



DESIGN & INSTALLATION GUIDE



Innovation & Expertise

PVCu Soil and Waste Systems

Marley Plumbing & Drainage offer a comprehensive range of soil and waste systems. Available with a variety of jointing methods and manufactured to UK and European standards and are designed for use on commercial and residential projects.

Product specification information

This guide contains design and installation information for Marley PVCu soil & waste drainage systems. All documentation can be downloaded from marleypd.co.uk

Key

ABS = Acrylonitrile butadiene styrene
 PVC-c = Chlorinated Polyvinyl Chloride
 PVCu = Poly vinyl chloride un-plasticised
 PP = Polypropylene



BS EN ISO 9001:2008
 BS EN ISO 14001:2004

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Marley Soil & Waste Systems

PVCu soil and waste systems

The PVCu soil system is available in 82, 110 and 160mm push-fit and solvent weld options incorporating socketed and plain ended pipe.

110 and 160mm pipe support components have been designed specifically to support horizontal or vertical suspended PVCu pipework.

Pipes and fittings are also suitable for use as internal and external rainwater pipes to drain flat roofs and metal gutter systems on commercial and industrial buildings.



Waste ranges

Solvent waste		Push-fit waste	Overflow	Compression waste	Traps
PVCu	ABS	Polypropylene	PVCu	Polypropylene	Polypropylene
Suitable for internal and external applications.	Lightweight and cost effective for internal installation. Easy to cut joint and install.	For internal use, ideally suited to fast installation. Cost effective solution where systems are being installed or modified.	A complete range of pipework and fittings for overflow and boiler condensate applications.	Multi-fit compression socket, for internal use. Easy installation to similar sized new or existing plastic and copper pipework.	A range of traps, which enable quick & easy installation to any new or existing plastic or copper pipework.
Available in 32, 40 and 50 mm	Available in 32, 40 and 50 mm	Available in 32, 40 mm	Available in 21.5 mm	Available in 32, 40 mm	Available in 32, 40 and 50 mm
White & Black	White, Black & Grey	White, Black & Grey	White	White & Chrome	White & Chrome

* For information on Multikwik compression waste and traps visit marleypd.co.uk.

ABS and polypropylene waste pipes and fittings are designed for internal use and should not be fitted externally as they will be subject to ultraviolet light degradation. If fitted externally it is recommended that they are protected by the application of a suitable paint or are boxed in.

Features and benefits

- Push-fit or solvent weld jointing
- Light weight
- Easy to handle on site
- Quick and easy to install, saving time and money
- Provides quick and hygienic removal of sanitary waste water
- All collar bosses are individually pressure tested to ensure joint integrity
- Hole saw locator on all bosses for ease of installation

Key product information:

- 82mm, 110mm and 160mm Soil sizes
- 32mm, 40mm and 50mm Waste sizes

Typical applications:

- Apartments
- Hotels
- Libraries
- Hospitals
- Public buildings
- Restaurants
- Residential properties

HDPE soil

The HDPE soil range is certified to BS EN 1519: 2000 (licence number KM 545820) An extension of the Marley soil & waste portfolio, the HDPE range offers an alternative solution to cast iron.

It is particularly suited for commercial applications or where a product with high impact or abrasion resistance is required, such as hospitals, hotels, schools, as well as residential buildings.



Key fitting: Aerator

The need for secondary venting in high-rise buildings can be eliminated with the aerator. An aerator fitting breaks the discharge fall on each floor and as a consequence the secondary vent pipe is not required as the pressure difference stays well within the limit of 3 mbar.

The unique shape of the fitting increases the capacity of the stack allowing the soil and waste flow from the higher floors to smoothly converge with the flow on the lower floor.

dBlue Acoustic soil

An acoustic soil and waste range with a layered pipe providing quick, hygienic removal of sanitary waste water. The noise generated by the flow of water is dramatically reduced – making it perfect for multi-occupancy apartment blocks and high specification developments.



Solvent waste – PVC-c

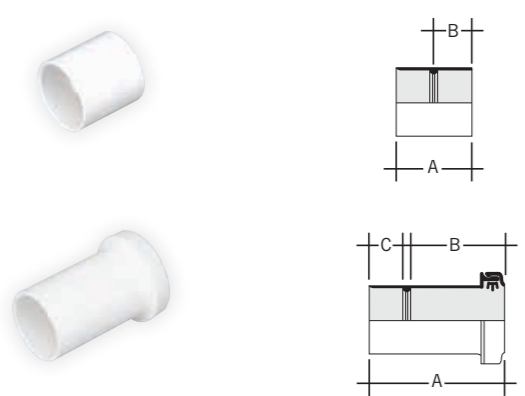
PIPE



Size mm	Code	Length	Colour	Qty
32	KP104	4m	W B	10
40	KP204	4m	W B	10
50	KP304	4m	W B	5

Double spigot

STRAIGHT COUPLINGS

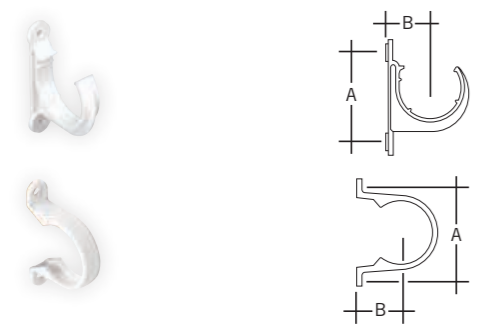


Size mm	Code	A	B	Colour	Qty
32	KSC1	46	20	W B	60
40	KSC2	53	24	W B	30
50	KSC3	66	28	W B	30

Size mm	Code	A	B	C	Colour	Qty
32	KEC1	86	61	20	W	10
40	KEC2	90	64	23	W	10
50	KEC3	82	50	30	W	10

Expansion/adaptor

PIPE CLIPS



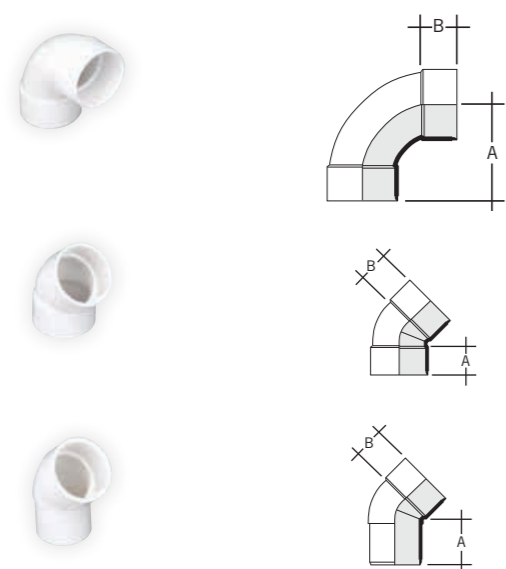
Size mm	Code	A	B	Colour	Qty
32	KF1	57	30	W B G	100
40	KF2	62	30	W B G	100
50	KF3	77	41	W B G	80

Open clip

Size mm	Code	A	B	Colour	Qty
32	WC3	76	30	W B	100
40	WC4	82	30	W B	100
50	WC5	100	38	W	80

Closed clip

BENDS



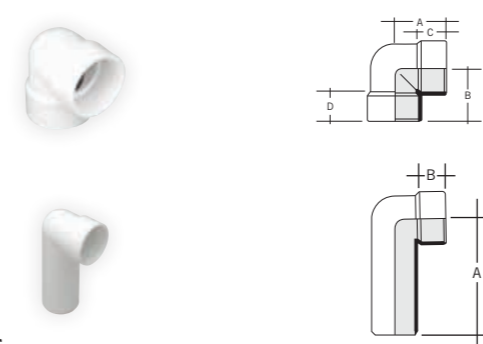
Size mm	Code	Angle	A	B	Colour	Qty
32	KB1	88½°	57	18	W B	50
40	KB2	88½°	62	21	W B	30
50	KB3	88½°	78	28	W B	10

Size mm	Code	Angle	A	B	Colour	Qty
32	KB12	45°	29	18	W B	10
40	KB22	45°	33	21	W B	20
50	KB32	45°	42	28	W B	20

Size mm	Code	Angle	A	w	Colour	Qty
32	KBA12	45°	24	23	W	40
40	KBA22	45°	35	26	W	20
50	KBA32	45°	39	30	W B G	20

Spigot

BENDS



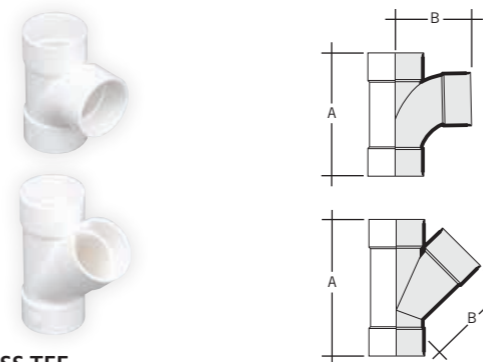
Size mm	Code	Angle	A	B	C	D	Colour	Qty
40	KBK25	90°	48	48	23	23	W B	20
50	KBK35	90°	59	50	20	28	W	10

Knuckle bend/boss adaptor, which can solvent weld over a boss upstand

Size mm	Code	Angle	A	B	Colour	Qty
32	KBS1	87½°	92	18	W	20
40	KBS2	87½°	92	23	W	20
50	KBS3	87½°	92	30	W B G	10

Solvent socket/spigot

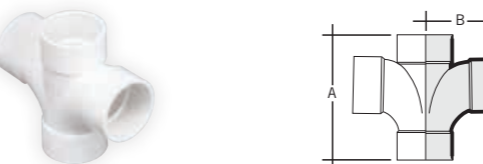
TEES



Size mm	Code	Angle	A	B	Colour	Qty
32	KT1	88½°	92	57	W B	30
40	KT2	88½°	106	62	W B	20
50	KT3	88½°	135	78	W B	10

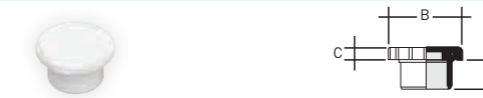
Size mm	Code	Angle	A	B	Colour	Qty
40	KT21	45°	117	78	W	20
50	KT31	45°	149	100	W	10

CROSS TEE



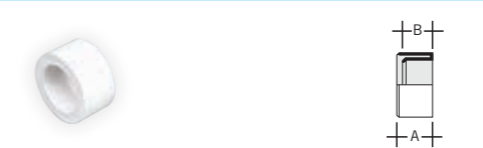
Size mm	Code	Angle	A	B	Colour	Qty
40	KXT21	88½°	106	62	W	10
50	KXT31	88½°	140	87	W	10

ACCESS PLUG



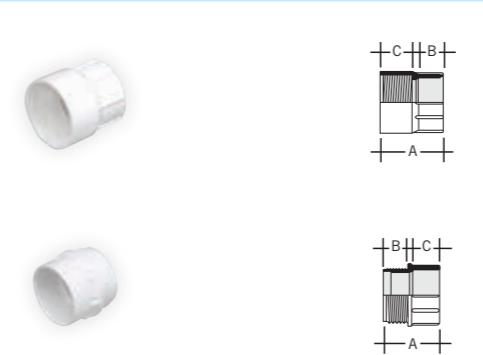
Size mm	Code	A	B	C	Colour	Qty
32	KAP1	22	53	8	W B	10
40	KAP2	25	57	8	W B	10
50	KAP3	33	71	8	W B	10

SOCKET REDUCER



Size mm	Code	A	B	Colour	Qty
32-21.5	KR175	22	20	W	100
40-32	KR210	28	22	W B	80
50-32	KR310	32	28	W	40
50-40	KR320	32	28	W B	40

IRON ADAPTORS



Female

Size mm	Code	A	B	C	Colour	Qty
32	KFA1	50	25	20	W	10
40	KFA2	53	25	24	W	10
50	KFA3	60	25	28	W	10

Solvent socket/BSP thread

Male

Size mm	Code	A	B	C	Colour	Qty
32	KMA1	44	20	20	W	50
40	KMA2	47	20	24	W	40
50	KMA3	53	20	28	W	40

Solvent socket/BSP thread

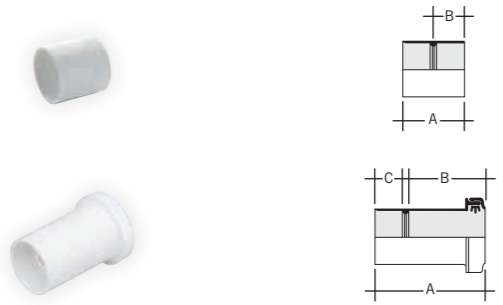
Solvent waste – ABS

PIPE



Size mm	Code	Length	Colour	Qty
32	WAP33	3m	W B G	10
40	WAP43	3m	W B G	10
50	WAP53	3m	W B G	5

STRAIGHT COUPLINGS

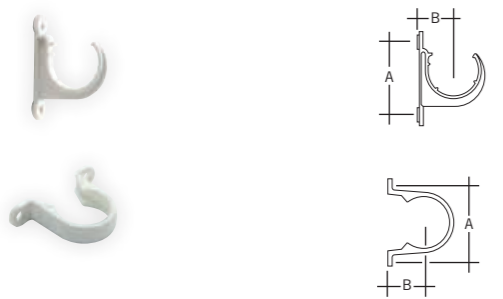


Size mm	Code	A	B	Colour	Qty
32	WAC3	40	20	W B G	40
40	WAC4	46	23	W B G	30
50	WAC5	63	30	W B G	30

Size mm	Code	A	B	C	Colour	Qty
32	WAC31	86	61	20	W	10
40	WAC41	90	64	23	W	10
50	KEC3*	82	50	30	W	10

Expansion/copper adaptor

PIPE CLIPS



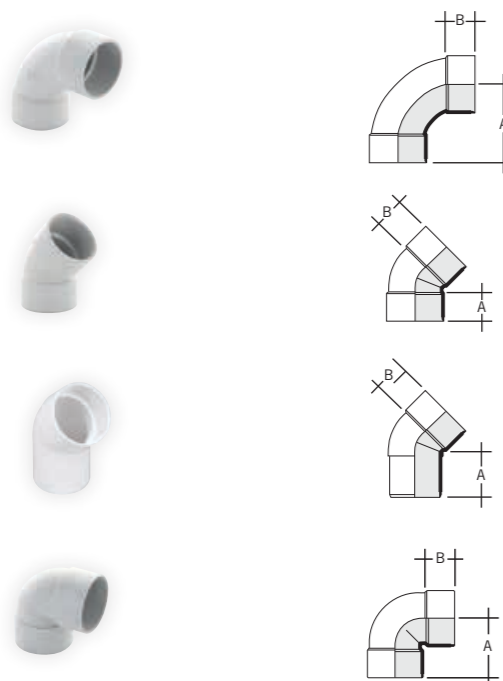
Size mm	Code	A	B	Colour	Qty
32	KF1	57	30	W B G	100
40	KF2	62	30	W B G	100
50	KF3	77	41	W B G	80

Open clip

Size mm	Code	A	B	Colour	Qty
32	WC3	76	30	W B G	100
40	WC4	82	30	W B G	100
50	WC5	100	38	W	80

Closed clip

BENDS



Size mm	Code	Angle	A	B	Colour	Qty
32	WAB3	88½°	55	20	W B G	50
40	WAB4	88½°	64	23	W B G	30
50	WAB5	88½°	86	30	W B G	20

Size mm	Code	Angle	A	B	Colour	Qty
32	WAB31	45°	32	20	W B G	40
40	WAB41	45°	36	23	W B G	20
50	WAB51	45°	47	30	W B G	20

Size mm	Code	Angle	A	B	Colour	Qty
32	WAB32	45°	45	20	W	30
40	WAB42	45°	48	23	W	20

Spigot

Size mm	Code	Angle	A	B	Colour	Qty
32	WAB33	90°	44	20	W B G	30
40	WAB43	90°	53	23	W B G	20

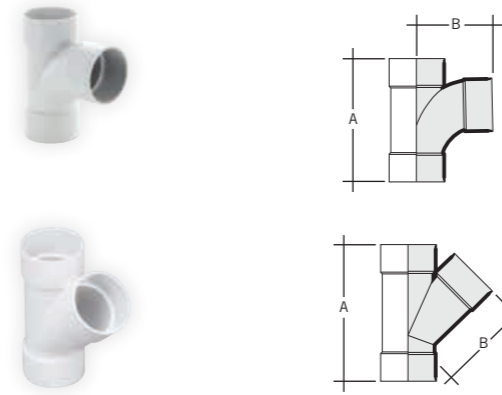
Knuckle bend

ACCESS PLUG



Size mm	Code	A	B	C	Colour	Qty
32	WAA3	22	53	8	W B G	10
40	WAA4	25	57	8	W B G	10
50	WAA5	33	71	8	W B G	10

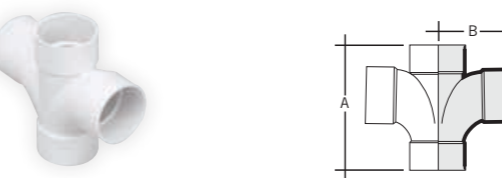
TEES



Size mm	Code	Angle	A	B	Colour	Qty
32	WAT3	88½°	90	55	W B G	30
40	WAT4	88½°	107	64	W B G	20
50	WAT5	88½°	140	86	W B G	10

Size mm	Code	Angle	A	B	Colour	Qty
32	WAT31	45°	102	65	W	20
40	WAT41	45°	117	79	W	20
50	WAT51	45°	150	100	W	10

CROSS TEE



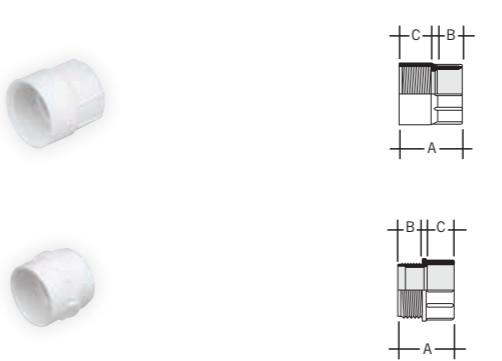
Size mm	Code	Angle	A	B	Colour	Qty
40	WAT42	88½°	106	65	W	10
50	WAT52	88½°	140	88	W	10

SOCKET REDUCER



Size mm	Code	A	B	Colour	Qty
40-32	WAR43	26	20	W B G	80
50-32	WAR53	31	20	W B G	40
50-40	WAR54	31	23	W B G	40

IRON ADAPTORS



Female

Size mm	Code	A	B	C	Colour	Qty
32	WAF3	50	25	25	W	10
40	WAF4	53	25	24	W	10
50	WAF5	60	25	28	W	10

Male

Size mm	Code	A	B	C	Colour	Qty
32	WAM3	44	20	20	W	50
40	WAM4	47	20	24	W	40
50	WAM5	53	20	28	W	40

CAP AND LINING



Size mm	Code	A	Colour	Qty
32	WAM31	58	W	10

Push-fit waste – PP

PIPE



Size mm	Code	Length	Colour	Qty
32	WPP33	3m	W B G	10
40	WPP43	3m	W B G	10

STRAIGHT COUPLING



Size mm	Code	A	B	Colour	Qty
32	WPC3	66	38	W B G	10
40	WPC4	69	38	W B G	20

PIPE CLIPS



Size mm	Code	A	B	Colour	Qty
32	KF1	57	30	W B G	100
40	KF2	62	30	W B G	100

Open clip



Size mm	Code	A	B	Colour	Qty
32	WC3	76	30	W B G	100
40	WC4	82	30	W B G	100

Closed clip

BENDS



Size mm	Code	Angle	A	B	Colour	Qty
32	WPB31	45°	42	42	W B G	20
40	WPB41	45°	43	43	W B G	20

Push-fit sockets



Size mm	Code	Angle	A	B	Colour	Qty
32	WPB32	45°	36	31	W B G	10
40	WPB42	45°	36	32	W B G	20



Size mm	Code	Angle	A	B	Colour	Qty
32	WPB33	90°	60	60	W B G	10
40	WPB43	90°	65	65	W B G	20

Knuckle bend



Size mm	Code	Angle	A	B	Colour	Qty
32	WPB34	88½°	75	37	W B G	10
40	WPB44	88½°	75	37	W B G	30

TEE



Size mm	Code	Angle	A	B	Colour	Qty
32	WPT31	88½°	105	63	W B G	10
40	WPT41	88½°	115	68	W B G	30

ACCESS PLUG



Size mm	Code	A	Colour	Qty
32	WPA31	20	W B G	100
40	WPA41	20	W B G	100

SOCKET REDUCER



Size mm	Code	A	B	Colour	Qty
40-32	WPR43	45	36	W B G	10

MULTI-FIT COMPONENTS



Size mm	Code	A	B	C	Required hole size	Colour	Qty
32	WUM33	86	56	24	42	G	10
40	WUM43	86	58	24	50	G	20

Fit BS EN 1451, BS EN 1455 or BS EN 1566 pipe. Straight tank connector

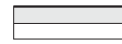
Multikwik

TRAPS, COMPRESSION WASTE
& SANITARY SYSTEMS

marleypd.co.uk

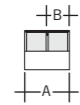
Condense and Overflow system – PVCu

PIPE



Size mm	Code	Length	Colour	Qty
21.5	OP213	3m	W	30
21.5	OP21	4m	W	30

STRAIGHT COUPLING



Size mm	Code	A	B	Colour	Qty
21.5	OSC21	28	13	W	10

PIPE CLIP



Size mm	Code	A	B	Colour	Qty
21.5	OC21	44	14	W	10

BENDS

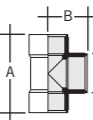


Size mm	Code	Angle	A	Colour	Qty
21.5	OB90	90°	25	W	10



Size mm	Code	Angle	A	Colour	Qty
21.5	OB45	45°	13	W	10

TEE



Size mm	Code	Angle	A	B	C	Colour	Qty
21.5	OT90	90°	50	25	21.5	W	10

ADAPTORS



Female iron							
Size mm	Code	A	B	C	Colour	Qty	
21.5	OFA21	47	23	19	W	70	



Straight, to 22mm							
Size mm	Code	A	B	Colour	Qty		
21.5	OCA21	39	13	W	150		



Cap and lining							
Size mm	Code	A	Colour	Qty			
21.5	OCL21	46	W	100			

TANK CONNECTORS



Straight							
Size mm	Code	A	Colour	Qty			
21.5	OTC21	50	W	10			



Bent							
Size mm	Code	Angle	A	B	C	Colour	Qty
21.5	OBC90	90°	48	25	13	W	10

Including polyethylene washers and quick fix Acme threads

Marley co-ex soil

110mm soil pipe with at least 30% recycled content*

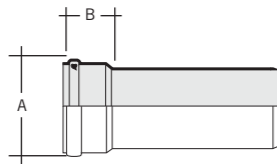
Marley 110mm soil pipe now combines the environmental benefits of using recycled material with the quality and aesthetic advantages of co-extrusion technology.

- BS EN 1329 certified
- Higher gloss levels
- Improved weathering performance
- Available in grey and black
- Same list price as standard white pipe
- Colour matched to all standard 110mm Marley soil fittings



Push-fit soil – PVCu

PIPE



Size mm	Code	Length	A	B	Colour	Qty
82	SP303	3m	100	76	B G	156
82	SP304	4m	100	76	G	156

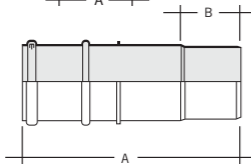
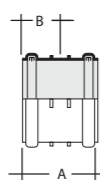
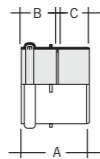
110MM CO-EX SOIL

110	SP4025	2.5m	128	70	B G	100
110	SP403	3m	128	70	W B G	2
110	SP404	4m	128	70	G	100

160	SP603	3m	182	107	G	46
160	SP604	4m	182	107	G	46

Push-fit socket

STRAIGHT COUPLINGS



Loose pipe socket

Size mm	Code	A	B	C	Colour	Qty
82	SE300	103	50	48	B G	30
110	SE400	109	61	48	W B G	8
160	SE600	190	107	77	G	4

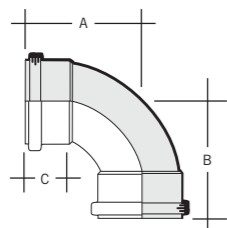
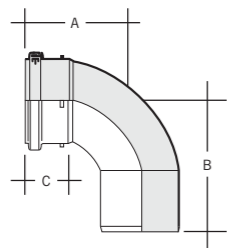
Double ring seal slip coupling

Size mm	Code	A	B	Colour	Qty
82	SE305	104	49	B G	30
110	SE405	128	64	B G	8
160	SE605	170	83	G	4

Triple socket

Size mm	Code	A	B	Colour	Qty
110	SE402	311	82	G	4

SHORT RADIUS BENDS



Size mm	Code	Angle	A	B	C	Colour	Qty
82	SB31	87½°	138	115	49	B G	20
110	SB41	87½°	158	157	70	W B G	4
160	SFB61	87½°	242	232	88	G	1

Push-fit socket/spigot

Size mm	Code	Angle	A	B	C	Colour	Qty
82	SB35	45°	76	73	49	B G	20
110	SB45	45°	84	89	62	W B G	4
160	SFB65	45°	120	118	85	G	2

Push-fit socket/spigot

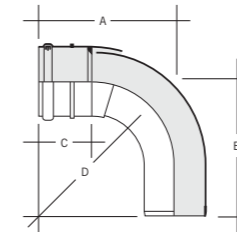
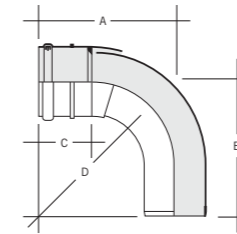
Size mm	Code	Angle	A	B	C	Colour	Qty
110	SB410	10°	98	75	60	W B G	4
110	SB420	20°	104	81	60	W B G	4
110	SB430	30°	76	90	60	W B G	4

Push-fit socket/spigot

Size mm	Code	Angle	A	B	C	Colour	Qty
110	SB411	88½°	135	145	60	B G	4

Double push-fit socket

ADJUSTABLE BENDS



Size mm	Code	Angle	A	B	C	Colour	Qty
82	SB37	11-87½°	195	187	49	B G	10

Push-fit socket/spigot

Size mm	Code	Angle	A	B	C	Colour	Qty
110	SB46	5-14°	125	135	82	G	4

Push-fit socket/spigot

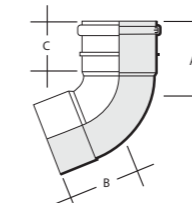
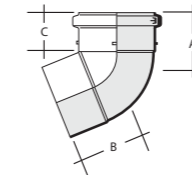
Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SB47	21-90°	189	187	90	127	B G	4

Push-fit socket/spigot

Size mm	Code	Angle	A	B	C	D	Colour	Qty
160	SB67	31-90°	285	275	96	184	G	2

Push-fit socket/spigot

OFFSET BENDS



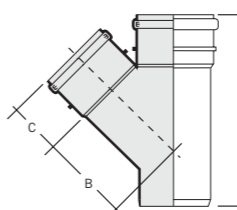
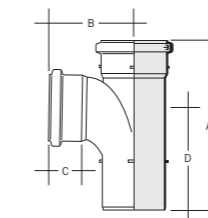
Size mm	Code	Angle	A	B	C	Colour	Qty
110	SNE405	67½°	94	91	60	W B G	4

Push-fit solvent socket

Size mm	Code	Angle	A	B	C	Colour	Qty
82	SNE300	67½°	98	86	57	B G	30
160	SNE600	67½°	178	182	88	G	140

Push-fit solvent socket

EQUAL BRANCHES



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY401	87½°	299	150	60	175	W B G	4
160	SY601	87½°	438	245	96	260	G	2

Push-fit sockets/spigot

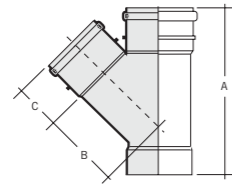
Size mm	Code	Angle	A	B	C	Colour	Qty
82	SY36	45°	229	130	55	G	10
110	SY460	45°	285	198	62	B G	4
160	SY63	45°	400	200	90	G	2

Push-fit sockets/spigot

Push-fit sockets/spigot

Push-fit soil – PVCu

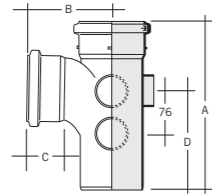
EQUAL BRANCHES



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SY466	45°	282	198	62	B G	4

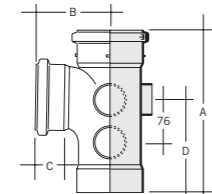
Push-fit sockets/solvent socket

FIVE BOSS BRANCHES



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY405	87½°	287	143	60	175	W B G	4

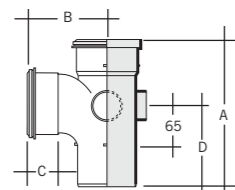
Push-fit sockets/spigot



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY5415	87½°	280	143	60	168	B G	4

Push-fit sockets/spigot

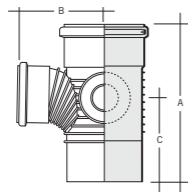
THREE BOSS BRANCH



Size mm	Code	Angle	A	B	C	D	Colour	Qty
82	SY33F	87½°	212	122	52	121	B G	10

Push-fit sockets/spigot

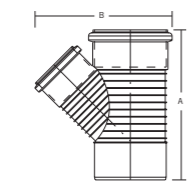
UNEQUAL BRANCHES



Size mm	Code	Angle	A	B	C	Colour	Qty
160x110	SY64	87½°	337	175	175	G	2

Push-fit sockets/spigot. 2 boss/access upstands

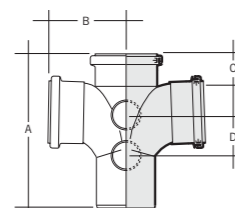
UNEQUAL BRANCHES



Size mm	Code	Angle	A	B	Colour	Qty
160x110	SY66	45°	335	306	G	2

Push-fit sockets/spigot

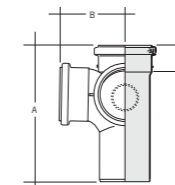
DOUBLE BRANCH



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY404	87½°	288	141	54	76	G	4

Push-fit sockets/spigot. 4 boss branch

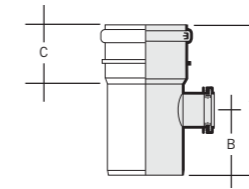
CORNER BRANCH



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY411°	87½°	287	143	60	175	G	4

Push-fit sockets/spigot

BOSS PIPES



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SW41	87½°	204	86	82	W B G	4

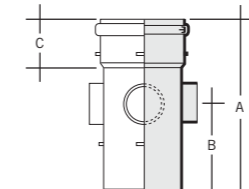
Push-fit socket/spigot. 1x40mm boss connection



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SW415	87½°	204	86	82	B G	4

Push-fit socket/spigot. 1x32mm boss connection

BOSS PIPES



Size mm	Code	Angle	A	B	C	Colour	Qty
82	SW30	90°	202	101	49	B G	15

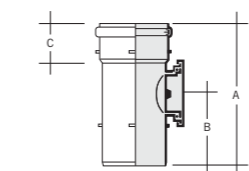
Push-fit socket/spigot. 3 boss upstands, 1 drilled



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SW40	90°	244	123	70	W B G	4

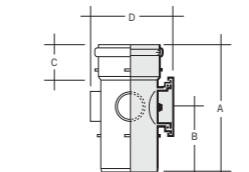
Push-fit socket/spigot. 4 boss upstands

ACCESS PIPES



Size mm	Code	A	B	C	Colour	Qty
82	SF31	205	101	52	B G	15

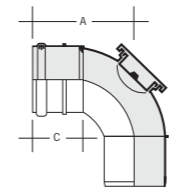
Push-fit socket/spigot



Size mm	Code	A	B	C	D	Colour	Qty
110	SF41	244	123	70	152	B G	4

Push-fit socket/spigot. 3 boss upstands

REAR ACCESS BENDS



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SB42	87½°	138	146	55	B G	4

Push-fit socket/spigot



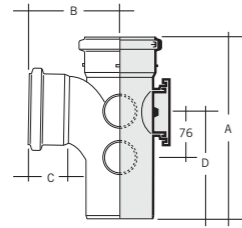
Size mm	Code	A	B	C	Colour	Qty
82	SB38	124	127	57	B G	1

Push-fit socket/spigot

Push-fit soil – PVCu

Solvent soil – PVCu

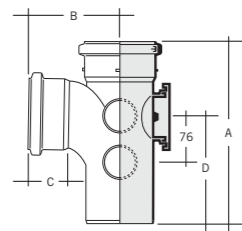
REAR ACCESS BRANCHES



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SY402	87½°	287	143	60	175	B G	4

Push-fit socket/spigot
4 boss upstands

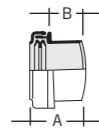
REAR ACCESS BRANCHES



Size mm	Code	Angle	A	B	C	D	Colour	Qty
82	SY34F	87½°	212	121	52	101	B G	6

Push-fit socket/spigot

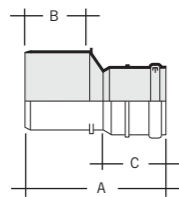
BOSS CONNECTOR



Size mm	Code	Angle	A	B	Colour	Qty
32	SA411	87½°	43	21	W B G	50
40	SA421	87½°	43	21	W B G	40
50	SA420	87½°	66	45	B G	40

Solvent weld with push-fit seal

LEVEL INVERT REDUCERS



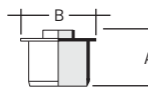
Size mm	Code	A	B	C	Colour	Qty
110x82	SRM304	192	78	82	B G	20

Spigot/socket

Size mm	Code	A	B	C	Colour	Qty
160x110	SRM604	219	90	82	G	4

Push-fit spigot/socket

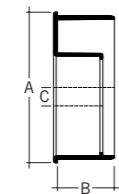
CONCENTRIC REDUCER



Size mm	Code	A	B	Colour	Qty
110-50	SE41	105	135	B G	18

Spigot to boss upstand

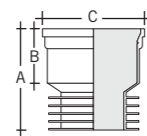
ECCENTRIC REDUCER



Size mm	Code	A	B	C	Colour	Qty
160-110	SRS604	168	68	20	G	6

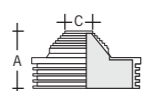
Spigot/socket

ADAPTOR



Size mm	Code	A	B	C	Colour	Qty
110	SA42	130	65	130	B	40

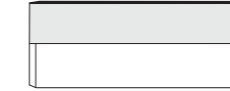
Soil to drain adaptor



Size mm	Code	A	B	C	Colour	Qty
110	SA110	58	25	34	B	10

Waste to drain adaptor

PIPE

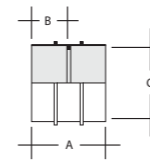
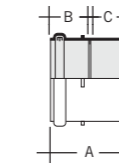


110MM CO-EX SOIL

Size mm	Code	Length	Colour	Qty
110	SL403	3m	W B G	100
110	SL404	4m	G	100
160	SL603	3m	G	46
160	SL604	4m	G	46

Double spigot

STRAIGHT COUPLINGS



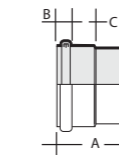
Loose pipe socket

Size mm	Code	A	B	C	Colour	Qty
82	SE300	103	50	48	B G	30
110	SE400	109	61	48	W B G	8
160	SE600	190	107	77	G	4

Double solvent socket

Size mm	Code	A	B	C	Colour	Qty
82	SES301	93	44	82	G	50
110	SES401	102	50	124	B G	8
160	SES601	174	64	128	G	4

EXPANSION COUPLING

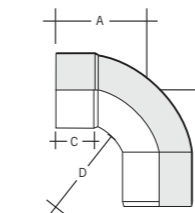


Solvent socket ring seal adaptor

Size mm	Code	A	B	C	Colour	Qty
110	SE409	105	20	52	B G	8

To accommodate thermal movement in both vertical and horizontal solvent pipework

SHORT RADIUS BENDS



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SBS41	87½°	162	168	50	G	4

Solvent socket/spigot

Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SBS42	87½°	149	149	47	119	B G	4
160	SBS62	87½°	186	186	66		G	2

Double solvent socket

Size mm	Code	Angle	A	B	C	Colour	Qty
110	SBS45	45°	76	76	52	B G	4
160	SBS65	45°	98	98	66	G	2

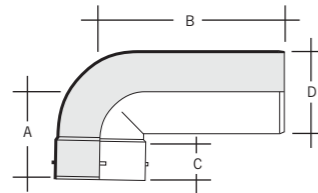
Double solvent socket

Size mm	Code	Angle	A	B	C	Colour	Qty
110	SBS415	45°	76	89	52	B G	4
160	SBS615	67½°	168	175	76	G	2

Solvent socket/spigot

Solvent soil – PVCu

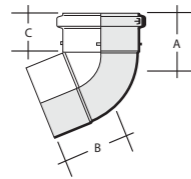
LONG RADIUS BEND



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SBS40	87½°	114	240	48	110	W B G	4

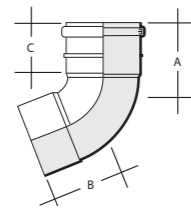
Solvent socket/spigot

OFFSET BENDS



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SNE405	67½°	76	61	60	W B G	4

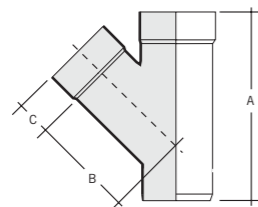
Push-fit / solvent socket



Size mm	Code	Angle	A	B	C	Colour	Qty
82	SNE300	67½°	88	48	49	B G	30
160	SNE600	67½°	178	182	96	G	140

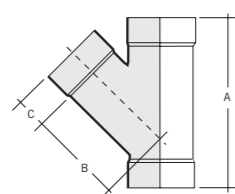
Push-fit / solvent socket

EQUAL BRANCHES



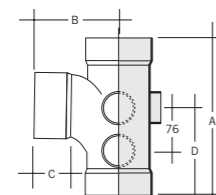
Size mm	Code	Angle	A	B	C	Colour	Qty
110	SYS460	45°	277	135	55	B G	4

Solvent sockets/spigot



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SYS466	45°	274	135	55	B G	4
160	SYS666	45°	362	194	66	G	4

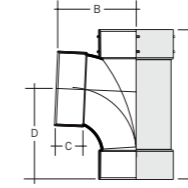
Triple solvent socket



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SYS405	87½°	272	135	55	168	B G	4

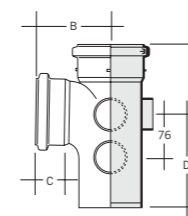
Triple solvent socket. 5 Boss upstands

EQUAL BRANCHES



Size mm	Code	Angle	A	B	C	D	Colour	Qty
160	SYS601	87½°	270	180	66	205	G	2

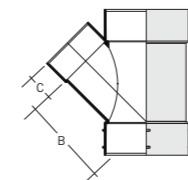
Triple solvent socket



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SYS415	87½°	279	135	55	175	B G	4

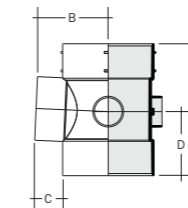
Double solvent socket/spigot. 5 Boss upstands

UNEQUAL BRANCHES



Size mm	Code	Angle	A	B	C	Colour	Qty
160	SYS644	45°	286	169	55	G	4

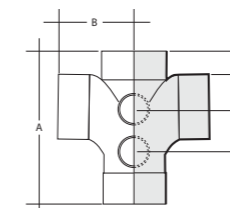
Triple solvent socket



Size mm	Code	Angle	A	B	C	D	Colour	Qty
160	SYS664	87½°	234	132	52	118	G	4

Solvent sockets

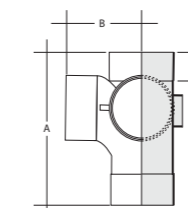
DOUBLE BRANCH



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SYS404	87½°	274	133	45	76	G	4

Solvent sockets, 4 boss upstands

CORNER BRANCH

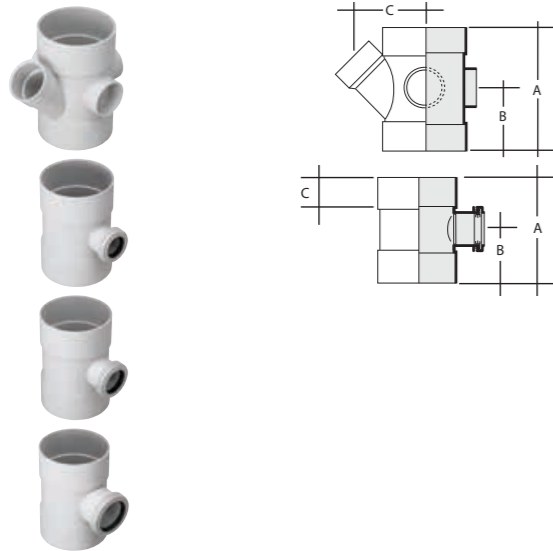


Size mm	Code	Angle	A	B	C	Colour	Qty
110	SYS411°	87½°	272	135	55	G	1

Solvent sockets. 1 boss upstand

Solvent soil – PVCu

BOSS PIPES



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SWS4135	45°	186	93	145	G	4

Solvent sockets. 3 x 50mm boss upstands

Size mm	Code	Angle	A	B	C	Colour	Qty
110x32	SWS415	87½°	170	85	52	W B G	4

Solvent sockets. 1 x 32mm push-fit boss connection

Size mm	Code	Angle	A	B	C	Colour	Qty
110x40	SWS41	87½°	170	85	52	W B G	4

Solvent sockets. 1 x 40mm boss connection

Size mm	Code	Angle	A	B	C	Colour	Qty
110x50	SWS42	87½°	170	85	52	B G	4

Solvent sockets. 1 x 50mm drilled boss connection

STRAP-ON-BOSS



Size mm	Code	Angle	A	B	Required hole size	Colour	Qty
32x110	SWS4150	90°	70	55	50	B G	40
40x110	SWS410	90°	70	62	50	B G	40
50x110	SWS420	90°	86	75	63	B G	30

Push-fit boss connection

CONDENSATE STRAP-ON-BOSS



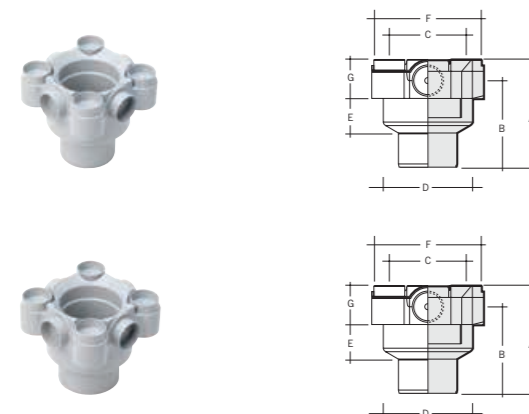
Size mm	Code	Angle	A	B	Required hole size	Colour	Qty
21.5x110	SWS4C	90°	70	21.5	57	G	50

PATCH BOSS



Size mm	Code	A	B	Colour	Qty
32x82	SWS332	95	18	G	20
40x82	SWS340	95	23	G	20
50x82	SWS350	95	27	G	20

8-WAY COLLAR BOSS



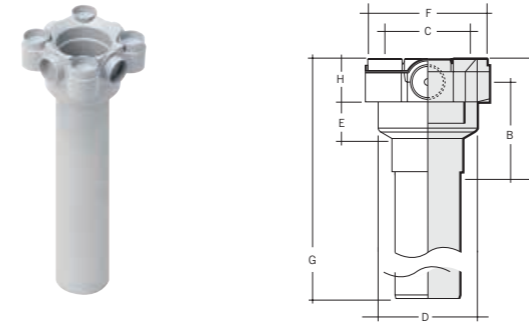
Size mm	Code	A	B	C	D	E	F	G	Colour	Qty
110	SCB41	195	157	140	195	61	204	70	G	1

Solvent socket/spigot

Size mm	Code	A	B	C	D	E	F	G	Colour	Qty
110	SCBS41	184	146	140	164	61	204	70	G	1

Solvent socket

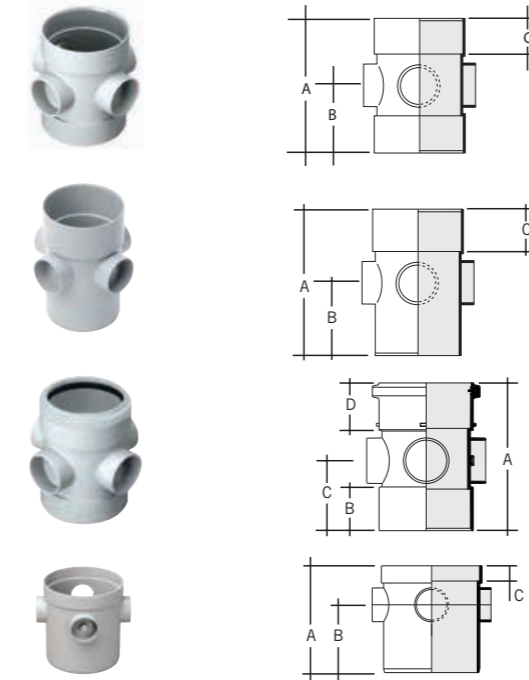
8-WAY COLLAR BOSS



Size mm	Code	A	B	C	D	E	F	G	H	Colour	Qty
110	SCBL41	184	146	140	164	61	204	532	70	G	1

Solvent socket/spigot with 350mm spigot tail

BOSS PIPES



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SWS40	90°	179	92	55	B G	4
160	SWS60	90°	200	100	66	G	4

Double solvent socket. 4 boss upstands, 1 drilled

Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SWS405	90°	179	92	54	B G	4	

Solvent socket/spigot. 4 boss upstands, 1 drilled

Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SWS406	90°	184	55	87	60	G	4

Push-fit/Solvent socket. 4 boss upstands

Size mm	Code	Angle	A	B	C	Colour	Qty
160	SW60	90°	335	110	96	G	4

Solvent socket/spigot
4 boss upstands (1 pre-drilled)

CONDENSATION TRAP



Size mm	Code	A	B	C	Colour	Qty
110	SCT4	115	82	22	G	6

With 21.5/22mm overflow connection
For ventilation pipework only

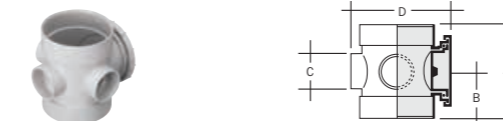
ACCESS CAPS



Size mm	Code	A	B	Colour	Qty
82	SE30	114	35	B G	30
110	SE40	150	37	B G	30
160	SE62	195	40	G	15

With pressure plug

ACCESS PIPES



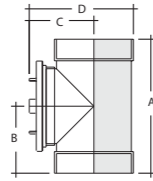
Size mm	Code	A	B	C	D	Colour	Qty
110	SFS41	150	75	56	154	W B G	4

Double solvent sockets. 3 boss upstands

Solvent soil – PVCu

Accessories

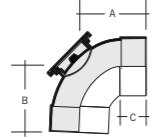
ACCESS PIPES



Size mm	Code	A	B	C	D	Colour	Qty
160	SF611	287	144	138	223	G	2

Double solvent sockets

REAR ACCESS BEND



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SBS420	87½°	131	128	54	B G	4

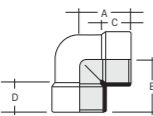
Double solvent socket

BOSS CONNECTORS



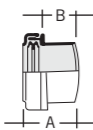
Size mm	Code	A	B	Colour	Qty
32	SA415	35	20	G	50
40	SA425	30	25	B G	50
50	SA435	58	28	G	50

Solvent weld with solvent weld joint



Size mm	Code	Angle	A	B	C	D	Colour	Qty
40	KBK25	90°	48	48	23	23	W B	20
50	KBK35	90°	59	50	20	28	W	10

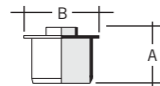
Knuckle bend/boss adaptor, which can solvent weld over a boss upstand



Size mm	Code	A	B	Colour	Qty
32	SA411	43	21	W B G	50
40	SA421	43	21	W B G	40
50	SA420	66	45	B G	40

Solvent weld with push-fit seal

CONCENTRIC REDUCERS



Size mm	Code	A	B	C	Colour	Qty
110-50	SE41	105	135		B G	18

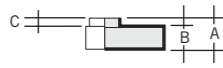
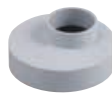
Spigot to boss upstand

ECCENTRIC REDUCERS



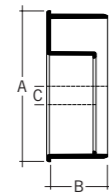
Size mm	Code	A	B	Colour	Qty
82-50	SRM30	66	35	B G	90

Spigot/Socket



Size mm	Code	A	B	C	Colour	Qty
110-50	SRM402	48	25	19	B G	10

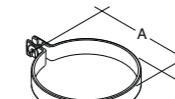
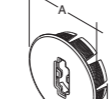
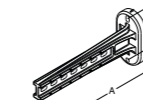
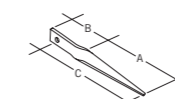
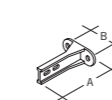
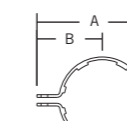
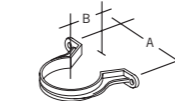
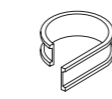
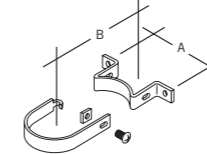
Solvent socket to boss upstand



Size mm	Code	A	B	C	Colour	Qty
110-82	SRS304	82	110	52	G	6
160-110	SRS604	168	68	20	G	6

Spigot/Socket

CLIPS



Socket clip

Size mm	Code	A	B	Colour	Qty
110	SC41	152	101	B G	50
160	SC61	240	121	G	50

PVC coated mild steel, includes 6x20mm nut and bolt

Barrel clip collar

Size mm	Code	Colour	Qty
1000	SC621	G	25

Converts socket clip to pipe clip (3x110mm or 2x160mm)

Pipe clip

Size mm	Code	A	B	Colour	Qty
82	SC35	125	93	B G	20
110	SC45	150	101	W B G	50

Closed pipe clip

Pipe clip

Size mm	Code	A	B	Colour	Qty
82	SC35S	117	70	B G	20

For use with drive-in spike or backplate

Extension backplate

Code	A	B	Colour	Qty
RT200	104	45	W B G BR	50

PVCu

For use with RC251/2, RCE2 and RC32 pipe clips

Drive-in spike

Code	A	B	C	Colour	Qty
RSS1°	115	58	154	G	50

Galvanised mild steel

Backplate

Code	A	B	Colour	Qty
RCB300	48	31	W B G BR	100

For use with SC35S

Extension Bracket

Code	A	B	Colour	Qty
RT250	243	114	B G	20

Cover plate

Code	A	B	Colour	Qty
RT2501	111	35	B G	1

For use with RT250

Pipe clip

Code	A	B	Colour	Qty
RPC1	137	111	B G	20

For use with RT250

Socket clip

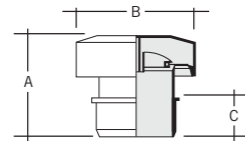
Code	A	B	Colour	Qty
RSC1	141	119	B G	1

For use with RT250

Accessories

WC connectors

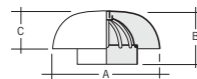
DURGO AIR ADMITTANCE VALVES



Size mm	Code	A	B	C	Colour	Qty
50	SVD2*	98	82	28	W	32
82	SVD3*	108	118	40	G	18
110	SVD4	124	138	50	G	18

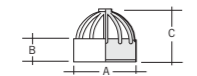
Durgo valve including polystyrene insulating hood.
 *Can be fitted below flood level. It is recommended this is fitted in a push-fit socket.
 BBA certified for use up to 10 storeys.

VENT TERMINALS



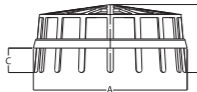
Roof cowl/vent terminal

Size mm	Code	A	B	C	Colour	Qty
110	SVC1	200	98	70	W B G	10



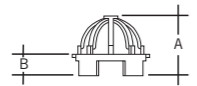
Vent terminal

Size mm	Code	A	B	C	Colour	Qty
82	SV321	90	30	75	B G	30
110	SV42	117	34	95	W B G	60



Vent terminal

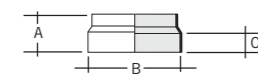
Size mm	Code	A	B	C	Colour	Qty
160	SV62°	160	71	25	G	20



Vent terminal

Size mm	Code	A	B	Colour	Qty
50	RV225	55	18	W B G	30

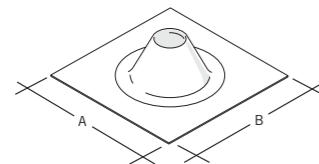
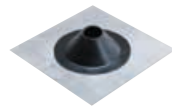
WEATHERING COLLAR



Size mm	Code	A	B	C	Colour	Qty
82	SV31*	51	94	25	B	100
110	SV43	57	130	25	W B G	35

PVCu for solvent joint to pipe *Available in black rubber only.

WEATHERING SLATES



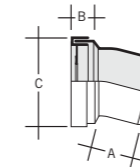
Size mm	Code	A	B	Colour	Qty
400	SAS40	400	400	G	5

Flat. Manufactured from aluminium and rubber

Size mm	Code	A	B	Colour	Qty
450	SAS45	450	450	G	5
610	SAS61	610	610	G	5

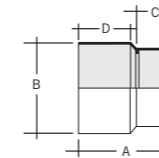
Inclined. Manufactured from aluminium and rubber

STRAIGHT CONNECTORS



Size mm	Code	Angle	A	B	C	Colour	Qty
110	SG40	14°	63	50	134	W	4

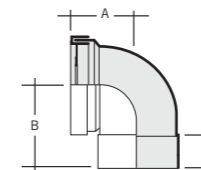
Spigot



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SGS41W*	14°	139	134	53	80	W	20

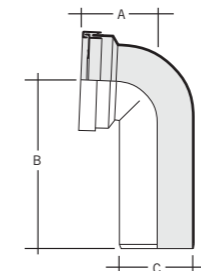
Solvent socket. Pan socket to be trimmed to suit WC spigot length

BENT CONNECTORS



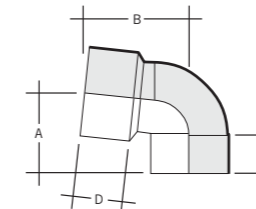
Size mm	Code	Angle	A	B	C	Colour	Qty
110	ST40	90°	106	125	51	W	4

Solvent socket



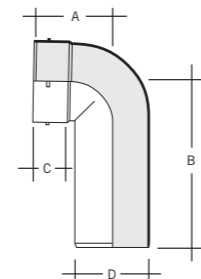
Size mm	Code	Angle	A	B	C	Colour	Qty
110	ST41W	90°	106	240	210	W	4

Long spigot



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	STS41W*	85°	104	156	53	80	W	4

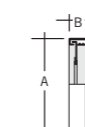
Solvent socket. Pan socket to be trimmed to suit WC spigot length



Size mm	Code	Angle	A	B	C	D	Colour	Qty
110	SBS40W	90°	114	240	48	110	W	4

Long spigot/ solvent socket

WC SEAL AND CAP



83 - 114mm outlet

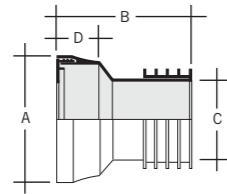
Size mm	Code	A	B	Colour	Qty
	SA323W	141	24		70

For use with SGS41 and STS41

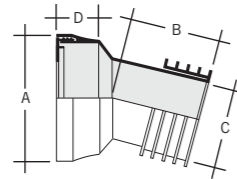
Universal push-fit WC connectors

WC manifold system

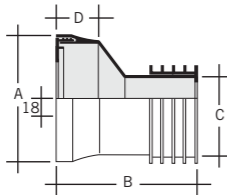
STRAIGHT CONNECTORS



Size mm	Code	Angle	A	B	C	D	Colour	Qty
100	SWC11		132	110	81	46	W	25

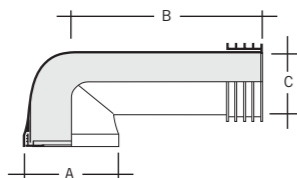


Size mm	Code	Angle	A	B	C	D	Colour	Qty
100	SWCB14	14°	132	61	81	46	W	20



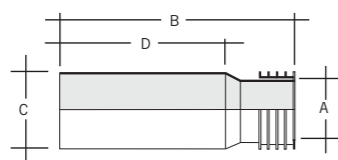
Size mm	Code	Angle	A	B	C	D	Colour	Qty
100	SWC22	22°	132	115	81	46	W	25

LONG BENT CONNECTOR



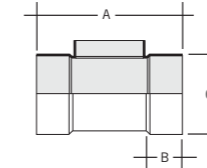
Size mm	Code	Angle	A	B	C	Colour	Qty
100	SWCB90	90°	132	235	81	W	10

EXTENSION PIECE



Size mm	Code	A	B	C	D	Colour	Qty
100	SWCE33	81	300	116	226	W	12

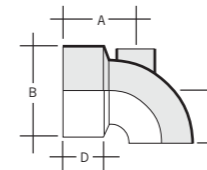
BRANCH



Size mm	Code	A	B	C	Colour	Qty
110x90	SM41W	214	50	116	W	10

Solvent sockets

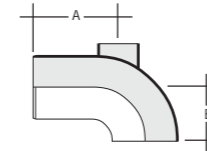
ADJUSTABLE WC BEND



Size mm	Code	Angle	A	B	C	D	Colour	Qty
90	SM42W*	50-90°	108	134	75	60	W	15

50mm vent boss upstand
Pan socket to be trimmed to suit WC spigot length

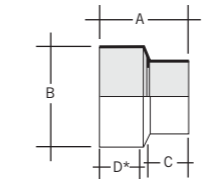
ADJUSTABLE SPIGOT BEND



Size mm	Code	Angle	A	B	Colour	Qty
90	SM43W	50-90°	119	75	W	15

50mm vent boss upstand
Pan socket to be trimmed to suit WC spigot length

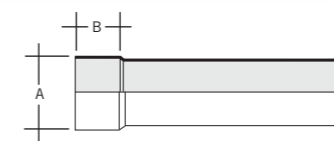
WC CONNECTOR



Size mm	Code	A	B	C	D	Colour	Qty
90	SM44W	117	134	46	80	W	30

Pan socket to be trimmed to suit WC spigot length

EXTENSION PIPE



Size mm	Code	A	B	Colour	Qty
90	SM45W	96	46	W	50

300mm
For use with SM43 only

WC SEAL AND CAP

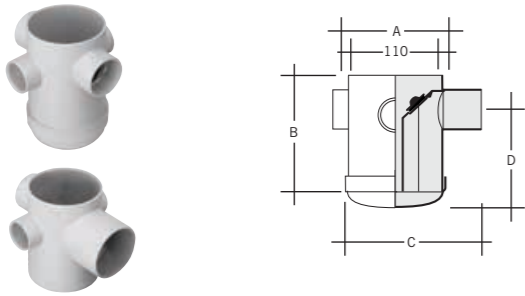


83-114mm outlet		A	B	Colour	Qty
Size mm	Code				
90	SA323W	141	24	W	70

For use with SM42 and SM44

PVCu floor outlets

TRAPPED FLOOR GULLIES



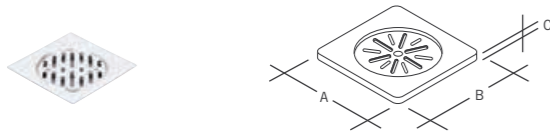
Size mm	Code	A	B	C	D	Colour	Qty
50	SFG42AS	117	164	145	116	G	8

Solvent outlet. 90mm adjustable water seal

Size mm	Code	A	B	C	D	Colour	Qty
82	SFG43AS	117	164	175	100	G	8

Solvent outlet. 75mm adjustable water seal

STAINLESS STEEL TILE GRATE AND COVER

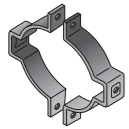


Code	A	B	C	Colour	Qty
150x150 SGG4	150	150	7	NU	40

Grade 304 stainless steel

Pipe support systems

TWO PIECE PIPE BRACKET



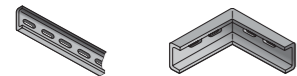
Size mm	Code	Colour	Qty
110	JB42*	NU	50
160	JB62*	NU	50

BASE PLATE



Size mm	Code	Support	Colour	Qty
110	JBP42*	Double support	NU	1
160	JBP62*	Double support	NU	50
	JDP1*	Single support	NU	50

CHANNEL STRIP



Size mm	Code	Strip	Colour	Qty
2000	JCS2*	Strip	NU	50
	JCA1*	Angle	NU	10

BARREL CLIP COLLAR



Code	Colour	Qty
SC621*	NU	25

1m PVC strip when cut to length. Converts pipe bracket to pipe size (3x110mm or 2x160mm)

NUTS AND BOLTS



Size mm	Code	Colour	Qty
20x6	RNB11*	NU	1

Ancillary items

SOLVENT CEMENT



Tub			Qty
Size	Code		
250ml	KS10	Tub	20
500ml	KS20	Tin	20

To BS EN 14680

SILICONE LUBRICANT



Tube with sponge applicator			Qty
Size	Code		
50g	SZ50		10



Bottle			Qty
Size	Code		
100g	SZ100		50



Aerosol			Qty
Size	Code		
400ml	SZ400		12



Tub			Qty
Size	Code		
500g	SZ500		24

Water Research Centre Approved

SPARE RING SEALS



'T' ring			Qty
Size mm	Code		
82	SR82T		5
110	SR110T		5
160	SR160T		5

To BS EN 681/1

Sanitary pipework design

All sanitary pipework systems should be designed to satisfy the following regulations and standards where applicable.

- The Building Regulations 2010: Approved Document H, Section 1.
- The Building Standards Technical Handbook (Scotland) 2010: Part M.
- The Building Regulations (Northern Ireland) 2000, Technical Handbook N.
- BS EN 12056: 2000, Parts 1 to 5.

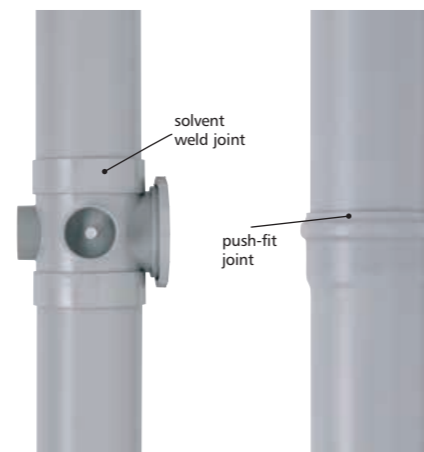
Regular consultation is essential between Architects and Plumbing Engineers throughout the building design stage as the careful arrangement of kitchen and bathroom appliances will simplify the final sanitary pipework layout. This will help to ensure that an efficient sanitary pipework system is installed at minimum cost.

The design information provided in this catalogue is endorsed in the above publications and while every effort has been made to ensure accuracy, no responsibility can be accepted for errors or omissions. For detailed guidance please consult the relevant documents referred to above.

Methods of jointing

82, 110 and 160mm PVCu pipes and fittings are available in both solvent and push-fit jointing methods. Solvent soil is widely used on smaller diameter waste and overflow pipework, although expansion and copper adaptor couplings include a push-fit joint to allow for thermal movement.

As polypropylene cannot be solvent welded, the push-fit method of jointing is used throughout the system.



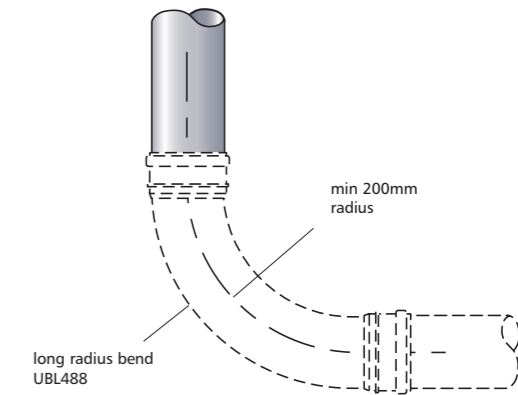
Thermal movement

The coefficient of linear expansion for PVCu is 0.06mm/m/°C. As a result a 3m length of pipe will increase in length by approximately 3.6mm when subjected to a 20°C temperature variation. Therefore, it is important to ensure that any movement is controlled and push-fit joints are installed to accommodate any expansion that may occur due to increases in ambient temperature or hot water discharges.

Bends at the base of stacks

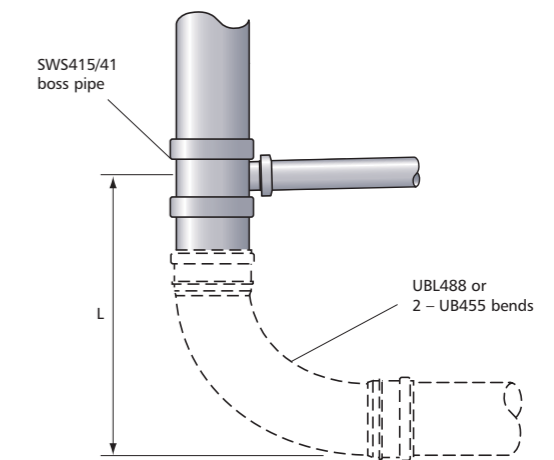
Bends at the base of vertical stacks should be of long radius and have a minimum centre line radius of 200mm on a 110mm nominal size stack. Two 45° radius bends may also be used as an alternative to provide the change of direction and connection to the building drain. The same design principle should also be adopted where offsets occur in stacks of one or more storey height.

Where pipework is suspended in a ceiling void or car park, it is recommended that two 45° solvent weld bends are used with a short piece of pipe between to ensure the radius exceeds that required.



Branches at the base of stacks

For single dwellings up to three storeys high, the distance between the centre line of the lowest branch connection and the invert of the drain should be at least 450mm. For multi-storey systems up to five storeys high, the minimum distance should be 740mm and for systems higher than five floors no connections are permissible at ground floor level. Where this occurs a separate stub stack should be provided to serve the ground floor or individual appliances should have their own separate connection to the building drain.



L = 450mm up to three storeys high
L = 740mm up to five storeys high
L = one storey height, over five storeys

Sizing of soil stacks

It is recommended that the guidance given within BS EN 12056, part 2 be adopted when sizing soil stacks. Marley Technical Services Department offer design and installation advice, including the sizing of soil stacks, for customers who use or specify Marley Plumbing & Drainage products.

Soil stack capacity

The capacity of a soil stack can be increased by the installation of a secondary ventilated stack. The following information is taken from tables 11 & 12 of BS EN 12056-2: 2000 which illustrates this increase.

Primary ventilated stack

Stack size (mm)	Maximum capacity (l/s) Swept entries
82	2.6
110	5.2
160	12.4

Secondary ventilated stack

Stack size (mm)	Secondary vent (mm)	Maximum capacity (l/s) Swept entries
82	50	3.4
110	50	7.3
160	80	18.3



Secondary ventilated stack

Material and manufacture

Marley Plumbing & Drainage pipes and fittings for sanitary pipework systems are manufactured from different plastics materials including PVCu, PVC-c, ABS and PP.

The table right details the important dimensions and weights of each of the systems together with the relevant British and European Standards we manufacture to. All pipes are manufactured using a continuous extrusion process and fittings are produced by high-pressure injection moulding.

Chemical and temperature resistance

Most plastics used for sanitary pipework are highly resistant to those chemicals normally found in domestic waste water and sewerage systems. For applications where chemical discharges are likely to occur, HDPE soil range may be more suitable.

Generally the maximum working temperature of Marley PVCu and PVC-c when subjected to continuous flow is 70°C and 75°C respectively. Higher intermittent discharges of up to 95°C may be accommodated by PVCu provided the period of discharge does not exceed one minute duration.

Alternatively, reference can be made to ISO publications TR10358 & TR7620 which provide comprehensive information on chemical and temperature resistance of plastics and rubber materials.

Pipe dimensions and weights

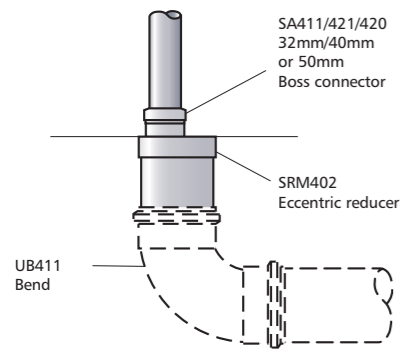
Pipe Material Standard	BS Nominal Size (mm/inch)	Mean Outside Diameter (mm)		Wall Thickness (mm) Min	Weight kg/metre
		Min	Max		
Soil PVCu					
Pipe: BS 4514	82	82.4	82.0	3.0	1.30
Pipe: BS EN 1329	110	110.0	110.3	3.20	1.70
	160	160.0	160.4	3.20	2.50
Waste PVC-c					
Fittings: BS 5255	36/1¼	36.15	36.5	1.80	0.33
Pipe: BS EN 1566	40/1½	42.75	43.1	1.90	0.41
	50/2	55.75	56.1	2.00	0.57
Waste ABS					
Pipe and fittings: BS EN 1455	32/1¼	36.15	36.5	1.80	0.20
	43/1½	42.75	43.1	1.90	0.26
	50/2	55.75	56.1	2.00	0.35
Waste Polypropylene					
Pipe: BS EN 1451	32/1¼	34.45	34.8	1.80	0.21
	40/1½	40.85	41.2	1.90	0.26
Overflow PVCu					
	21.5/¾	21.55	21.70	1.10	0.11

Offsets in stacks

Offsets in the wet portion of a discharge stack should be avoided wherever possible but where they have to be fitted a large radius or two 45° bends should be used to create each change of direction. Offsets in lightly loaded stacks up to three storeys high do not require offset venting but on multi-storey buildings this may be necessary depending on the loading of the stack and the numbers of floors above the offset. The principles previously described for bends and branches at the base of a stack should also be applied.

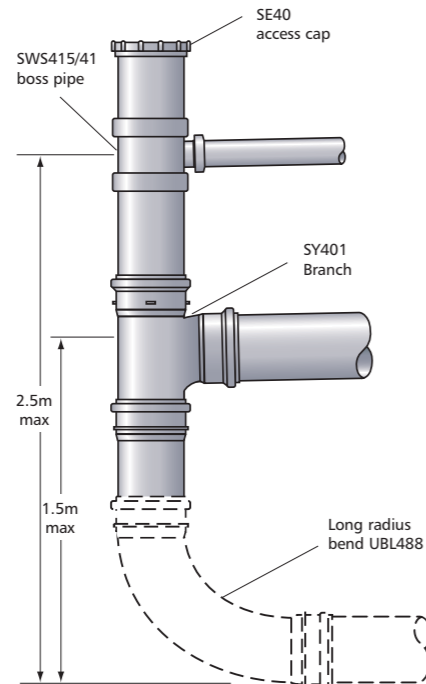
Stub waste

This technique is often used to connect isolated ground floor waste appliances such as basins, baths, shower trays and sinks to eliminate exposed pipework or low level ducting. The 110mm unventilated PVCu drain is terminated at finished floor level with a reducer and boss adaptor to suit the size of waste from the appliance.

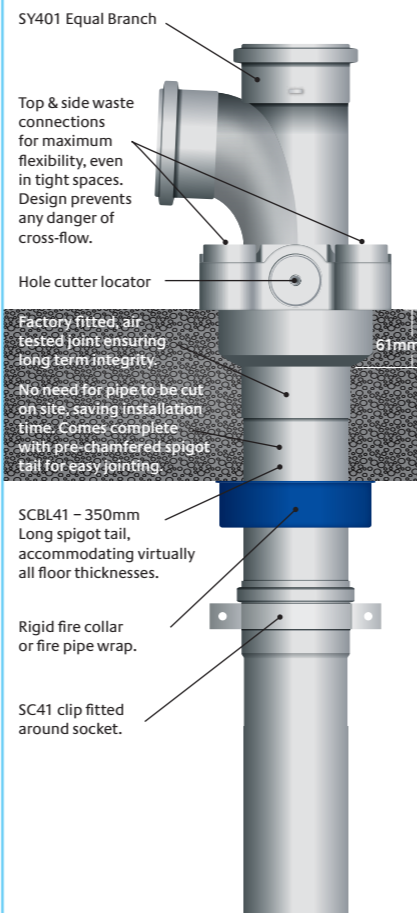


Stub stacks

An unventilated stub stack terminated with an access fitting may be used to connect a group of ground floor appliances to the building drain provided the vertical drop to the invert level of the drain does not exceed 1.5m from a WC and 2.5m from a waste appliance. Where one or more stub stacks are connected to the same drain, the head of the run should be ventilated to atmosphere or air admittance valves fitted to each stub stack arrangement.



8-way collar boss



Branch pipe gradients

The gradient of a branch pipe should be uniform and adequate to drain the pipe and appliance efficiently. A minimum gradient of 18mm/metre should be adopted for 32, 40 and 50mm nominal size pipes but larger diameter 82, 110 and 160mm branch runs may be laid flatter at 9mm/metre fall where the discharge flow rate exceeds 2.5 litres/second.

Branch pipe lengths

The following information is taken from Table 6 of BS EN 12056: 2: 2000 and provides general guidance on the recommended lengths of unventilated branch pipes for a variety of sanitary appliances.

Appliances	Dia (mm)	Min. trap seal depth (mm)	Max. length of pipe (m)	Pipe gradient (%)	Max. bends (No.)	Max. drop H (m)
Washbasin or bidet	32	75	1.7	2.2	0	0
Washbasin or bidet	40	75	3.0	1.8 to 4.4	2	0
Bath or shower	40	50	No limit	1.8 to 9.0	No limit	1.5
Bowl urinal	40	75	3.0	1.8 to 9.0	No limit	1.5
Trough urinal	50	75	3.0	1.8 to 9.0	No limit	1.5
Kitchen sink	40	75	No limit	1.8 to 9.0	No limit	1.5
Dishwasher or washing machine	40	75	3.0	1.8 to 4.4	No limit	1.5
WC	110	50	No limit	1.8 min	No limit	1.5

The maximum lengths given above may be increased where the branch pipe is ventilated or an air admittance valve is used. For further details refer to the above standard.

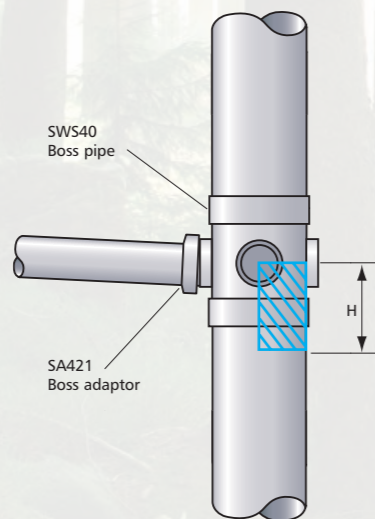


Prevention of cross-flow

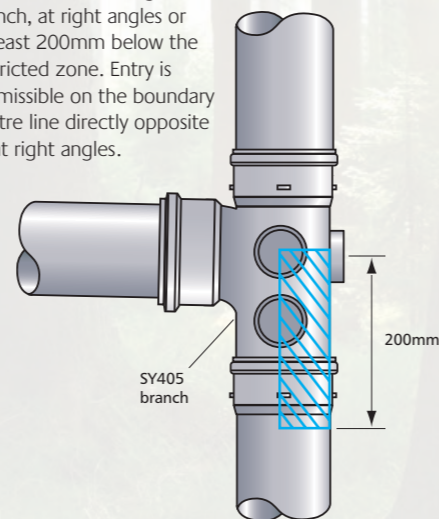
Where small diameter branch waste pipes connect to a discharge stack they must be arranged to eliminate the risk of cross-flow from one branch to the other. A branch creates a no entry zone for opposing waste connections, which varies depending on the stack diameter. No connections should be made within the restricted zone although entry is permissible on the centre line of the boundary directly opposite or at right angles.

Stack size (mm)	Height of zone 'H' (mm)
82	90
110	110
160	250

'H' = 200mm irrespective of stack diameter

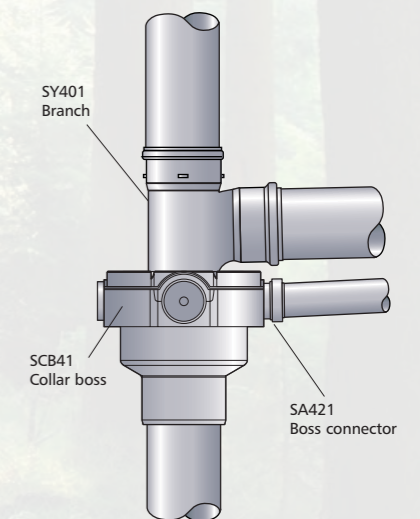


To prevent cross-flow from a large diameter branch to a smaller waste connection, the latter should be made to the stack at or above the centre line of the larger branch, at right angles or at least 200mm below the restricted zone. Entry is permissible on the boundary centre line directly opposite or at right angles.



The **Marley Collar Boss** was specifically designed to overcome installation problems imposed by the 200mm restricted zone and to allow multiple low level bath or shower waste pipes to be connected to the stack above floor level. Cross-flow is prevented as the circular annular chamber protects the small diameter waste connections from the WC discharge allowing waste water to flow freely and merge below the critical zone.

Different combinations of 110mm branches can be used with the collar boss to accommodate various WC positions which may be up to 3 metres from the vertical stack.



Combined branch waste

A combined branch waste is often used to connect a bath and/or shower and basin to the discharge stack as this allows waste pipework to be neatly concealed in a low level duct.

Where this technique is adopted a 45° entry tee must be used to ensure the basin discharge is swept in the direction of flow towards the stack. The minimum distance between the bath or shower and basin connection should not be less than 500mm and it is recommended that an anti-syphon bottle trap is fitted to the basin or a vent provided to protect the appliance from self-syphonage.

It is recommended that the distance of the combined waste does not exceed 3 metres, however, experience has shown that longer runs using 40 or 50mm pipework has proved successful provided adequate fall can be obtained to ensure self-cleansing velocity is maintained

Waste traps

Generally appliances such as sinks, baths and showers do not suffer from self-syphonage as the trap seal is replenished at the end of the discharge due to the flat bottom design of the appliance. Tubular traps are recommended for such appliances as they ensure unrestricted discharge and reduce the risk of blockage and prevent the accumulation of sediment.

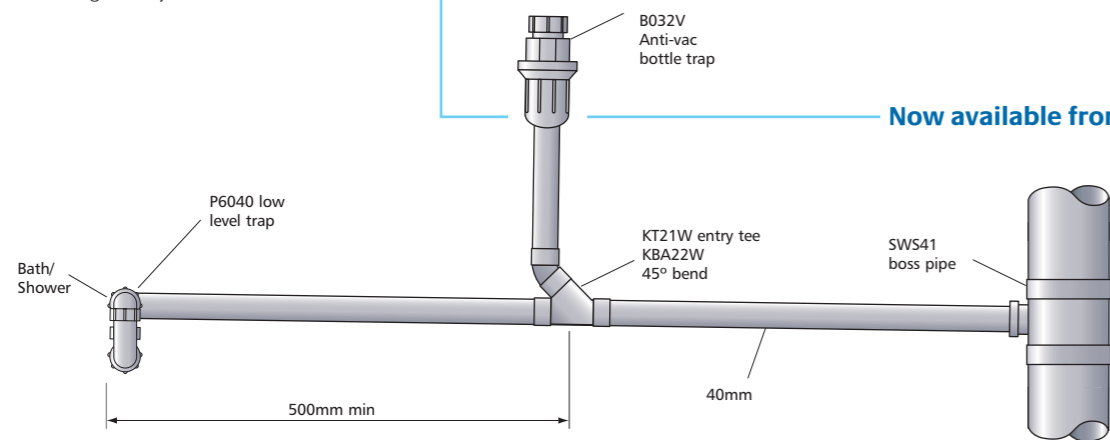
- Compression jointed polypropylene traps can be taken apart to remove a blockage or gain access to the waste system
- Range includes P-traps, S-traps, bottle traps, bath & shower traps and different configurations for washing machines, dishwashers, 1½ or 2 bowl sinks
- White with multiple seal depths
- Sizes: 32, 40 and 50mm

The **Multikwik anti-vac bottle trap**, B032V / B040V, was specially developed to prevent self-syphonage from basins, which can occur particularly where the waste pipe drops vertically from the appliance before falling at an even gradient to the discharge stack.

The trap also eliminates the need for a secondary vent pipe where basins are located further than the recommended 3m maximum from the stack. Non-mechanical, the trap operates as air is drawn in through a by-pass tube to eliminate any syphonic action and ensure the trap seal is maintained.

It is recommended its use is restricted to ground floor baths and showers that discharge directly to an external trapped gully. It should not be fitted to a bath or shower where the waste pipe is connected to a soil stack.

Now available from Multikwik®



WC manifold system

Developed for use in sanitary pipework systems in schools, hospitals, public and commercial buildings, the manifold system allows ranges of toilets to be connected to a horizontal float above floor level and eliminate the need for specially fabricated fittings.

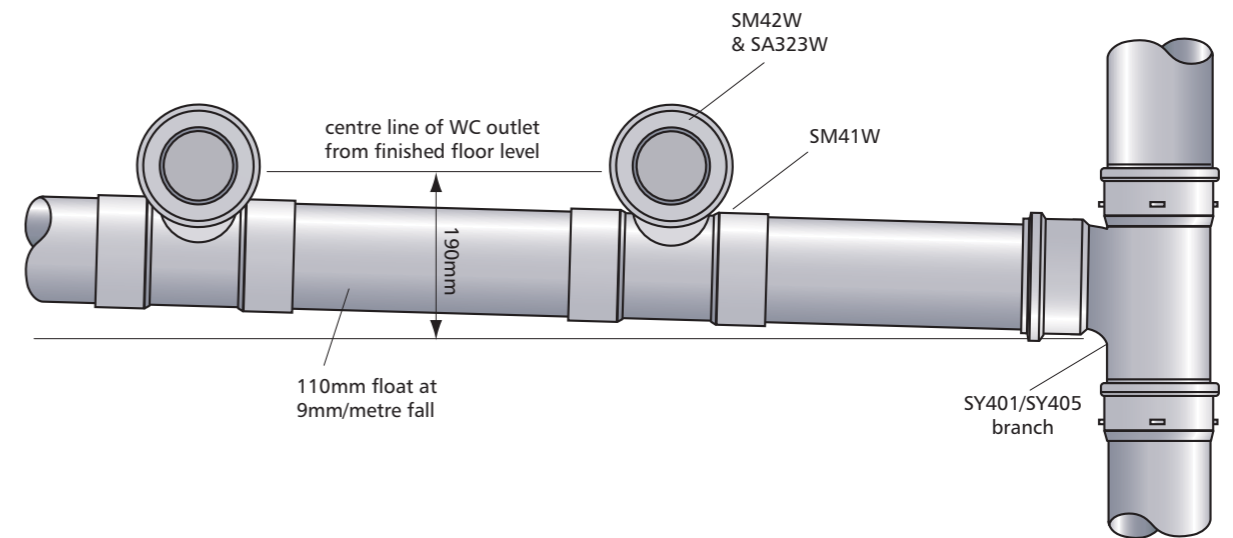
The components are suitable for installation in a duct, or for fitting on the surface of the wall directly behind the pan. Where the manifold is fitted directly behind the range of toilets,

the minimum distance between the end of the WC spigot and the face of the wall is 150mm. To facilitate varying angles and gradients the 110 x 90mm manifold branch has a radial socket to match both options of adjustable WC bend. When the selected bend is cut to the appropriate line and solvent welded into the socket on the manifold branch a uniform fall is obtained between each toilet on the horizontal float.

To accommodate different dimensions between the WC spigot and horizontal float, the adjustable spigot bend SM43W may be trimmed by up to 35mm or the extension pipe SM45W can be used with the pan connector SM44W and SA323W cap & seal.

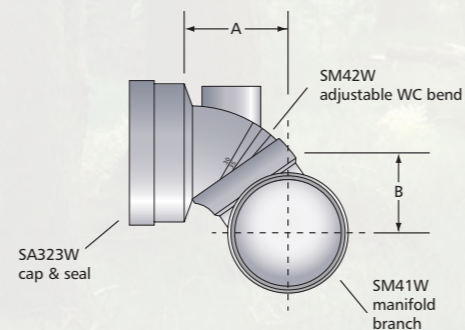
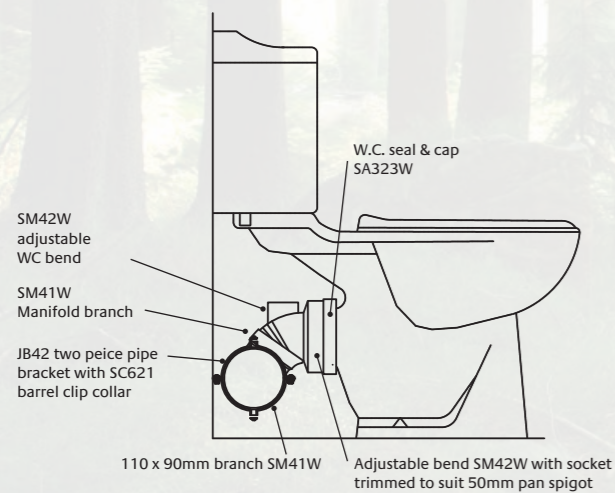
The WC socket on both the SM42W and SM44W must be trimmed to suit the length of pan spigot before the SA323W is fitted.

For installation details see page 45.



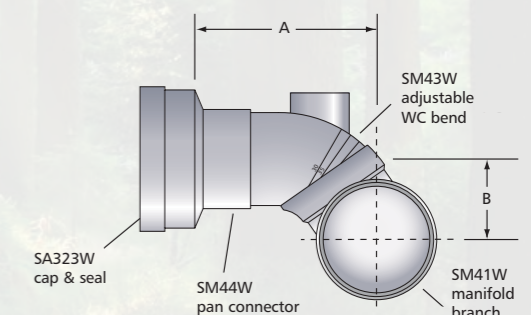
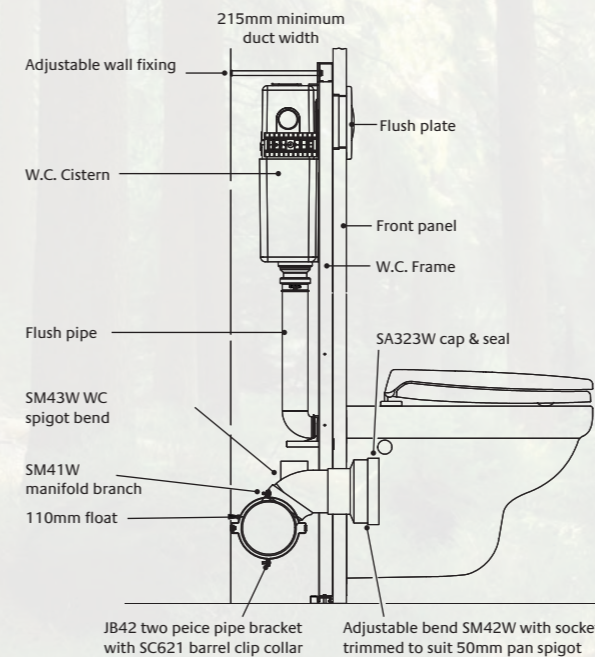
Manifold branch SM41W with SM42W

Cut line	50°	55°	60°	65°	70°	75°	80°	85°	90°
A - projection (mm)	93	93	92	91	90	87	84	80	75
B - drop (mm)	69	77	85	93	101	109	116	123	130



Manifold branch SM41W with SM43W

Cut line	50°	55°	60°	65°	70°	75°	80°	85°	90°
A - projection (mm)	180	180	179	178	177	174	171	167	162
B - drop (mm)	69	77	85	93	101	109	116	123	130



Joining techniques

The ring seal has been successfully employed as the principal method of joining large diameter PVCu pipes and fittings since their introduction over thirty years ago. This particular technique has proved extremely reliable as the joint can accommodate thermal movement that will occur as a result of temperature variations. An expansion gap of between 5-10mm should be allowed within each ring seal socket as each full length of pipe is installed and fixed using socket and barrel pipe clips.

Solvent weld jointing is also widely used and many components in the range are available with this facility to provide an effective alternative. By selecting these fittings a solvent weld system can be installed, however, ring seal joints must be incorporated to control thermal movement.

While the most popular method of joining larger size PVCu pipes and fittings is by ring seal, with small diameter waste pipework the principal choice is usually solvent weld. Where this technique is used expansion couplings must be introduced where pipe lengths exceed 1.8 metres or between fixed points. The same principle should also be adopted when the polypropylene push-fit waste system is installed.

It should be noted that polypropylene cannot be solvent welded and together with the ABS waste system must not be fitted externally unless painted to protect it from ultra-violet degradation.

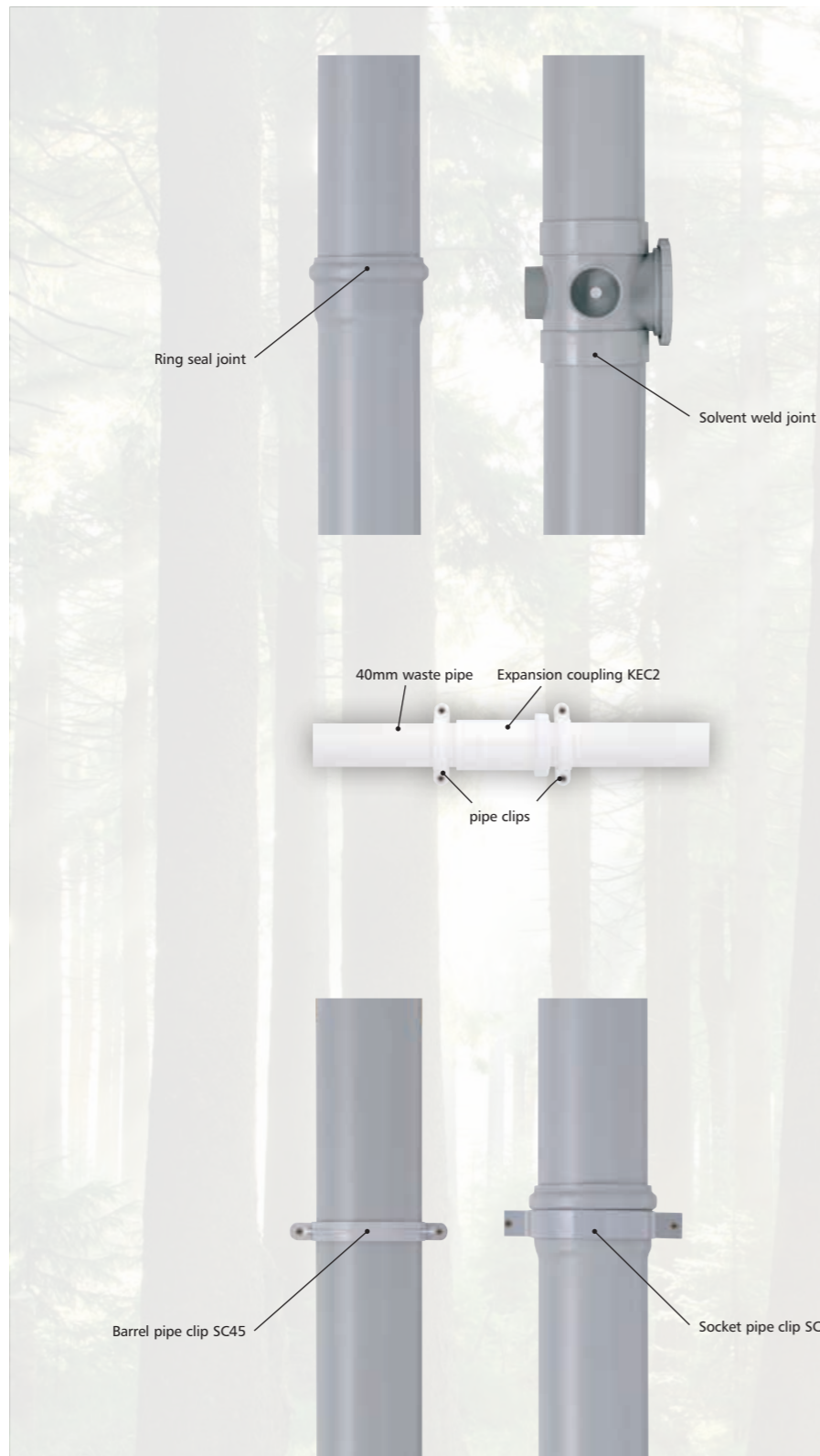
For installation using solvent cement please see marleypd.co.uk

Pipe support

Experience has proved that an efficient and reliable PVCu sanitary pipework system depends considerably on the attention that is placed on the correct provision of pipe support brackets. This is particularly important in multi-storey buildings where care must be taken to ensure clips are positioned to control thermal movement at each floor level.

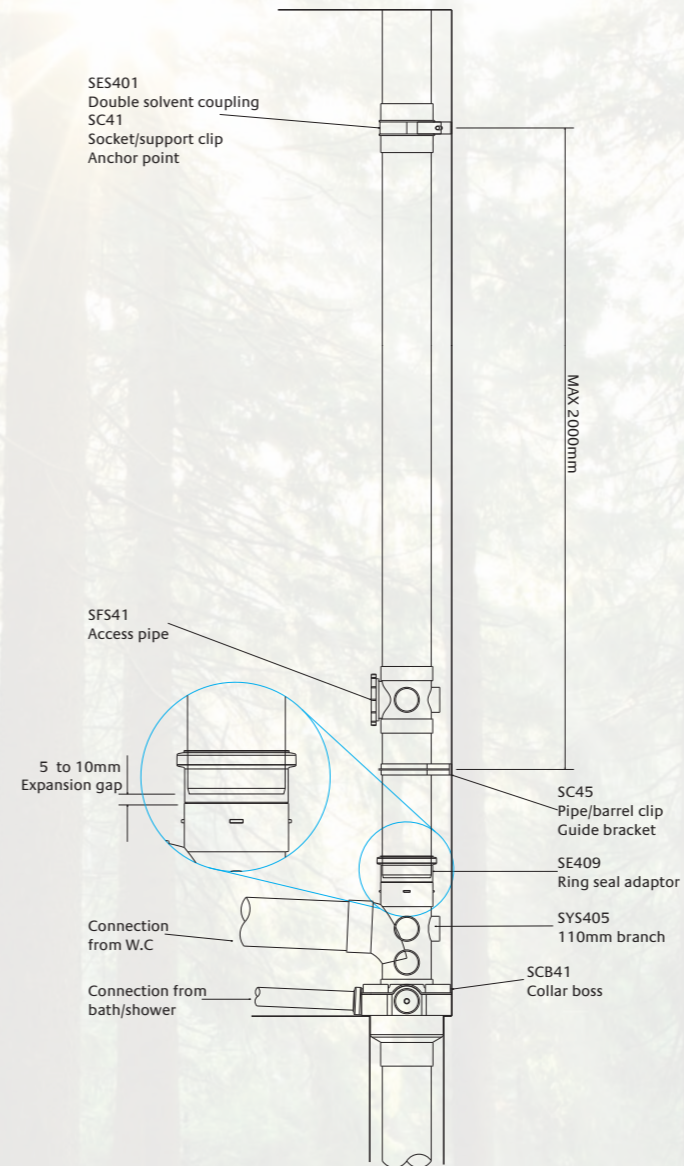
Plastic coated metal socket clips are designed to fit ring seal sockets and act as anchor brackets. These used in conjunction with PVCu intermediate pipe clips, control expansion and contraction and maintain the vertical alignment of the stack.

Two piece socket clips SC41/61 may be adapted to suit the appropriate pipe size by using a section of barrel clip collar SC621 to provide the necessary spacer sleeve. The table opposite indicates the maximum recommended support centres of different size plastic pipe systems.

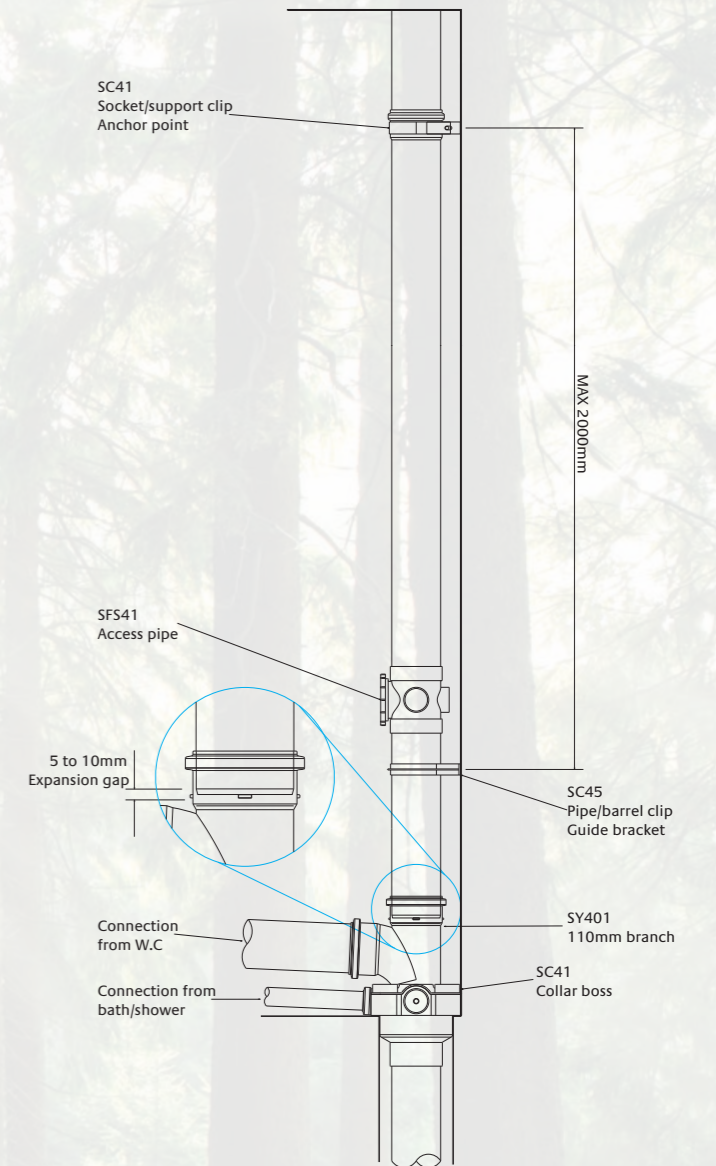


Solvent soil stack installation

The addition of the SE409 ring seal adaptor allows for thermal movement required in a solvent soil installation



Push-fit soil stack installation



Pipe material	BS Nominal pipe size	Horizontal support (m)	Vertical support (m)
PVCu	21.5	0.50	1.20
PP	32	0.50	1.20
	40	0.50	1.20
PVCc	32	0.50	1.20
ABS	40	0.50	1.20
	50	0.60	1.20
PVCu	82	1.00	2.00
	110	1.00	2.00
	160	1.20	2.00

Marley pipe support system

The Marley pipe support range was developed to meet the specific requirements of PVCu suspended sanitary pipework and drainage systems. Manufactured in zinc electro plated mild steel for internal use, the versatile range of components can be assembled to provide a robust, lightweight system suitable for most applications. The system also provides suitable control of expansion and contraction.

The arrangements of brackets and channel supports have been extensively tested and the assembly techniques used have been successfully employed on many domestic and commercial installations.

Single support

Recommended for waste or larger diameter pipework fixed within 500mm of the floor soffit.

Double support

Developed for use with larger diameter pipework fixed within 1.0m of the floor soffit.

Pipe brackets

The 110mm two piece pipe brackets are designed to fit round the ring seal socket of a pipe or fitting. Where intermediate support brackets are located, the SC621 PVC barrel clip collar is used as a spacer sleeve between the pipe and bracket.

Angle and side bracing

Angle braces should be provided at 6m centres to prevent lineal and thermal movement. Side bracing may also be necessary on long runs where there are no side connections to eliminate lateral movement.

Vertical pipes

The transition between vertical and horizontal pipework should be achieved using two 45° bends or a single 87½° long radius bend with a support bracket positioned as close as possible.

Branch connections

All branch connections into horizontal pipework should be made at 45° to ensure the discharge is swept in the direction of flow.

Structural fixings

It is recommended that 6mm rawlbolt or similar proprietary fixings are used to secure base plate and angle cleats to the structure.

Boss branches

The Marley range of boss branches are designed to allow multiple waste pipe connections to be made to the discharge stack from different directions. Four different side entry combinations are possible together with a rear if required. Staggered waste pipe connections, directly opposite are not permitted as cross-flow could occur.

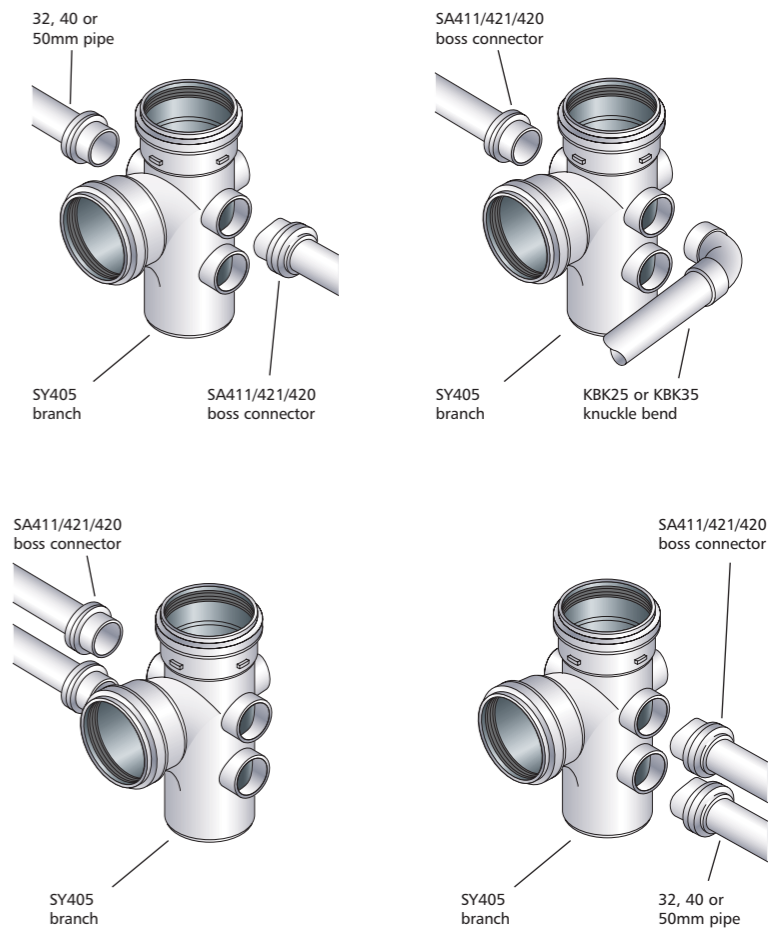
Compatibility

Boss pipes, boss connectors and strap-on bosses fitted with multi-fit 'T' ring seals are suitable for use with PVCc or ABS waste systems to BS EN 1566 or BS EN 1455-1, polypropylene to BS EN 1451-1 and metric size copper to BS EN 16090.

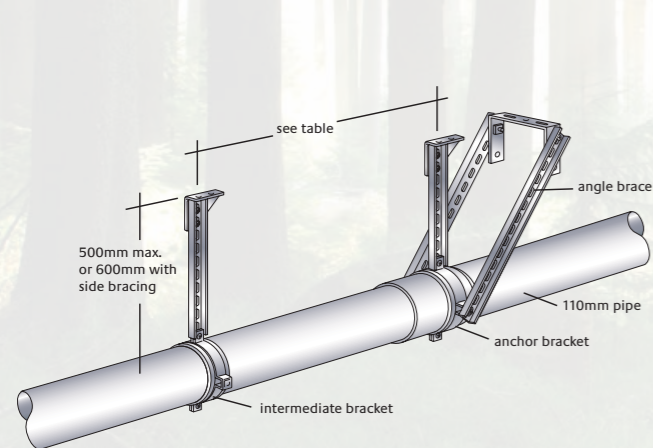
Un-perforated boss upstands on boss pipes, branches and reducers may be drilled to accept 32, 40 and 50mm boss connectors SA411, SA421 and SA420 using a 51mm diameter hole saw. Knuckle bends KBK25 and KBK35 may also be used as 90° boss connectors for 40 and 50mm PVCc or ABS waste pipework.

Horizontal connections

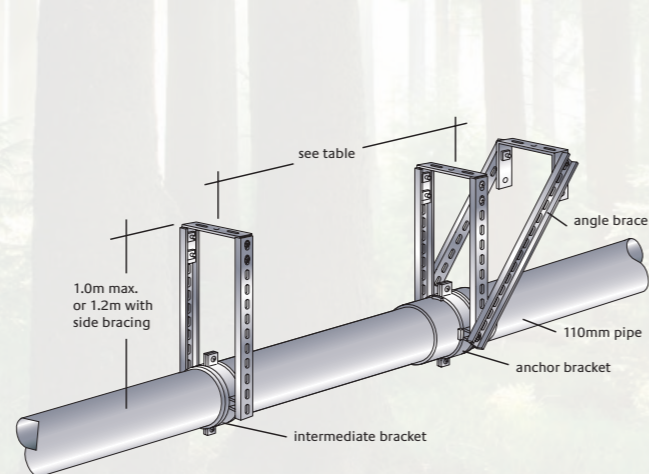
The SWS4135 boss pipe is recommended for use in horizontal situations where connections to 110mm diameter pipe is made at 45°. This fitting has a 50mm solvent weld socket to accept PVCc or ABS waste pipes.



Single support



Double support

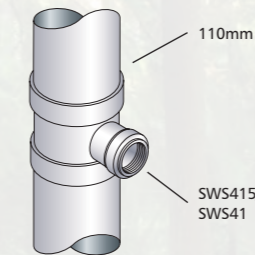


Boss pipe connections

Four different types of fitting are available to provide alternative methods of connecting small diameter waste pipes to 82, 110 and 160mm vertical discharge stacks.

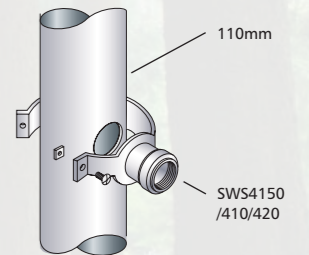
Single boss pipes.

Available with ring seal or solvent weld sockets for push-fit or solvent weld jointing, single boss pipes allow 32, 40 and 50mm waste pipe connections to be made at 87½° direct to the vertical stack.



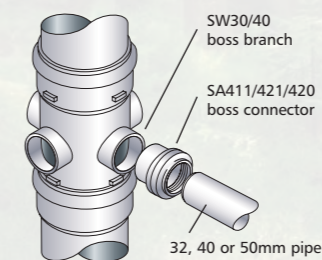
Strap-on-bosses.

Primarily designed to permit 32, 40 and 50mm waste pipe connections to be made to existing 110mm PVCu discharge stacks, strap-on-bosses can also be used on new systems to provide flexibility of installation during different stages of construction.



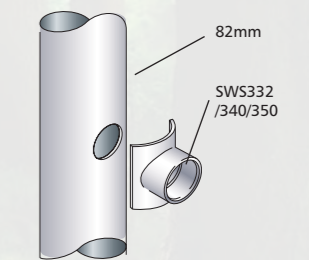
Multiple entry boss pipes.

Supplied in ring seal or solvent weld options, all have 90° boss upstands on each fitting with one inlet port open. Connection is made using the appropriate size Marley boss connector to suit 32, 40 or 50mm waste pipes.



Patch bosses.

Suitable for solvent weld jointing to new and existing 82mm diameter PVCu discharge stacks to accept 32, 40 and 50mm size PVCc or ABS waste pipework.



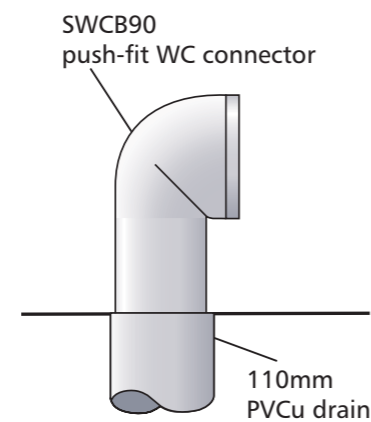
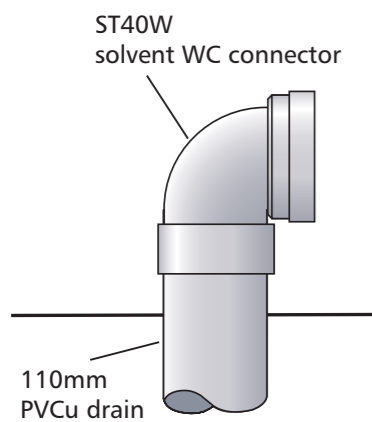
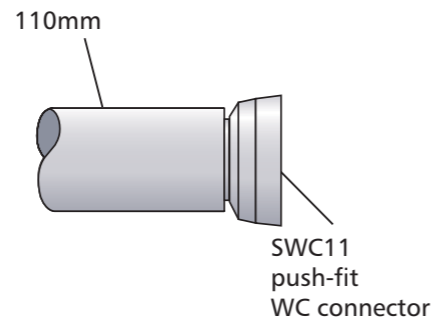
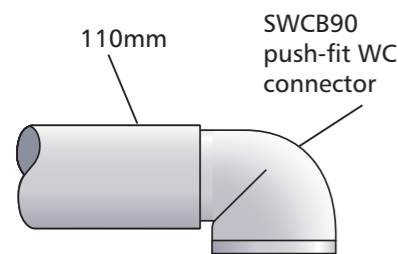
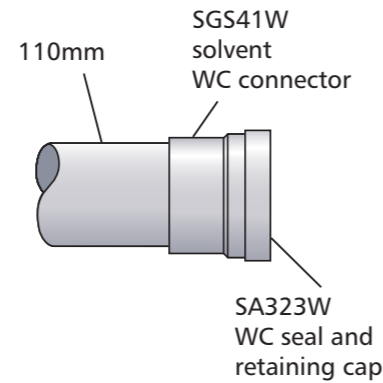
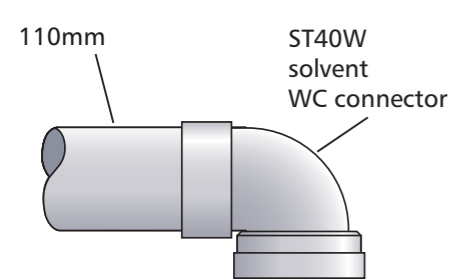
WC connections

Two different types of connectors are available to allow connection to vitreous china or stainless steel WC pans, slop hoppers and other similar sanitary equipment. Manufactured in PVC and eva (ethylene vinyl acetate) to accommodate a range of outlet sizes between 84 and 110mm sanitary pipework or underground drainage.

The 90° ST40W, ST41W and SG40W connectors are supplied complete with flexible seal and retaining cap. Where the SGS41W or STS41W pan

connectors are used, the WC socket must be trimmed to suit the length of pan spigot before the SA323W is solvent welded in position.

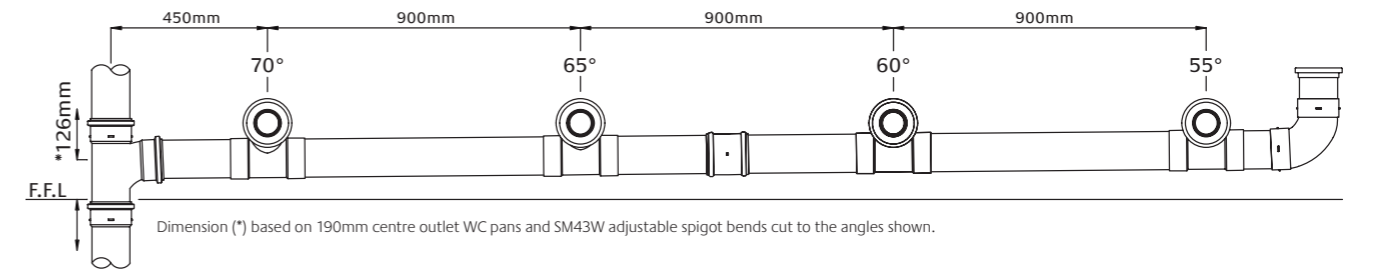
Ground floor toilets often have their own connection to the building drain to eliminate pipework and ducting. Where this occurs both types of connector are suitable for push-fit or solvent weld jointing to the 110mm PVC drain.



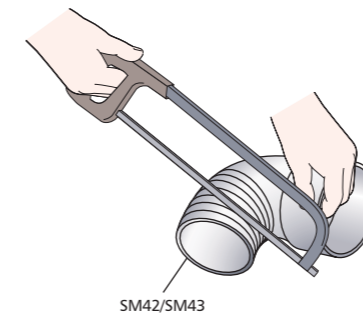
WC manifold system

Up to six WCs can be connected to a soil stack using the WC manifold system and a single branch connection. By using a double branch connection, an additional six WCs can be connected. The table, right, details the angles of the manifolds for this installation.

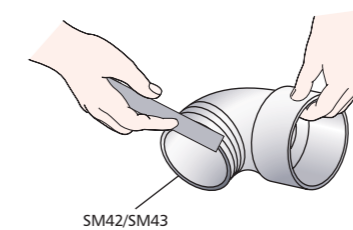
NUMBER OF WCs	ANGLE OF MANIFOLD BRANCH					
	WC 1	WC 2	WC 3	WC 4	WC 5	WC 6
6	80°	75°	70°	65°	60°	55°
5	75°	70°	65°	60°	55°	
4	70°	65°	60°	55°		
3	65°	60°	55°			
2	60°	55°				



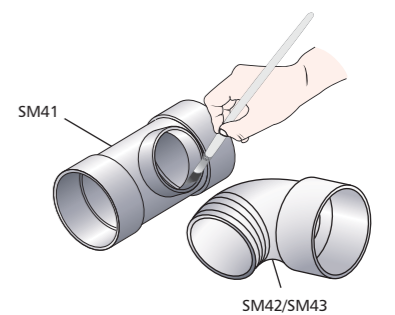
1. Select the adjustable bend angle required from the above diagram according to the WC position. Cut the bend with a hacksaw, removing the unwanted portion.



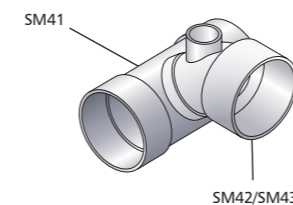
2. File away any rough edges from the face of the fitting and wipe clean the bend and branch, with a dry cloth. Before jointing, the bend and branch should be checked for position and alignment, both parts being marked to ensure accurate assembly.



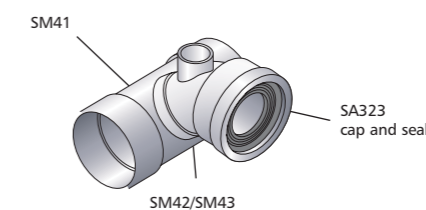
3. Apply a uniform coat of Marley solvent cement, to the short branch radial socket and to the external surface of the bend body.



4. Assemble the branch immediately, insuring that the marked lines on the fitting coincide. Do not twist the two parts of the branch during this operation, but maintain steady pressure until the spigot of the bend comes to rest against the internal surface of the branch socket. Quickly wipe off any surplus solvent cement from the inside and outside of the completed joint and hold in position for approximately 15 seconds.



5. Trim the WC socket to suit the toilet pan spigot length and remove any swarf with a file. Place the seal in the socket, apply a uniform coat of solvent cement about 15mm wide to the outside of the socket and inside the retaining cap. Push onto the socket and wipe off any surplus solvent cement.



To accommodate varying dimensions between the WC spigot and the centre line of the horizontal pipe run, the adjustable spigot bend SM43 or extension pipe SM45 can be used with WC connector SM44.



Quality Product

The Marley HDPE range is the only system in the UK certified to BS EN 1519.



Technical Services

Our team of experts will provide support throughout the design process, creating drawings for each stack element and liaising with our fabrications team to ensure that every detail is to specification.

The Fabrications Team

Our dedicated team of skilled fabricators will pre-build the HDPE soil stacks in a controlled factory environment, to project specifications and to the highest quality, with pressure testing to BS EN 12056-2 on every stack as standard.



On Site Support

This is useful for particularly complex installations, where our years of industry experience may be beneficial.



Delivered when and where you need it

Following drawing sign off, a delivery schedule is agreed.

Deliveries will arrive to the agreed schedule, saving precious space on site.



Why choose a fabricated system?



Saves time



Saves money



Saves storage



Saves waste



Expertise



Simplification



Quality, assured



Delivery when you need it

Site Work

Inspection and testing

Inspection and testing should be carried out in accordance with BS EN 12056: 2000 and Building Regulations noting especially the details given in respect of air testing and the fact that smoke testing of plastics pipework should be avoided as the materials can be adversely affected.

Air test

The installation should be capable of withstanding an air test of positive pressure of at least 38mm water gauge for at least 3 minutes. During this time every trap should maintain a water seal of at least 25mm.

Handling

PVCu pipes are strong, though lightweight and therefore very easily handled. However, reasonable care should be exercised while handling, particularly in extremely cold conditions. Pipes should preferably be loaded and unloaded by hand but if mechanical handling is used, protected slings are recommended.

Maintenance

Provided that the system is designed and installed correctly, no maintenance will be required.

If blockage does occur, use only flexible or roller type rods. Pointed or bearing type metal fittings are not recommended. Tests have been carried out on PVCu pipes and fittings using equipment from specialist drain cleaning contractors and their standard equipment is suitable.

Safety

The relevant regulations are outlined in the Health and Safety At Work Act 1974 and The Construction (Design and Management) Regulations 1994 and should be followed. Hazard sheets, dealing with the correct storage, use, and any hazards of working with solvent cement, silicone lubricant and fire protection products are available from Marley Plumbing & Drainage.

Storage

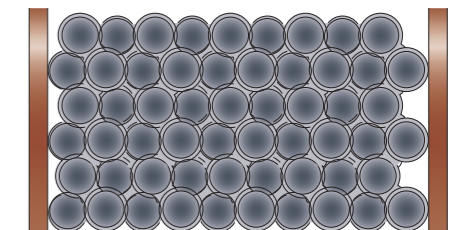
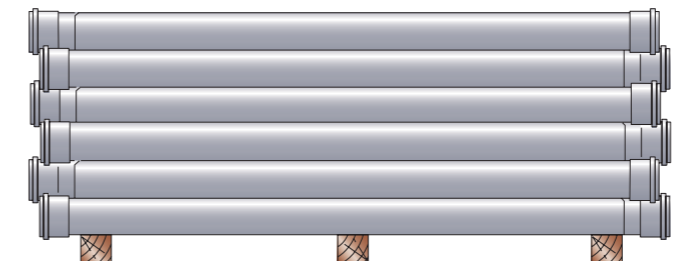
Pipes should be stacked on a reasonably flat, level surface on timber battens not less than 75mm wide spaced at a maximum of 1m centres. Side support should also be provided at intervals of not more than 1.5m.

Different size pipes should be stacked separately. However, where this is not possible, larger diameter pipes should be placed at the bottom.

Spigot and socket pipes should be stacked separately. However, where this is not possible, larger diameter pipes should be stacked with

sockets at alternate ends protruding to ensure pipes are evenly supported along their length.

Pipes should not be stacked more than 7 high and when stored in the open for long periods, or exposed to strong sunlight, they should be covered with an opaque sheet. Fittings supplied in cardboard boxes or polythene bags should be stored under cover and kept packed until required. Solvent cement should be stored in a cool place out of direct sunlight and away from any heat source.



British & European Standards

BS EN 1329-1: 2014

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure – PVCu.

BS EN 1451-1: 2000

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure – polypropylene.

BS EN 1519-1: 2000

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure – polyethylene.

BS 4514: 2001

Specification for PVCu soil and ventilating pipes, fittings and accessories.

BS EN 1566-1: 2000

Specification for thermoplastics waste pipe and fittings.

BS 5255: 1989

Specification for thermoplastics waste pipe and fittings.

BS EN 1455-1: 2000

Plastics piping systems for soil and waste (low and high temperature) within the building structure – ABS.

BS 5627: 1984

Specification for plastics connectors for use with horizontal outlet vitreous china WC pans.

BS EN 14680: 2015

Specification for adhesives for non-pressure thermoplastics pipe systems.

BS EN 681-1: 1996

Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Part 1 vulcanised rubber.

BS EN ISO 9001: 2015

Quality systems. Model for Quality Assurance in Design, Development, Production, Installation and Servicing.

BS EN ISO 14001: 2015

Environmental management systems. Requirements with guidance for use.

Accreditations



Certificate No. 06/4325



BS EN 1329-1 : 2000
BS 4514 : 2001
BS EN 1566-1: 2000
BS 5255: 1989
BS EN 1455-1: 2000
BS EN 1451-1: 2000
BS EN 1519-1: 2000



BS EN ISO 9001: 2008
BS EN ISO 14001: 2004

Products indicated by this symbol comprise of components not covered by Marley Plumbing and Drainage BS EN ISO 9001 Scope of Registration. However these products have been fully inspected and tested in accordance with our own Quality Management System requirements.



Case study

Leicester Student Accommodation

Hundreds of en-suite shower pods were installed during the construction of a student accommodation building in the East Midlands using the Marley PVCu soil and waste system, and in particular, the eight-way collar boss.

“We have come to rely on Marley for their technical advice. Particularly in situations such as this one. We wanted Marley involved from an early stage to be able to advise and steer the design process”














Dave Gourley, Project Manager
H Malone and Sons Ltd



Designing the most efficient drainage system for a project is a skill for which the Marley Technical Services team are renowned. Marley Plumbing & Drainage provide technical support to all those involved with the specification and installation of our products.

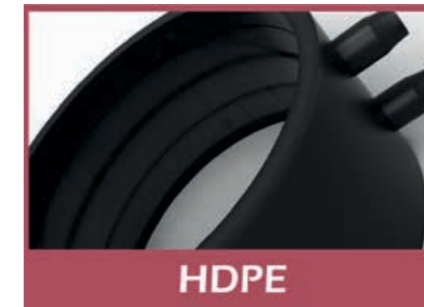
Our technical team can help you specify the system you need

Years of experience mean that we can support you throughout your tender process and assist with any technical and installation requirements.

- | | | | |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
|  DESIGN SERVICES |  VALUE ENGINEERING |  TECHNICAL ADVICE |  FABRICATIONS SERVICE |
|  RAINWATER CALCULATIONS |  MATERIAL TAKE-OFFS |  CAD FILES |  BIM OBJECTS |
|  FIELD AND SITE SUPPORT |  SPECIFICATION |  SPECIAL FABRICATIONS |  IN-HOUSE AND EXTERNAL TRAINING |
|  CPD SEMINARS | | | |



An acoustic soil and waste range with a layered pipe providing quick, hygienic removal of sanitary waste water. The noise generated by the flow of water is dramatically reduced – making it perfect for multi-occupancy apartment blocks and high specification developments.



Marley Akatherm HDPE is a drainage system which offers an alternative solution to cast iron. It is particularly suited for commercial applications or where a product with high impact or abrasion resistance is required, such as hospitals, hotels, schools, as well as residential buildings. HDPE will also cope with temperature variations of -40°C to 100°C making it ideal for external as well as internal installations.



The Multikwik brand is known and trusted by plumbers for its sanitary frames, cisterns, traps, compression waste systems and market leading range of pan connectors. Complementing the Marley range it provides an excellent solution to modern bathroom design with a wide choice of product options.



The Marley Plumbing & Drainage range of underground systems include the solid wall range, predominately for round the house drainage and Quantum structured wall range for sewer and highway drainage applications.



Five gutter profiles and three downpipe options provide a rainwater solution for any application. Advanced Life⁴ technology on four of the key profiles, coupled with the benefits of the Easyclip and notching capability combine to make the Marley rainwater range the most comprehensive available.





marleypd.co.uk

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Email: customerservice@marleypd.co.uk

To place an order

For delivery to **England & Wales**

Email: orders.lenham@marleypd.co.uk

Fax: 01622 851111

For delivery to **Scotland**

Email: orders.uddingston@marleypd.co.uk

Fax: 01698 810307

For all estimate requests

Email: estimates@marleypd.co.uk

For Technical advice please call

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