	750	806

COMMS C2



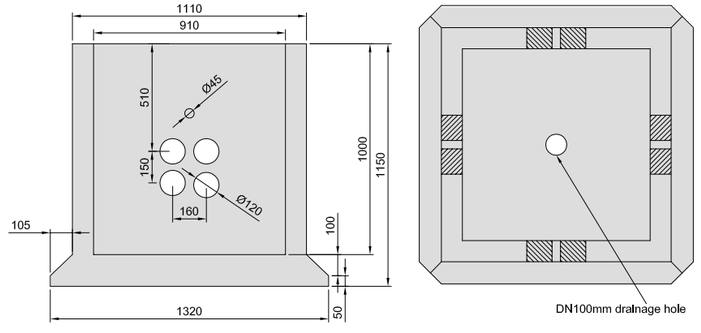
Length mm	Width mm	Height mm	Weight kg
1200	600	895	1440

COMMS J4



Length mm	Width mm	Height mm	Weight kg
910	440	800	590

COMMS DP



Length mm	Width mm	Height mm	Weight kg
910	890	1000	1390

MULTI-PURPOSE CHAMBERS

FP McCann's precast concrete multi-purpose chambers can be adapted to suit any site requirements. Their flexible design means that they can be factory fitted with duct couplers, step irons, sump units and rebated walls, as required. Multi-purpose chambers can be supplied to suit any loading requirements including up to F900+ for airports and similar heavy-duty applications.

FP McCann's multipurpose chambers also known as duct access chambers, or cable drawpits are typically used in Utilities, Power, Telecommunication & Water sectors.

CAST-IN ITEMS

If required, the chambers can be delivered with pre-fitted:

- Steps
- Ladders
- Duct Couplers
- Sumps
- Recesses for beam
- Rebates for lids
- Earthing Rods
- Starter Bars

PRODUCT FEATURES

- Available in a large range of sizes from 1250mm x 1250mm to 3000mm x 3000mm
- Base units available in heights up to 2400mm
- Riser sections can be added to increase finished height as required and cover slabs also available
- Suitable for a variety of applications especially for the energy and water industries
- Heavy-duty loading
- Easy access for maintenance

Internal		Wall Thickness (mm)	Base Thickness (mm)	Max Height (mm)	Weight at Max Height (tonnes)
Length (mm)	Width (mm)				
1250	1250	200	200	2400	9.0
1500	1500	200	200	2400	10.7
2000	1500	200	200	2400	12.5
2000	2000	200	200	2400	14.4
2400	1800	200	200	2400	14.1
2500	2000	200	200	2400	16.3
2500	2500	200	200	2400	18.4
3000	2500	200	200	2400	20.4
3000	3000	200	200	2400	22.6

The sizes above are examples only, other sizes can be manufactured to suit your project requirements

AIRPORT PIT SOLUTIONS

Precast bespoke pit solutions now provide a real alternative to in-situ built pits.

Most airfield projects require the construction of large concrete pits for the main electrical and communication installations. Traditionally, due to their size, these have been constructed in-situ. A modular concrete design has been developed which is factory produced and then assembled on site.

This whole approach has produced a solution which has made a significant and sustainable contribution towards reducing the impact of construction works in the airport environment, including time spent on-site, runway possessions and noise.

The end product is of a consistently high quality and has the added value of being easier to maintain and alter in the future.

WHY CHOOSE AN OFF-SITE SOLUTION?

Traditionally, pits have been created using in-situ construction methods. This process has proved to be labour intensive, time consuming, noisy and wasteful, whilst potentially posing a number of safety hazards, particularly on projects associated with deep excavations. Off-site construction reduces a number of safety hazards and also reduces the man hours required on-site by 95 per cent from 300 down to 15 hours per pit.

This reduction impacts upon the amount of traffic deliveries to site, therefore reducing site storage and site waste. It also eliminates possible delays during construction, thereby improving programme reliability.

FLEXIBLE DESIGN

The design of the pits incorporates specially formed plastic sleeves which contain built-in stoppers.

The collars are placed in a cluster arrangement avoiding the need to know exactly where future cable runs are. Once a cable location is known, the built-in stopper within the plastic sleeve can be easily removed.

The added benefit of the built-in stopper is that during installation and throughout its life, water ingress through the ducts is prevented. There are many other benefits, some of which are listed below:

PRODUCT BENEFITS

- 95 per cent reduction in site man-hours for pit construction
- 85 per cent reduction in on-site construction programme
- 55 per cent reduction in lorry movements for deliveries
- Virtual elimination of on-site waste
- Elimination of need for confined space working
- Significant reduction in site noise
- Provision of a consistently high quality product
- Product designed for future alterations

Where large repetition exists, FP McCann is able to develop a pit solution to suit the specific needs of the client. Typically, these could provide high quality infrastructure for utility companies where large numbers of standard pits are required and where site conditions and constraints require a quick build time.


Quick modular build up


Base preparation


Multiple inlet and outlets provide a flexible solution for services


Pit built to required depth


Completed works

PRECAST AIRPORT PIT TYPES

All moulds are of steel fabrication and produce the following pit types;

- **PP3** – made up of varying thickness sections to give the required pit depth – 2.3mtrs square internal
- **PP5** – As above – 1.5mtrs square internal
- **PE1** – made up of one box unit and a precast cover that has a F900 single access cover encast – 800mm x 725mm x 1.2mtrs deep internal
- **PE2 A** – as above but has a precast cover that has a F900 double access cover encast – 1500mm x 700mm x 1100mm deep internal
- **PE2 B** – as above but has a precast cover that has a F900 double access cover encast – 1500mm x 700mm x 1350mm deep internal
- **PE2 C** – as above but has a precast cover that has a F900 double access cover encast – 1500mm x 700mm x 1500mm deep internal
- **PE3 A** - as above but has a precast cover that has a F900 triple access cover encast – 2300mm x 700mm x 1100mm deep internal
- **PE3 B** - as above but has a precast cover that has a F900 triple access cover encast – 2300mm x 700mm x 1350mm deep internal
- **PE3 C** - as above but has a precast cover that has a F900 triple access cover encast – 2300mm x 700mm x 1500mm deep internal

PIT TYPE	UNIT	DESCRIPTION	UNIT WEIGHT (TONNES)	EXT. LENGTH (MM)	EXT. WIDTH (MM)	EXT. DEPTH (MM)	INT DIMS (M)
PP3	A	Base Unit	5.84	3500	3500	350	2.3 x 2.3
PP3	B	Jacking Unit	5.15	2900	2900	600	2.3 x 2.3
PP3	C	Duct Unit	4.64	2900	2900	850	2.3 x 2.3
PP3	X	Duct Unit	5.98	2900	2900	1100	2.3 x 2.3
PP3	D	Spacer Unit	6.32	2900	2900	800	2.3 x 2.3
PP3	E	Spacer Unit	3.93	2900	2900	500	2.3 x 2.3
PP3	F	Spacer Unit	3.14	2900	2900	400	2.3 x 2.3
PP3	G	Spacer Unit	2.34	2900	2900	300	2.3 x 2.3
PP3	H	Cover '2' part lid	7.94	2940	2940	400	2.3 x 2.3
PP3	H3	Cover '3' part lid	8.97	2940	2940	500	2.3 x 2.3
PP3	H3 'O'	Cover '3' part lid	8.97	2940	2940	500	2.3 x 2.3
PE2	A	Base Unit	5.31	2100	1300	1100	1.5 x 0.7
PE2	B	Base Unit	6.41	2100	1300	1350	1.5 x 0.7
PE2	C	Base Unit	7.07	2100	1300	1500	1.5 x 0.7
PE2	CVR	Cover '2' part lid	1.80	2130	1330	300	1.5 x 0.7
PP5	A	Base Unit	3.87	2700	2700	350	1.5 x 1.5
PP5	B	Jacking Unit	3.73	2100	2100	600	1.5 x 1.5
PP5	C	Duct Unit	3.64	2100	2100	850	1.5 x 1.5
PP5	X	Duct Unit	4.67	2100	2100	1100	1.5 x 1.5
PP5	D	Spacer Unit	4.23	2100	2100	800	1.5 x 1.5
PP5	E	Spacer Unit	2.65	2100	2100	500	1.5 x 1.5
PP5	F	Spacer Unit	2.12	2100	2100	400	1.5 x 1.5
PP5	G	Spacer Unit	1.59	2100	2100	300	1.5 x 1.5
PP5	H	Cover '2' part lid	3.84	2140	2140	400	1.5 x 1.5
PE1	A	Base Unit	3.87	1400	1325	1150	0.8 x 0.725
PE1	CVR	Cover '1' part lid	1.37	1430	1355	300	0.8 x 0.725
PE3	A	Base Unit	6.58	2900	1300	1000	2.3 x 0.7
PE3	B	Base Unit	7.97	2900	1300	1250	2.3 x 0.7
PE3	C	Base Unit	8.81	2900	1300	1400	2.3 x 0.7
PE3	CVR	Cover '3' part lid	2.35	2940	1340	400	2.3 x 0.7

FACTA vs BS EN 124

What are the differences between FACTA and BS EN 124?

The Fabricated Access Covers Trade Association (FACTA) provides a specification that enables the use of diverse materials, offering greater design flexibility for fabricated access covers —a versatility not typically found in cast alternatives. The EN 124 standard was initially implemented to standardise the loading expectations for access covers in the market. However, its introduction inadvertently led to confusion and questions among manufacturers and suppliers regarding the standard's methodology for determining crucial specifications. A key distinction lies in their differing test load methodologies: FACTA accounts for the elastic properties inherent in steel, whereas EN 124 incorporates dynamic effects from high-speed vehicles. Notably, FACTA deems these dynamic considerations unnecessary, as its specified steel covers are intended solely for areas with slow-moving traffic.

	Comparison**	Wheel Loads		Load Test Data	
FACTA Class	EN124	Wheel Loads * (slow moving) Pneumatic	Wheel Loads * (slow moving) Solid	Test 1 (Service)	Test 2 (Ultimate)
A	A15	0.6 Tonne (5kN)	N/A	5.0 x 1.0 x 1.0 = 5.0kN	5.0 x 1.6 = 8.0kN
AA	N/A	1.5 Tonne (15kN)	N/A	15.0 x 1.1 x 1.15 = 19.0kN	19.0 x 1.6 = 31.0kN
AAA	N/A	2.5 Tonne (25kN)	0.5 Tonne	25.0 x 1.1 x 1.15 = 32.0kN	32.0 x 1.6 = 52.0kN
B	B125	5.0 Tonne (50kN)	0.75 Tonne	50.0 x 1.1 x 1.15 = 63.25kN	63.25 x 1.6 = 101.0kN
C	C250	6.5 Tonne (65kN)	1.0 Tonne	65.0 x 1.1 x 1.15 = 82.5kN	82.5 x 1/6 = 132.0kN
D	D400	11.0 Tonne (108kN)	3.0 Tonne	108.0 x 1.1 x 1.15 = 137.5kN	137.5 x 1.6 = 220.0kN

FACTA vs BS EN 124

IMPORTANT CONSIDERATION: According to the "Road Vehicles (Authorised Weight) Regulations 1998" in the UK, individual axle weights are capped at a maximum of 11.5 tonnes. For detailed information on maximum design load or load-bearing capacity, please consult the 'Service Test' documentation.

- Wheel loads are considered 'slow moving' when speeds do not exceed 20 mph and are applied in areas with low traffic intensity. For locations anticipating higher traffic volumes or speeds, it is advisable to select an access cover with a greater load classification.

- These comparisons serve as a general guide to the typical appropriate application areas for each product class and should not be interpreted as direct, equivalent performance metrics. The comparisons are provided for informational purposes only and are not intended to be precise.

How do FACTA and BS EN 124 standards align?

FACTA has developed a classification system that details the load-bearing capabilities of its various classes, encompassing both gross laden and slow-moving loads. This system also provides a comparative reference to the equivalent loading classifications within the EN 124 specification. For instance, FACTA Class B is considered directly comparable to EN 124's B125. Furthermore, the typical applications for each load classification, across both specifications, are outlined in the table provided previously.

Determining the Right Specification: FACTA or EN 124?

Historically, access covers were categorised into three distinct wheel load capacities:

- 5 kilonewtons (0.5 Tonne)
- 50 kilonewtons (5.0 tonnes)
- 115 kilonewtons (11.5 tonnes)

Guidance from the FACTA publication, 'Specification for Fabricated Access Covers,' clarifies the alignment of the first two categories with BS EN 124 as follows:

- An A15 classification is equivalent to a 5kN (0.5 Tonne) slow-moving pneumatic wheel load.
- A B125 classification corresponds to a 50kN (5.0 Tonne) slow-moving pneumatic wheel load.

While the FACTA specification assigns a 6.5 Tonne rating to a C250 cover and an 11.0 Tonne rating to a D400 cover (the latter being the closest to the historical upper limit), it's important to note that these ratings incorporate allowances for dynamic forces from fast-moving vehicles. This consideration is often unnecessary on sites where speed restrictions are in place.

For instance, a D400 cover is typically recommended for heavy-duty plant areas, carriageways, and industrial service roads where heavy goods vehicles (HGVs) might reach speeds of up to 20 mph.
However, the current maximum legal wheel load on British roads is 6.5 tonnes. Although abnormal loads can exceed this, they are usually distributed across multiple axles to remain within acceptable limits. Consequently, for most access roads, specifying a C250 cover is generally considered a more pragmatic and cost-effective solution than the standard maximum requirement.

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PRECAST BASES & TROUGHS AT ECCLES SUBSTATION

Site: Eccles Substation (Scottish Borders) – Power Infrastructure Extension Works

Client: SP Energy Networks (SPEN)

Main Contractor: I&H Brown Ltd

Products Supplied: Bespoke Precast Concrete Electrical Foundation Bases;
Precast Concrete Cable Troughs

As part of a major extension project at Eccles Substation to reinforce the electricity transmission network and connect proposed renewable energy developments to the grid, FP McCann precast concrete products are playing an integral role in the civil engineering works, by providing platform bases for electrical equipment within a building that will house two hybrid synchronous compensators.

The hybrid synchronous compensators maintain the stability of the network and help manage the reduction in inertia which is lost as synchronous generation such as fossil fuel coal and gas plants are replaced by renewable energy.

The existing Eccles Substation west of Coldstream in the Scottish Borders, is a key part SP Energy Networks (SPEN) and is recognised as a nationally important facility, forming a key part of the electricity network to enable cross-borders electricity transmission. On completion, the expanded Eccles site will provide key infrastructure supporting the transition towards net zero targets.

The groundworks and platform construction is being undertaken by Perth based civil engineering specialist I&H Brown Ltd. Site clearance and construction of an access road have been completed together with 36,000m3 of aggregate infill and 97,000m3 of geotextile to form the foundation.

VERTICAL CANTILEVER WALLS AT KINGS LYNN SUBSTATION

Site: Fire Protection Wall, Kings Lynn B Substation

Client: Morrison Energy Services (On Behalf of National Grid)

Civil Engineering Contractor: Mezini Brothers Ltd

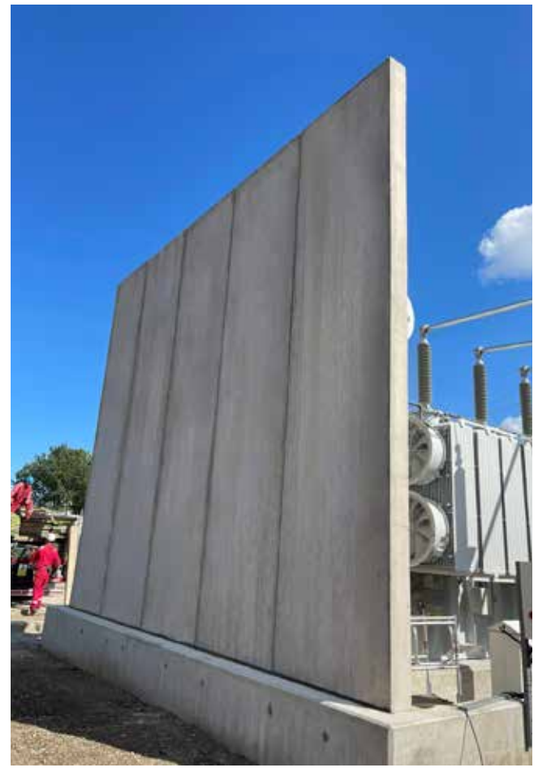
Products Supplied: FP McCann 4-hour rating Prestressed Precast Concrete Vertical Cantilever Panels

FP McCann has supplied two 4-hour rated precast vertical panel firewalls to provide a fire protection barrier to an electricity transformer at the National Grid Kings Lynn B substation. Working on behalf of Morrison Energy Services, the prestressed cantilever walls have been installed by Milton Keynes based civil engineer Mezini Brothers Ltd.

Morrison Energy Services work with national energy networks and publicly owned organisations to repair, renew, refurbish and maintain the country's gas, electricity and green energy infrastructure.

To protect the high voltage transformer, Mezini Brothers has installed the vertical cantilever walls providing effective firewall heights of 6.275 metres and 3.80 metres. The overall height of each of the larger panels supplied is 7.325 metres with a foundation embedment depth of 1.05 metres and 4.50 metres for the smaller wall with an embedment depth of 0.70 metres. The foundation base for the walls has been pre-formed on site. Each individual tongue and groove prestressed precast concrete panel is 240mm thick to provide the specified 4-hour fire rating.

FP McCann's prestressed vertical cantilever panel system provides the user with a more cost-effective and time-efficient walling solution when compared to a traditional in-situ wet-cast build. The prestressed high tensile steel wire tendons within the precast concrete unit allows for greater strength in a longer and more slender panel, with prestressing significantly reducing the incidence of tensile cracking in the panels. Foundations for each wall can be individually designed to suit the site's loading or fire protection requirements.



CABLE DUCTS INSTALLED AT LONDON POWER TUNNELS SUBSTATION

Site: Kensall Green, South London

Client: National Grid

Contractor: Morgan Sindell

Products Supplied: Precast Concrete Cable Ducts

As part of the huge £1billion London Power Tunnels programme to enhance electricity supply to the capital including the new Crossrail scheme, National Grid and its construction partners have undertaken 32 km of tunnel boring work to carry 400kV circuits between St John's Wood and Willesden and between Wimbledon and Kensal Green.

In order to connect these new grid supply points, two new substations at Highbury and Kensal Green have been built. The Kensal Green site is specifically required to provide a traction supply point for Crossrail.

Forming part of the Electricity Alliance Central (EAC), Morgan Sindall, one of the London Power Tunnels construction partners, is responsible for the main building works at Kensal Green. Carrying the high voltage network cabling to and from the new gas insulated switchgear (GIS) substation are FP McCann's precast concrete cable ducts. The heavy duty units are buried flush with the surface to protect the power network from accidental or malicious damage, but allow for easy access for maintenance and repair.

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