

Rolled Lead Sheet and Ancillary Product Guide





Experience Lead Superiority

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LEAD

Lead is a naturally occurring heavy metal that is soft, malleable and corrosion-resistant. It is one of the oldest and most durable building materials commonly used today. Lead is widely used in the construction of buildings as an effective and traditional roofing material that is totally weather-resistant and provides a lasting protection and attractive finish.

When correctly sized and fitted, British Standard Rolled Lead Sheet has a life expectancy of 50 years, far exceeding any man-made alternative product and benefits from a significantly lower life time cost.

It is the professional’s choice for flashings, cladding, valley gutters, dormers, porches and flat and pitched roofing of both traditional and contemporary buildings.



ABOUT US

Proudly manufacturing Lead products in the UK since 1932, Ecobat Resources (formally British Lead) was founded on the principle of bringing the best quality Lead Sheet to its customers.

Our wealth of experience and expertise, together with the advanced technology at our disposal, ensures that our Rolled Lead Sheet meets the strict tolerances of British Standard BS EN 12588, allowing Lead Sheet’s performance to be accurately predicted whilst in situ.

Our manufacturing site in Welwyn Garden City, Hertfordshire handles all aspects of Lead Sheet production, from recycling soft scrap Lead, rolling slabs of Lead into sheets and quality testing, through to cutting, packing and distribution.

Ecobat, the world’s largest producer and recycler of Lead, ensures 100% of the raw material used to manufacture our Rolled Lead Sheet is either recycled by us or our sister companies. Every kilogram of Lead we produce has had a previous life.

The combination of our own delivery vehicle fleet and external logistic partners, supported by Ecobat Resources’ collection and distribution depot in Glasgow ensure complete nationwide coverage and enhanced lead times.

Ecobat Resources’ offer is complimented by our comprehensive range of ancillary products, which provides our customers with everything required to install anything from basic flashings to the most complex detailed Leadwork.

We are members of the Lead Sheet Training Academy (LSTA), who publish the Rolled Lead Sheet Manual – the foremost independent authority on the design, specification and application of Rolled Lead Sheet for the construction industry.

We are certified to the internationally recognised ISO 9001 for Quality Management, ISO 14001 for Environmental Management, ISO 45001 for Occupational Health & Safety and ISO 50001 for Energy Management.

Recycling Lead

One of the key elements to our production process is recycling scrap Lead comprising reclaimed Lead Sheet, Lead pipe and off-cuts from our manufacturing process, turning waste into new products and preventing their disposal in landfill.

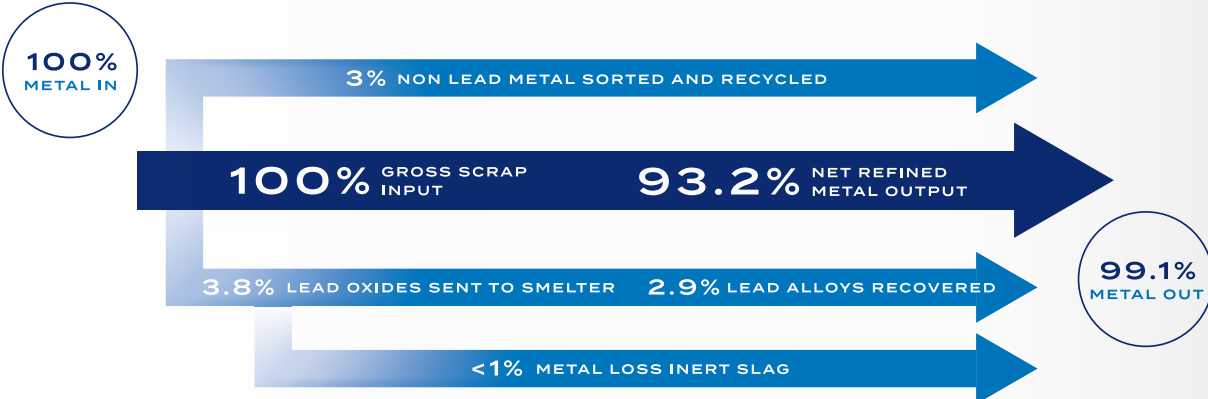
Lead has one of the highest recycling rates in the world, which makes it one of the most sustainable and environmentally friendly building products.

Lead recycling makes an important contribution to achieving and maintaining sustainable development in the construction industry through a simple and energy-efficient recovery process.

The relatively low melting point of Lead, 327°C, means the process is very energy-efficient with a low carbon footprint and a minimal environmental impact.

The end product is a 100% recycled Lead Sheet providing the best performance and longevity for Leadwork.

Our Scrap Back scheme offers contractors buying regularly from Ecobat Resources supplied merchants the chance to return their scrap Lead at preferential rates, further underlining our commitment to recycling and sustainability. Further details can be found on page 35.



ecobat

Ecobat is the world's largest producer and recycler of Lead, operating from 29 plants in 8 countries and employing over 3,500 people. The combined group recycles and processes in excess of 1,000,000 tonnes of Lead per year.

In addition to producing new Lead products for the construction and shielding industries, other Ecobat locations specialise in the collection, transport, storage and recycling of spent Lead acid batteries, production of specialist Lead alloys and distribution of new Lead acid batteries. This provides "closed loop recycling" for Lead acid batteries, making Ecobat completely unique from any other global battery recycling business.

By-products resulting from the recycling of batteries, such as high quality polypropylene, gypsum, sulphuric acid, sodium sulphate and precious metals including gold and silver are supplied to a range of different industries.

The group utilises best available technology at its sites worldwide and shares information and best practice to ensure the continued development of quality standards and efficiency. This ensures that the critical environmental and health and safety management elements of our operations remain consistently high and always ahead of all applicable legal requirements.

While Ecobat Resources is largely self-sufficient in terms of its raw material sources, customers can rest assured that being part of Ecobat guarantees continued supply from a globally recognised group, where advances in technology and innovation are at the forefront of everything it does.

Rolled Lead Sheet



Ecobat Resources’ Rolled Lead Sheet is manufactured to British Standard BS EN 12588 and made from 100% recycled raw material.

The British Standard ensures the alloy used contains a minimum amount of Lead and the correct amount of trace elements. It also guarantees a consistent thickness (+/- 5%) and grain structure, so its performance can be accurately predicted to provide maximum lifespan for correctly-fitted Lead Sheet used in construction.

We supply Rolled Lead Sheet in six standard Code thicknesses, in 5mm width increments from 150mm to 1580mm in Codes 3, 4, 5, 6, 7 and 8 in standard roll lengths of 3 and 6 metres.

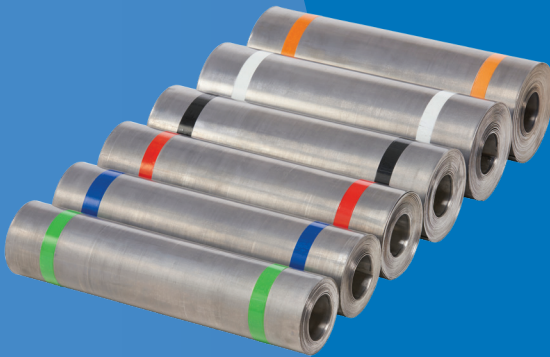
Non-standard lengths and thicknesses are available upon request. Please be aware that extra charges and extended lead times may be applied.

British Standard Rolled Lead is produced to a calculated theory weight with a tolerance of +/- 5%. Theory weights of standard rolls can be found on our Weight Chart.

PEACE OF MIND

Ecobat Resources’ Rolled Lead Sheet comes with a 50-year warranty, providing it is installed in accordance with the LSTA’s Rolled Lead Sheet Manual and BS 6915.

Lead Sheet applications also achieve a rating of A or A+ in the BRE Green Guide.



HELPFUL TIPS

- If the width you require is not in stock it is worth ordering a wider piece to avoid delay.
- Save on cutting charges by ordering a standard length and cutting it yourself.
- Large orders of Lead can be delivered direct to site at no extra cost.
- Lead Sheet should be fitted in accordance with BS 6915 as detailed in Rolled Lead Sheet – The Complete Manual by the LSTA.

Weight Chart

		CODE 3		CODE 4		CODE 5		CODE 6		CODE 7		CODE 8	
Weight per m ²		15.0kg		20.41kg		25.40kg		30.10kg		35.72kg		40.26kg	
Nominal Thickness		1.32mm		1.80mm		2.24mm		2.65mm		3.15mm		3.55mm	
Standard Lengths		3m	6m	3m	6m	3m	6m	3m	6m	3m	6m	3m	6m
Widths mm	Widths Nearest imperial	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg
150	6"	7	13	9	18	11	23	14	27	16	32	18	36
180	7"	8	16	11	22	14	27	16	32	19	39	22	43
210	8"	9	19	13	26	16	32	19	38	23	45	25	51
240	9"	11	22	15	29	18	37	22	43	26	51	29	58
300	12"	13	27	18	37	23	46	27	54	32	64	36	72
360	14"	16	32	22	44	27	55	32	65	39	77	43	87
390	15"	18	35	24	48	30	59	35	70	42	84	47	94
450	18"	20	40	28	55	34	69	41	81	48	96	54	109
510	20"	23	46	31	62	39	78	46	92	55	109	62	123
600	24"	27	54	37	73	46	91	54	108	64	129	72	145
760	30"	34	68	47	93	58	116	69	137	81	163	92	184
800	32"	36	72	49	98	61	122	72	144	86	171	97	193
900	36"	40	81	55	110	69	137	81	162	96	193	109	217
1000	40"	45	90	61	122	76	152	90	180	107	214	121	242
1220	48"	55	110	75	149	93	186	110	220	131	261	147	295
1500	60"	67	135	92	184	114	229	135	270	161	321	181	362
2440	96"	-	-	149	299	186	372	220	440	261	523	295	589

To calculate the approximate weight: Length in metres x Width in metres x Code weight in kg/m²

SIZING AND CORRECT USE OF LEAD SHEET

The most common cause for failure of Lead Sheet used in roofing and cladding applications is from cracks developing as a result of thermal expansion and contraction due to individual pieces of Lead being oversized.

The maximum size recommended for each thickness or Code of Lead varies; the thicker the Lead the larger the piece that can be laid.

The LTSA provide comprehensive details of recommended maximum sizes in “Rolled Lead Sheet – The Complete Manual”, the chart opposite provides a general guide to which code thicknesses can be used for a range of common applications as well as maximum recommended sizes.

OVER FIXING

Lead Sheet on buildings is usually fixed externally and is therefore subjected to conditions of changing temperature.

Limiting the size of each piece of Lead Sheet ensures that the amount of thermal movement within the jointing and fixing details is not excessive and there are no undue restrictions on the movement.

Whilst there needs to be sufficient fixings to support the Lead, it is important to note that over fixing can restrict the free thermal movement of the Lead, causing the sheet to buckle, which in turn will result in fatigue cracking and possible failure.

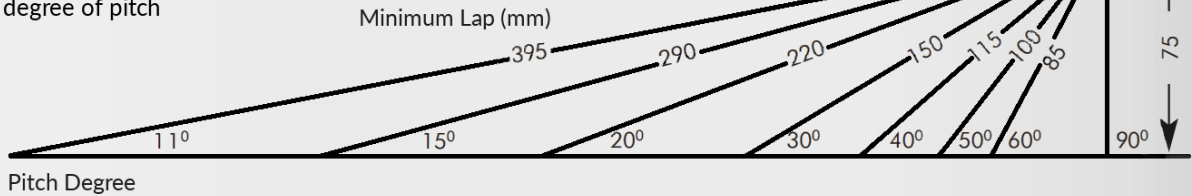
JOINTS

Joints for Leadwork are designed to allow for thermal movement. A joint must be weather-tight in its selected position and not formed too tightly.

End to end joints between steps and cover flashings, pitched valley gutters, pitched roofing and cladding pieces are called laps. The lap diagram below indicates the minimum lap required for each degree of pitch, taken from the lowest fixing.

Lap Graph

Minimum lap for each degree of pitch



Sizing Guidelines by Application

	CODE 3	CODE 4	CODE 5	CODE 6	CODE 7	CODE 8
Nominal Thickness	1.32mm	1.80mm	2.24mm	2.65mm	3.15mm	3.55mm
Weight per m²	15.0kg	20.41kg	25.40kg	30.10kg	35.72kg	40.26kg
Uses (see key below)	A	ABCEF	BCDEFGH	BCDEGH	CDEGH	CDEGH
FLASHINGS						
Maximum length of flashings and pitched valley gutters		1500mm	1500mm			
Maximum length of flashings to verges of asphalt and felt roofs		1000mm	1000mm			
Maximum length of ridge roll cappings		1500mm	2000mm	2000mm		
Maximum length of hip roll cappings		1500mm	1500mm	1500mm		
GUTTERS - BOXED OR TAPERED						
Maximum spacing of drips		1500mm	2000mm	2250mm	2500mm	3000mm
Maximum overall girth		750mm	800mm	850mm	900mm	1000mm
FLAT ROOFS AND DORMER TOPS - 10° OR LESS						
Maximum spacing of drips		1500mm	2000mm	2250mm	2500mm	3000mm
Maximum spacing of joints with the fall		500mm	600mm	675mm	675mm	750mm
PITCHED ROOFS - UP TO 60°						
Maximum distance between laps		1500mm	2000mm	2250mm	2400mm	2500mm
Maximum spacing of joints with the fall		500mm	600mm	675mm	675mm	750mm
PITCHED ROOFS - ABOVE 60° UP TO AND INCLUDING 80°						
Maximum distance between laps		1500mm	2000mm	2250mm	2250mm	2250mm
Maximum spacing of joints with the fall		500mm	600mm	675mm	675mm	750mm
VERTICAL CLADDING AND DORMER CHEEKS						
Maximum distance between laps		1500mm	2000mm			
Maximum spacing of vertical joints		500mm	600mm			
A Soakers		D Parapet, Box and Tapered Valley Gutters		G Flat Roofing		
B Flashings		E Dormers		H Pitched Roofing		
C Pitched Valley Gutters		F Vertical Cladding				

Ancillary Products

Patination Oil

When newly-fitted Lead is exposed to rain or moisture it builds up a natural patina in the form of a soluble Lead carbonate. Future exposure to rain can wash the carbonate on to adjacent materials causing staining or discolouration. Patination Oil is a white spirit based surface treatment that prevents Lead carbonate from forming on the surface of newly fitted Lead Sheet and ultimately helps prevent staining to adjacent materials.

Patination Oil should be applied to Lead roofing, flashings and cladding to give a uniform, attractive appearance where the Lead is visible. It is also necessary when water flowing from the Lead Sheet surface may come into contact with other visible building materials.

- Prevents white carbonate forming on newly fitted Lead.
- Provides a uniform, attractive appearance to new Leadwork.
- Easy to use.
- Recommended by the LTSA.



APPLICATION

- Apply with a clean soft cloth immediately after fixing, before the Lead gets wet and by the end of the working day.
- Apply to the Lead working horizontally or vertically in straight lines.
- The leading edge and underside of the sheet should be coated to a depth of 75mm.
- Patination Oil should be applied with care when the Lead is near UPVC and bitumen.
- Wear suitable gloves.

PACKAGING AND COVERAGE

- Available in 1.0 litre and 0.5 litre cans.
- One litre covers approximately 60m².

Hall Clips

When Lead flashings are installed, they are secured in place into the chase of the brickwork or masonry. The traditional method for fixing flashings is to use Lead wedges. However, this method can sometimes cause flashings to come loose. Hall Clips are a fast and effective alternative to wedges. They are high tensile 'v' shaped stainless steel clips, designed by a roofing contractor to save time and provide a more secure fixing. They hold the Lead flashings in position so that they can be dressed down in to place. Standard Hall Clips should be used when fixing flashings in a 6mm-18mm chase. Hall Clips Plus can be used for chase heights of 18mm-26mm.

- Gives a professional finish to linear and step flashings.
- Provides a secure fixing.
- Fast, convenient and easy to use.
- Improves installation time.
- Helps prevent theft.



APPLICATION

- Insert with 'H' uppermost.
- Easily secured with screwdriver or similar tool.
- For step flashings use at least one clip per step.
- Two clips should be fitted per single step flashings.
- For linear flashings Hall Clips should be fitted at 450mm centres at laps and 50mm in from each end.
- Flashings lengths should not exceed 1.5 metres.
- Use in combination with Ecobat Resources' Lead Pointing Sealant for a clean finish.

PACKAGING AND COVERAGE

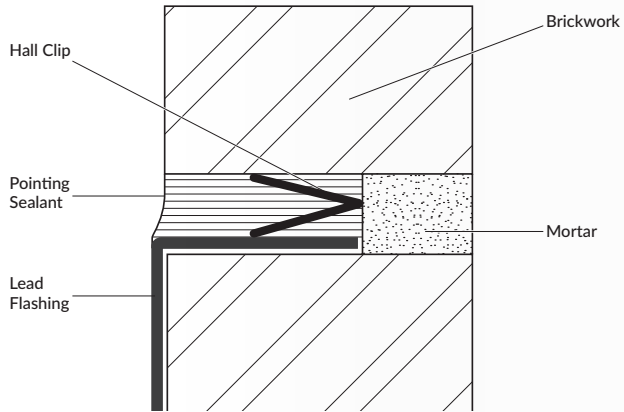
- Standard Hall Clips: available in packs containing 50 clips each; each pack fixes up to 20 linear metres of flashings.
- Hall Clips Plus: available in packs containing 25 clips each; each pack fixes up to 10 linear metres of flashings.

Lead Pointing Sealant

The most common reason for water penetration at an abutment is failure of the mortar used to point the joint between Lead flashings and the brickwork or masonry. This is due to the mortars inability to expand and contract at the same rate as the Lead during temperature changes. The mortar can crack and fall out, allowing water to penetrate the joint and subsequently cause dampness within the building fabric.

Our Lead Pointing Sealant provides a simple solution to this problem; a low modular, non-corrosive, neutral cure silicone sealant which can be applied easily using a mastic gun.

- Ensures long-term protection against water penetration.
- Coloured grey to blend in with the Leadwork.
- Unique formula allows the Lead to expand and contract without cracking.
- Fast and easy to apply.
- Average tack-free time is approximately 30 minutes.



APPLICATION

- Ensure the chase is dry and free from debris and dust before applying.
- The nozzle on the sealant tube can be cut to suit the width of the chase to be filled.
- Minimum depth of sealant not less than 25mm.
- For chase heights of 6mm-18mm – use Ecobat Resources Hall Clips to secure the Lead flashings in place.
- For chase heights over 18mm – use Hall Clip Plus or turn up the Lead flashings at the back of the chase, drill, plug and screw to the wall using stainless steel screws and washers.
- Flashing lengths should not exceed 1.5 metres.

PACKAGING AND COVERAGE

- Available in 285ml tubes.

Standard Lead Slate

Lead Slates are used where a pipe penetrates a roof covering to provide a weathertight joint. They can be used on tiled, asphalt, felt and slate roofs.

Ecobat Resources' Standard Lead Slates are manufactured using Code 4 Rolled Lead Sheet with a cylindrical upstand that can be made to fit any diameter pipe and roof pitch. A range of standard outlet sizes and pitches are available from stock. For deeply profiled tiles, larger base sizes with adequate weathering laps can be manufactured to order.

- Standard Lead Slates suit roof pitches of 30°-40° and 90° angles for flat roofs and vertical outlets.
- Made to suit 75mm, 100mm, 125mm and 150mm outside pipe diameters.
- Provides a weathertight joint.
- Craftsman-made.
- Saves welding.
- No maintenance required.



APPLICATION

- Ensure in all cases that slates/tiles are fitted closely to the soil pipe.
- A welt should be formed on the upper edge of the base before the tiles are fitted to prevent any driven rain penetrating the roof structure.
- For plastic pipes, a standard plastic storm collar should be solvent-cemented to the top of the pipe to provide a watertight weathering.
- For cast iron pipes, once in position, the top edge of the upstand should be dressed into the pipe for weathering purposes.
- Apply Patination Oil to prevent unsightly carbonate from staining adjacent materials.

DIMENSIONS

- Outlet diameters: 75mm, 100mm, 125mm and 150mm.
- Base size: 450mm x 450mm and minimum upstand height 150mm.
- Non-standard sizes can be supplied to special order to suit different diameters and roof pitches.

Quickslate

Ecobat Resources' Quickslates provide a simple but effective weatherproofing solution where a pipe penetrates a roof. They consist of a rubber cone vulcanised on to a Lead slate base, manufactured from Code 4 Rolled Lead Sheet. The malleability of the Lead base means that unlike similar products that employ aluminium or hard metal bases, our Quickslates can be easily shaped or dressed to suit almost any roof profile. Quickslates are suitable for use where flue pipes and soil stacks penetrate slate, tile, felt and asphalt covered roofs. They are suitable for gas flues, withstanding temperatures of 100°C continuously and 120°C intermittently. Available to suit pitches of 0°-20° for flat roofs and vertical outlets and 20°-40° for pitched roofs. Quickslates can be cut to suit most pipe diameters up to 125mm.

- Provides a weathertight joint.
- Cheaper and easier to fit than hard metal alternatives.
- No maintenance required.



APPLICATION

- Cut the rubber to suit your pipe diameter.
- Always cut the aperture in the rubber slightly smaller than the required diameter to ensure a watertight fit.
- Do not cut beyond the outer ring or into the wall of the upstand.
- Use a water-based lubricant or silicone grease to lubricate the neck of the rubber sleeve of the Quickslate prior to fitting.
- A welt should be formed on the upper edge of the base before the tiles are fitted to prevent any driven rain penetrating the roof structure.
- Apply Patination Oil for protection. Use a damp cloth to wipe any that may get on the rubber.

DIMENSIONS

- Base dimensions: 450mm x 450mm.
- Pipe sizes: Can be cut to suit outside pipe diameters up to 125mm.

Unislate

Ecobat Resources' Unislates provide a complete weatherproofing solution where flue pipes and soil stacks penetrate a slate or profiled tile roof.

Manufactured from Code 4 Rolled Lead Sheet with a conical upstand, Unislates suit 100mm-125mm outside pipe diameter and roof pitches between 20°-40°.

- Provides a weathertight joint.
- Effective for use with profiled tiles.
- Saves welding.
- No maintenance required.



APPLICATION

- Unislates may be fitted in place when tiles are being laid and before the pipe is installed.
- Ensure that slates/tiles are fitted closely to the soil pipe.
- A welt should be formed on the upper edge of the base before the tiles are fitted to prevent any driven rain penetrating the roof structure.
- Apply Patination Oil to prevent unsightly carbonate from staining adjacent materials.
- For plastic pipes, a standard plastic collar should be solvent cemented to the top of the pipe to provide a weathertight connection.

DIMENSIONS

- Base dimensions: 540mm x 480mm and minimum upstand 150mm.
- Pipe sizes: 100mm-125mm outside pipe diameter.

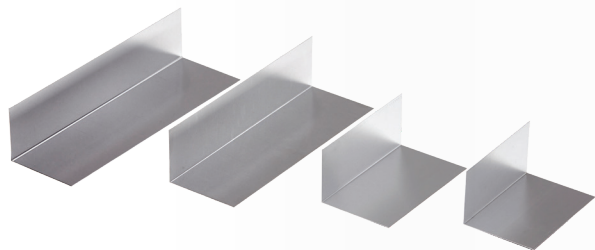
Soakers

Soakers are an integral part of a slate or plain tile roof at its abutment with a wall, providing an effective weatherproofing solution when used in conjunction with step flashing.

Our pre-formed Aluminium Soakers are becoming an increasingly popular product for roofing contractors. Further speeding up installation, they are a durable, lightweight alternative to traditional Lead soakers, which are pre-cut and bent to a 90° angle to provide a suitable upstand and cover between tile or slate courses.

Soakers are suitable for double lapped plain tiles and slates, but should never be used with interlocking tiles (single lap) as the soakers would not be supported under the tiles.

- Quick and easy to install.
- Will not warp, crack or discolour.
- 25 soakers per pack.
- Available in a range of sizes to suit double lapped plain tiles and slates.
- Should not be used in marine atmosphere with lead work above.



APPLICATION

Soakers are installed between successive slate or tile courses at the headlap and are fully supported by the slate or tile below. The top edge of the soaker is turned down at right angles by 25mm to form a nib that hooks onto the top edge of the plain tile or the slate batten to prevent it from slipping.

The length of a soaker is equal to the tile gauge (batten centres) + headlap + the turn over at the top of the tile.

The width of the soaker should be a minimum of 7" or 175mm, which is bent at a right angle to allow for 75mm up the wall and 100mm over the tile.

DIMENSIONS

(Length/Width/Height)

150mm x 100mm x 75mm (6" x 4" x 3")

175mm x 100mm x 75mm (7" x 4" x 3")

300mm x 100mm x 75mm (12" x 4" x 3")

335mm x 100mm x 75mm (13½" x 4" x 3")

Further sizes are available, please contact us for more information.

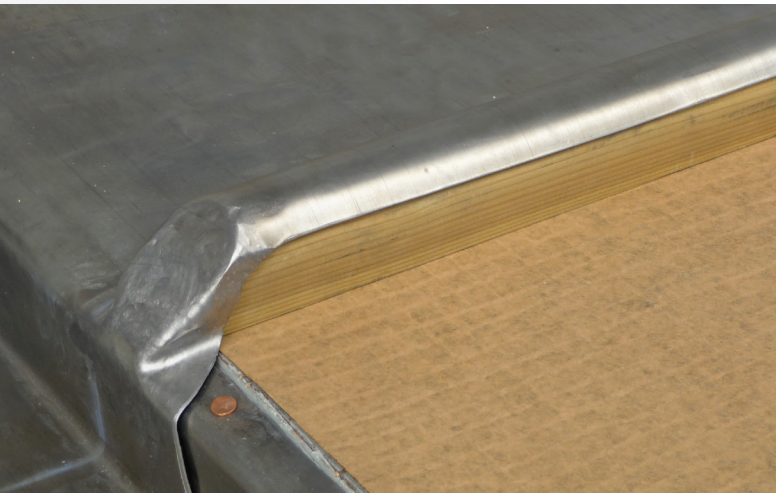
Building Paper

Lead fitted to a roof in applications including gutters, vertical cladding, pitched and flat roofing, firstly require the correct ventilation detail to be incorporated into its design. This prevents the build-up of condensation which can cause corrosion to the underside of the Lead.

To protect the underside of Lead Sheet from corrosive attack from concrete, stone, screed, oak and plywood substrates, the Lead should be isolated from the substrate using Building Paper.

Our Grade A1F Building Paper is a traditional, reinforced bitumen-bonded building paper laminate, manufactured with wet-strength Kraft paper, meeting the technical requirements of BS 1521 Class A and conforms to LSTA guidelines.

- Protects the underside of Lead from alkalis in concrete, stone and screed surfaces.
- Reduces corrosive attack when laying Lead onto oak and plywood substrates.



APPLICATION

- Building Paper should be laid across the fall of a roof.
- Adjacent sheets should be overlapped.
- Must be fitted over the whole substrate area.
- Avoid forming hot joints above Building Paper.

DIMENSIONS

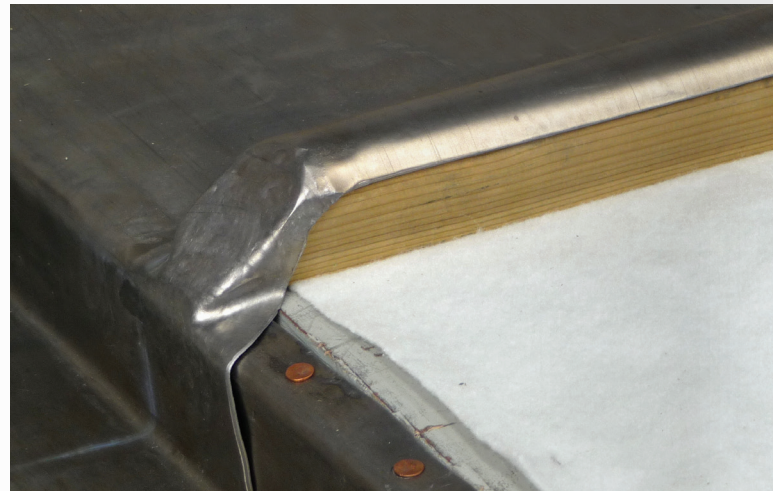
- Available in 25m x 1.0m rolls.

Standard Underlay

Ecobat Resources' Standard Underlay is used to isolate the Lead from timber board substrates with penny air gaps providing the correct ventilation detail has been incorporated. This prevents the buildup of condensation which can cause corrosion to the underside of the Lead.

Our Standard Underlay is a non-woven, crimped filament polyester, needle punched to allow air to circulate freely between the underside of the Lead Sheet and the roof decking. It also ensures the Lead can expand and contract freely with temperature changes, effectively smoothing out the surface of the substrate. For concrete, stone, screed, oak and plywood substrates, Ecobat Resources' Grade A1F Building Paper should be used.

- Helps to prevent condensation forming and corroding the underside of the Lead.
- Allows the Lead to expand and contract freely during thermal movement.
- Resistant to high temperatures.
- Prolongs the life of correctly fitted Lead Sheet.



APPLICATION

- Standard Underlay should be laid in adjacent sheets, either abutted or overlapped, across the fall of the roof.
- Must be fitted over the whole substrate area.
- Avoid forming hot joints above Standard Underlay.

DIMENSIONS

- Available in 25m x 1.0m rolls.

Wood Roll

Ecobat Resources' Wood Roll is used to provide an aesthetically pleasing expansion joint between two separate sheets of Lead. The Sheets are formed around the Wood Roll in a cloak design to provide a weathertight joint without restricting their movement. The clever use of Wood Roll joints can provide the focal point of a roof or building.

Wood Roll is often used when fitting Lead in gutters, cladding and flat or pitched roofing applications, as well as at hip and ridge intersections.

Our King Roll has a larger profile than Wood Roll and is used to form larger hip and ridge joints.

Our Wood Roll & King Roll are manufactured using treated soft wood timber that has been impregnated with wood preservatives consisting of fungicides, insecticides and water repellent.

- Forms aesthetically pleasing joints on flat or pitched Lead roofs and Lead cladding.
- Each length is undercut at the base to help form a joint that will resist wind-lift.
- Wood Roll should be fitted over Building Paper and Standard Underlay.



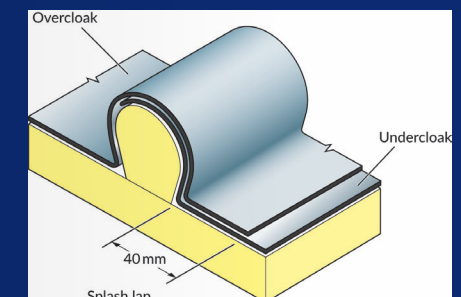
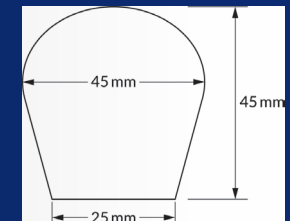
DIMENSIONS

Wood Roll:

- 1200mm lengths x 45mm diameter.
- 2400mm lengths x 45mm diameter.

King Roll:

- 1200mm lengths x 75mm diameter.



Lead T-Pren Expansion Joints

A large number of buildings in the UK incorporate Lead-lined parapet or box gutters. The correct design for a Lead-lined gutter incorporates drips and falls (steps) to direct water from its highest point to the outlet.

In many buildings the construction detail of the gutter may not be sufficient to accommodate the number of drips required, or the necessary restructuring of the gutter, to prevent the oversizing of the Lead Sheet bays.

Ecobat Resources' Lead T-Pren provides a quick and cost effective solution to this problem where its use as an expansion joint allows the Lead to be laid along the slope of the gutter.

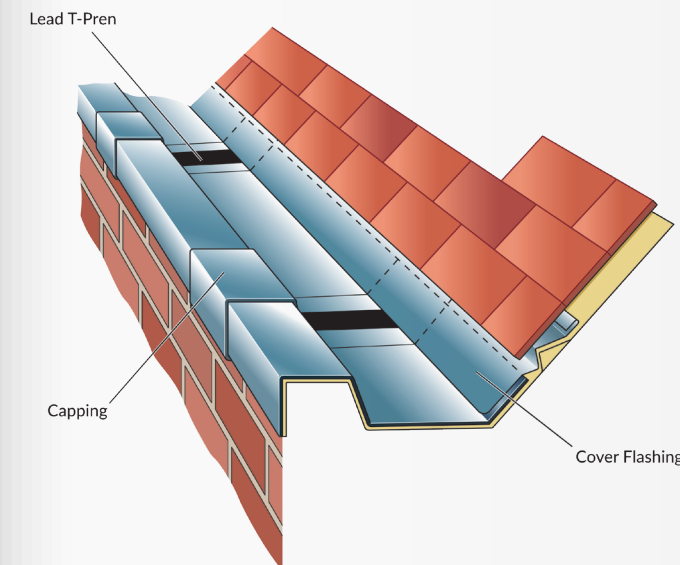
Lead T-Pren is manufactured by bonding two strips of Code 5 Rolled Lead Sheet to the neoprene centre section. The Lead is effectively sandwiched into the neoprene providing a strong double bond.

T-Pren sections are cut to size and laid across the width of the gutter. The adjacent Lead sheets are welded to the Lead strips in the T-Pren to form a continuous gutter lining. The neoprene section allows for thermal movement.



In addition to Standard Lead T-Pren, Lead T-Pren Plus incorporates a protective Lead cover strip over the neoprene section which protects against UV rays and foot traffic damage, extending the life of the joint. Lead T-Pren Plus also provides a uniform Lead appearance where the gutter lining may be visible.

- Overcomes the problem of laying Lead-lined gutters.
- Allows for thermal expansion.
- Manufactured from Code 5 Rolled Lead Sheet to BS EN 12588.
- Double bonded for extra strength.
- Lead T-Pren Plus protects against UV rays and foot traffic damage and provides a uniform appearance.
- Proven reliability with over 30 years of use with no recorded failure.
- 10 year guarantee.



APPLICATION

- Always use the recommended underlay.
- Lead T-Pren joints should be installed at intervals conforming to LSTA Guidelines.
- Ensure that Lead T-Pren joints are fitted no further than 1 metre from either side of outlets and changes in direction.
- A double weld should be sufficient when lap welding to Code 6.

DIMENSIONS

- Standard Lead T-Pren: 3m x 385mm roll.
- Lead T-Pren Plus: 1.5m x 385mm roll.

Lead Fixings

The Ecobat Resources product range includes a range of fixings designed for use with Lead Sheet.

Permastrip and Copper Strip

Permastrip and Copper Strip are recommended by the Lead Sheet Training Academy for use as fixing clips to prevent the lifting of the free edges of Lead flashings in high wind conditions. They should be used to secure cladding panels at both horizontal and vertical edges of bays. Permastrip and Copper Strip should be cut to length to form clips that suit the application.

Copper Nails

Our Copper Nails are 25mm annular ring shank copper clout nails.

Recommended by the LSTA for fixing Lead Sheet to a substrate.

- Lead Sheet should be fixed in accordance with LSTA Guidelines.
- Over fixing can cause premature failure (see page 8).



APPLICATION

- Clips should be fixed to the substrate as near to the clipped edge of the Lead Sheet as possible.
- Clips may be cut with tin snips and crimped round the Lead Sheet with seaming pliers.
- Allow for 6mm of expansion of the sheet when fixing the clips.
- Copper Nails should be used to fix the clips.

DIMENSIONS

- Permastrip - Coil length 20m, width 50mm, thickness 0.5mm.
- Copper Strip - Coil length 20m, width 50mm, thickness 0.6mm.



PACKAGING

- Available in 1 kg boxes.

Lead Dot Sets

Several types of intermediate fixings are available for Lead Sheet applications but none are more decorative than Lead Dot Sets. The Lead Dot Set is mainly used to fix vertical cladding.

PACKAGING

Available in packs containing 20 sets. Each set contains: Lead Dome; Brass Cup Washer; Nylon Washer and 25mm Stainless Steel Screw.

The table below highlights the appropriate application which every ancillary product is designed for.



Ancillary Products by Application						
	Soakers & Flashings	Gutter Linings	Cladding	Weatherings	Dormers	Roofing
Patination Oil	●		●	●	●	●
Hall Clips	●					
Lead Pointing Sealant	●					
Lead Slates						
Building Paper		●	●	●	●	●
Standard Underlay		●	●		●	●
Wood Roll		●	●		●	●
T-Pren		●				
Aluminium Soakers	●					
Fixing Strips	●		●	●	●	●
Copper Nails*		●	●		●	●
Lead Dot Set**			●		●	

*Copper Nails should be used to fix hip and ridge flashings.

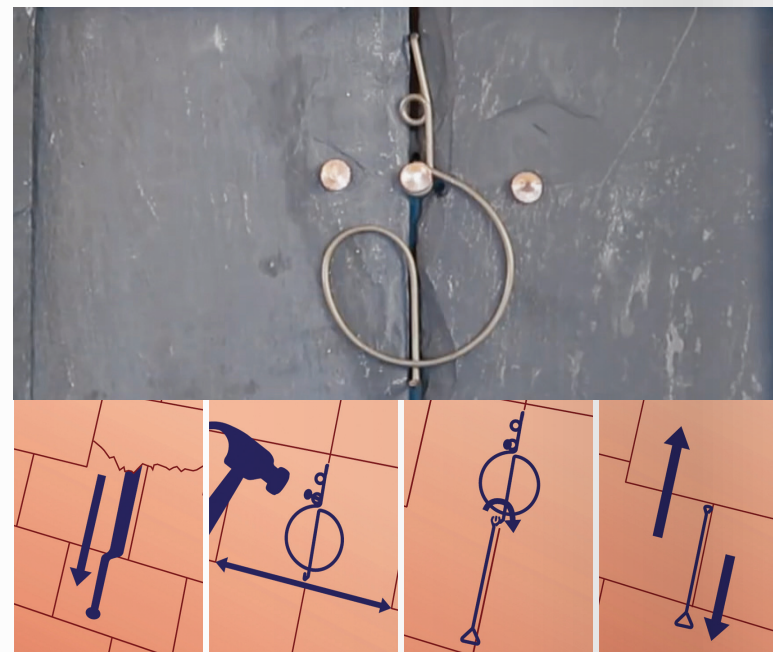
**Lead Dot Sets will not allow thermal movement.

Hallhook

Brought to you by the makers of Hall Clip; the Hallhook is a permanent, hidden and secure device for use when replacing broken slate.

Hallhooks provide a more superior and robust fixing than metal strips, plastic or silicone, which are either unsightly or unlikely to last the test of time. Hallhooks are quick and simple to use, saving time when repairing broken slate.

- For general repair
- After solar panel bracket mounting
- After roof light/window installation
- After installing slate vents



INSTALLATION

1. Remove broken slate.
2. Position the Hallhook between slates so the bottom hook is 10mm above finished slate baseline & fix with a nail.
3. Hang accompanying hook pull on hook.
4. Slide new slate into place. Gently pull the hook pull until the Hallhook holds the base of the slate. Remove hook pull. Do not over stretch.

PACKAGING

- Available in packs containing 10 Hallhooks and 1 Hookpull.

Ecobat's Get Lead! App


Our Get Lead! App is the ultimate tool for roofing contractors and leadworkers involved in the installation of Lead Sheet in a variety of roofing applications, offering a one-stop solution for users of Rolled Lead Sheet.


The app has many powerful features including full product information, installation guides, weight and roof pitch calculators, as well as a stockist locator, enabling users to search for their nearest Ecobat Resources supplier by current location or postcode.


The app is available free of charge for both Apple and Android devices.

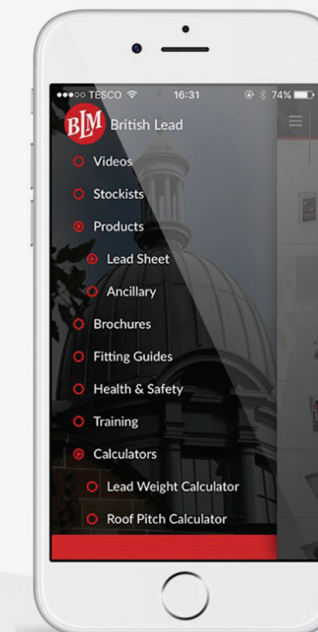



Powerful tools to help get the job done.


Find local stockists 
Working outside your usual area or need an emergency purchase?


Full production information 
Understand our range of products and identify the right product for the job

Fitting Guides 
For those in need of a reference point in installing lead sheet



Bay Calculator 
Step by step guides for your lead fitting needs in a range of common or unfamiliar applications

Lead Weight Calculator 
Easy to use weight calculator to help end users price work

Roof Pitch Calculator 
Easy to use calculator to measure pitch roof and minimum lap

Health & Safety

As a responsible Lead manufacturer, we want to ensure our customers are fully aware of our recommended storage, handling and safety tips to assist in minimising any potential Health and Safety risks.

Storage Tips

Lead is a dense, but soft metal. It can be easily damaged when stored incorrectly. The following storage tips can assist in keeping Lead in excellent condition.

- All rolls of Lead should be stored in a clean, dry area on a sealed concrete floor or raised off the floor on a strong timber base.
- Contact with moisture in roll format can result in the formation of red oxide staining, similar to rust, in the roll layers in a matter of hours. This may be cleaned, prior to fitting, with a nylon scourer and a 5% nitric acid solution, but best avoided in the first instance.
- Where possible, smaller flashing rolls with a width of 450mm or less should be stood on their roll ends and wider rolls should be laid down on pallets to minimise the risk of accidents or damage.
- Always remember that the Lead surface could be scored or damaged if it comes into contact with rough surfaces and sharp objects, creating thin/weak spots in the sheet.

Handling and Recovery Tips

Due to the density of the material, even the smallest Lead rolls are unusually heavy and completely disproportionate to their size. The following handling tips can assist you when lifting and moving Lead rolls.

- Never attempt to lift a roll of Lead on your own unless you are absolutely confident of your own ability to handle it without undue effort.
- If in doubt, either insert a strong steel bar through the roll and lift with the help of another person or employ approved mechanical handling equipment.
- Always wear work gloves when handling Lead to protect your hands from both Lead dust particles and sharp edges.
- Scrap Lead Sheet recovered from demolition or construction sites must only be sent to approved scrap merchants or directly to Ecobat Resources through our Scrap Back scheme, terms and conditions apply.
- Scrap Lead should not be transported in open vehicles, the same should be carefully cleaned after use.



Wear gloves



Lift with care - seek assistance

Safety Tips

Lead in its metallic state does not present a health risk provided that a few simple precautions are followed:

- Wear appropriate personal protection equipment, such as safety gloves and boots.
- Always wash your hands and forearms as soon as you finish handling Lead and before you do anything else. This applies even when wearing gloves.
- Do not eat, drink or smoke after handling Lead until you have washed your hands.
- When welding Lead follow Health & Safety guidelines and wear eye protection and a disposable mask.
- When sweeping a Lead storage area, wear a protective dust mask and damp down any dust before you sweep.

Health & Safety Data Sheets for specific products are available at www.ecobat.com/leadsheet providing you with full product safety information.

If you would like further advice on working with Lead in construction, please contact the LSTA on **01622 872432** and speak to one of their Technical Officers. Technical information on the use of Rolled Lead Sheet is also available on the LSTA's website www.leadsheet.co.uk.



Use disposable masks



Leave work wear on-site



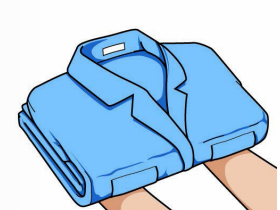
Scrub hands



Don't bite finger-nails



Wear mask when welding



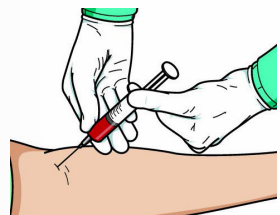
Wash separately



Do not eat, drink or smoke after handling Lead until you have washed your hands



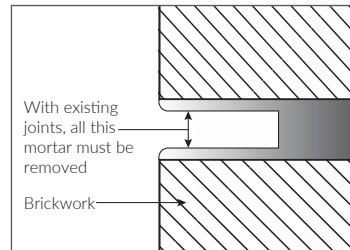
Wear mask when stripping old Lead



Regular blood tests

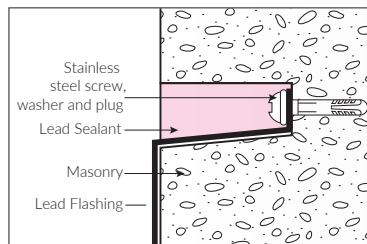
Basic Fitting Guides

Cleaning Joints



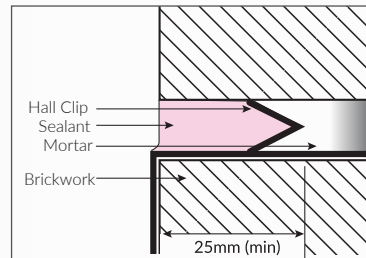
When removing mortar from an existing joint it is important to remove ALL the mortar to a depth of at least 25mm.

Joints Over 18mm Wide



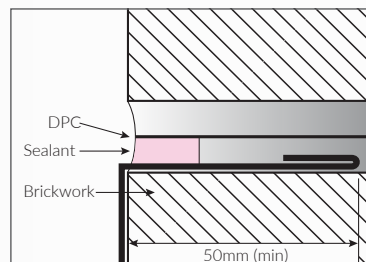
Wide joints over 18mm will require a more substantial fixing. Hall Clip Plus can be used for chase heights of 18-26mm. Alternatively, it is recommended that stainless steel screws and washers are used at 450mm centres on flashing lengths of no longer than 1500mm. The joints should be pre-pointed with mortar and then pointed with Ecobat Resources' Lead Pointing Sealant. Joints over 20mm wide should comprise half mortar and half Ecobat Resources' Lead Pointing Sealant, the nozzle should be cut at an angle and the sealant applied to both the top and bottom of the joint once the mortar at the rear of the joint has set.

Joints Between 6mm-26mm Wide



The joint should be at least 6mm wide to allow Hall Clips to be inserted to hold the Lead flashing in place before pointing in with Ecobat Resources' Lead Pointing Sealant.

Joints With A DPC



Joints below a DPC can often cause problems if they are not fitted correctly. On new buildings the Flashing can be inserted during construction, using a single welt to hold it in position. A batten, the same height as the joint and 25mm wide, may be used to support the DPC until the mortar has set. The batten is then removed leaving a clean void for pointing with Ecobat Resources' Lead Pointing Sealant. On existing buildings it is often better to chase out a joint at least 600mm below the DPC, this will avoid any potential damage to the damp proof membrane by disturbing the brickwork or masonry above it.

HELPFUL TIPS

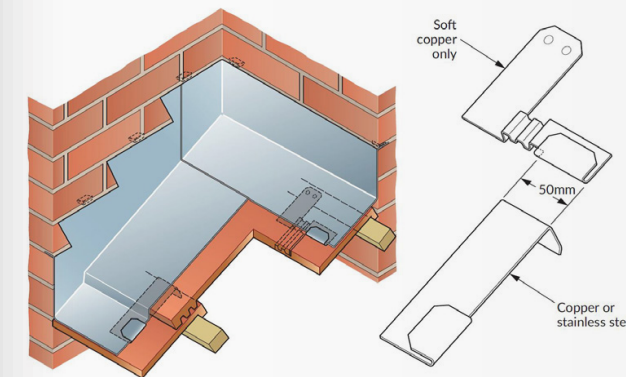
- Always ensure joints are thoroughly cleaned and no mortar remains
- Individual flashing lengths should not exceed 150mm
- Joints under 26mm wide should be held firmly in place with Hall Clips Standard or Hall Clips Plus
- Using Hall Clips instead of Lead wedges will help to prevent the easy theft of Lead flashings
- Use at least 1 Hall Clip per step when fitting step flashings
- Use 1 Hall Clip at 450mm centres and where flashing pieces overlap when fitting linear flashings
- Joints over 18mm wide can also be secured with stainless steel screws and washers
- Use Ecobat Resources' Pointing Sealant to point in the Lead into the masonry
- Ensure joint is completely dry before applying the sealant
- Cut the Sealant nozzle to suit the width of the joint
- Minimum depth of the sealant should be no less than 10mm
- The face of the sealant can be smoothed using a wet pointing tool

Technical drawing produced with permission from the Lead Sheet Training Academy.

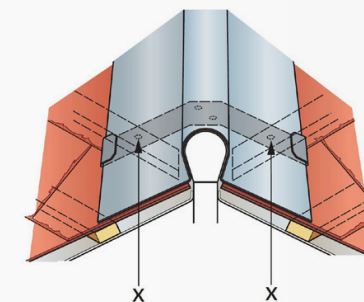
Fixing free edges of flashings

A. CLIPS FOR FLASHINGS OVER INTERLOCKING TILES

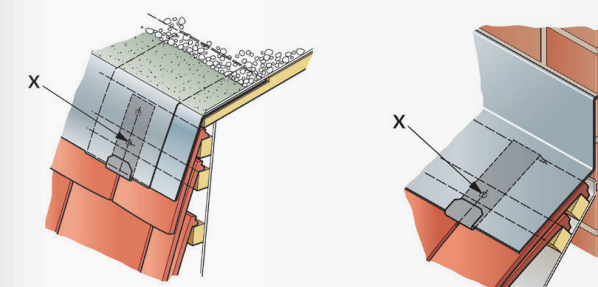
All flashings should be secured against the risk of wind lift. Position fixing clips at between 300-500mm centres depending upon the degree of exposure to wind. Clips should be made from quarter hard copper, at least 0.6mm thick or stainless steel at least 0.38mm thick. Turn the clips over by at least 25mm. Allow for 6mm expansion of the lead in to the clip.



B. CLIP TO RIDGE OR HIP ROLL



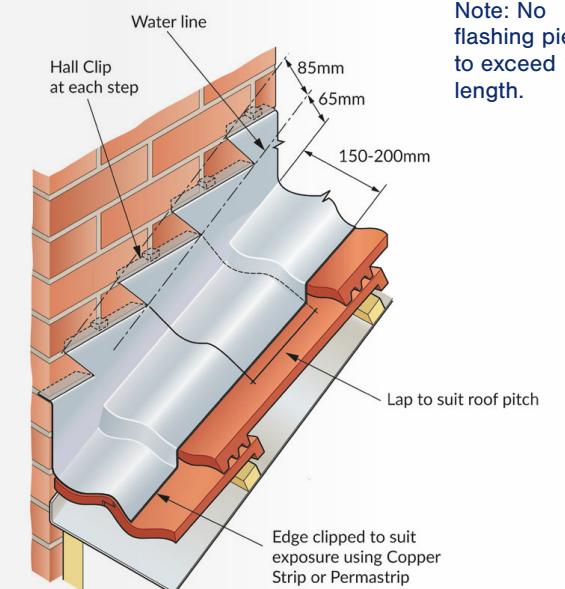
C. CLIP TO APRON FLASHINGS



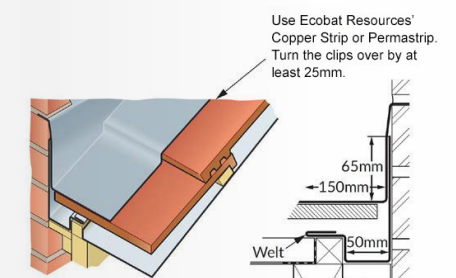
x = For moderate to severe exposures additional fixings should be positioned at not more than 75mm from the free edge. Secure clips with Copper Nails.

Step and cover flashings and secret gutters

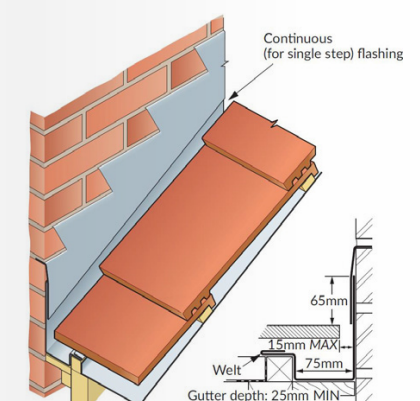
A. STEP AND COVER FLASHING TO PROFILED TILES



B. ABUTMENT STEP AND COVER FLASHING WITH SECRET GUTTER

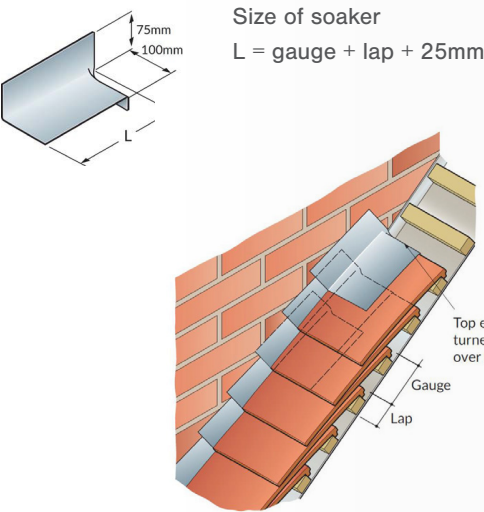


C. ABUTMENT FLASHING WITH SECRET GUTTER

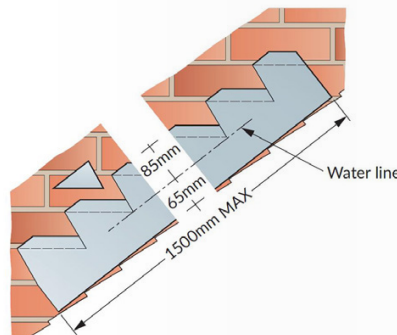


Soakers and step flashings

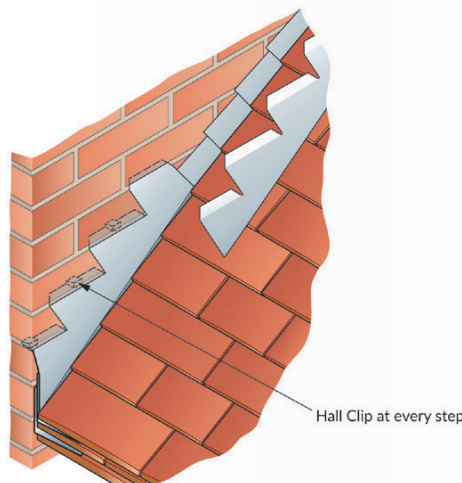
A. SOAKERS



B. MARKING - OUT STEP FLASHING



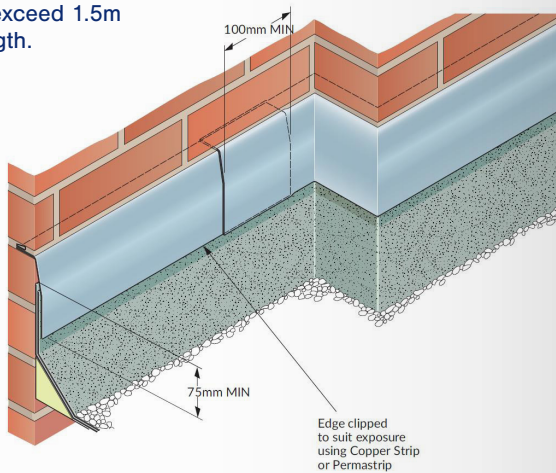
Note: No flashing piece to exceed 1.5m length.



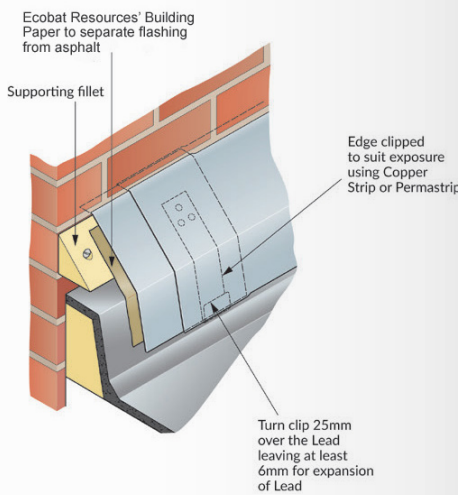
Cover flashing to felt roof upstand

A. FLASHINGS

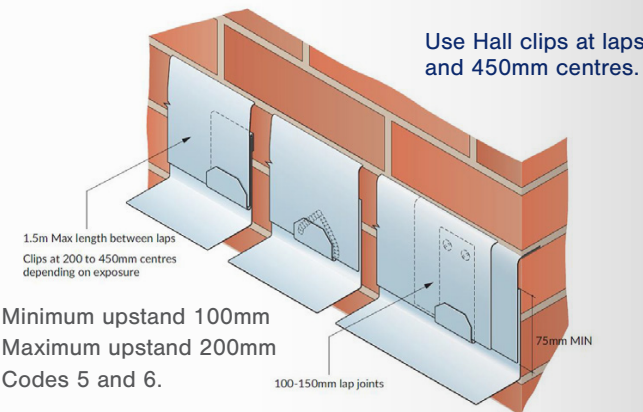
Note: No flashing piece to exceed 1.5m length.



B. COVER FLASHING TO ASPHALT UPSTAND



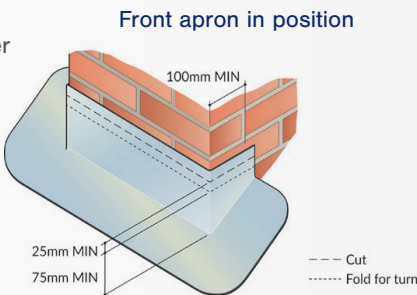
C. COVER FLASHINGS, ROOF PITCHES UP TO 3°



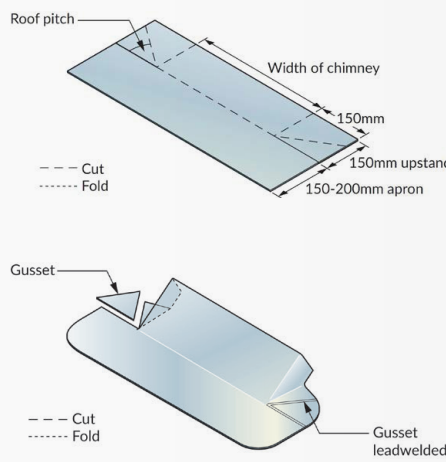
Chimney flashings

A. BOSSED APRON

Edge clipped to suit exposure using Copper Strip or PermaStrip.
Use Hall Clips at 450mm centres.

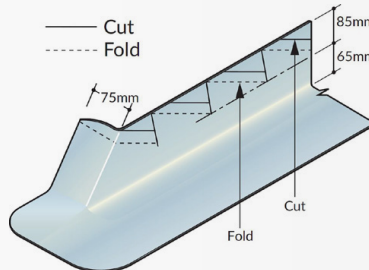


B. WELDED APRON

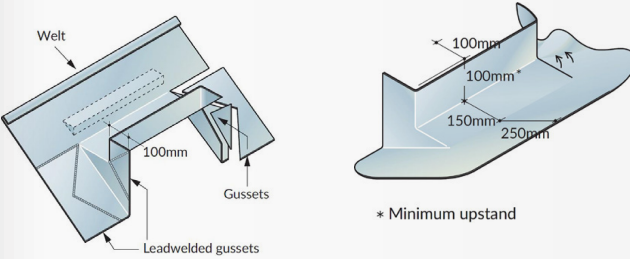


C. SIDE FLASHING

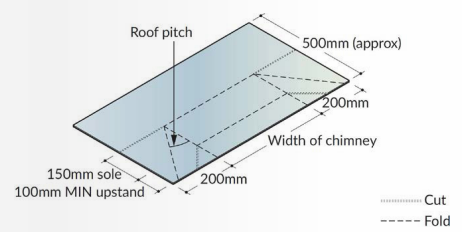
Varies to suit type of slate or tile.
Mark the steps out to suit the joints in brickwork.



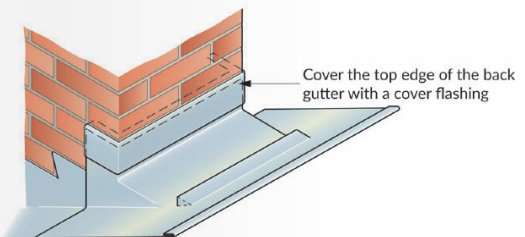
D. BOSSED BACK GUTTER



E. WELDED BACK GUTTER



F. BACK GUTTER FIXED

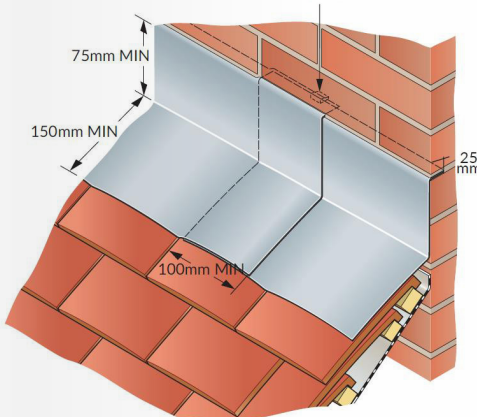


Apron flashings

A. APRON FLASHING OVER SLATES OR TILES

Lap to suit roof pitch

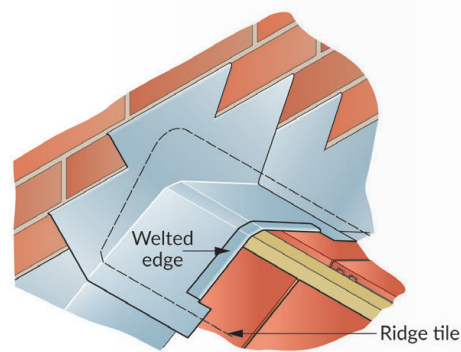
Hall Clips at 450mm (approx) centres.



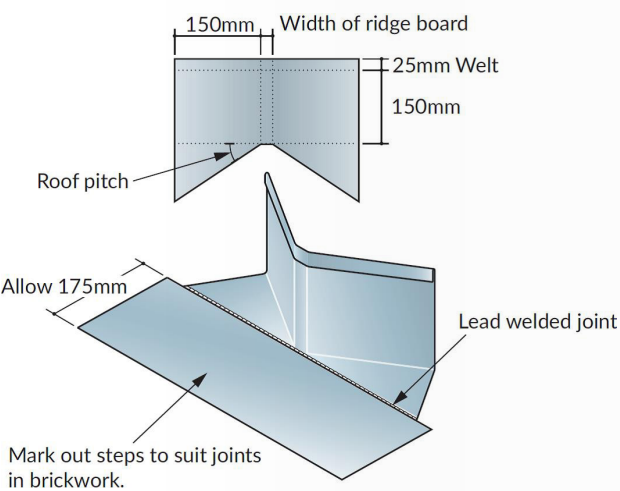
Edges clipped to suit exposure. Use Copper strip or PermaStrip. No flashing piece to exceed 1.5m in length.

Ridge saddles

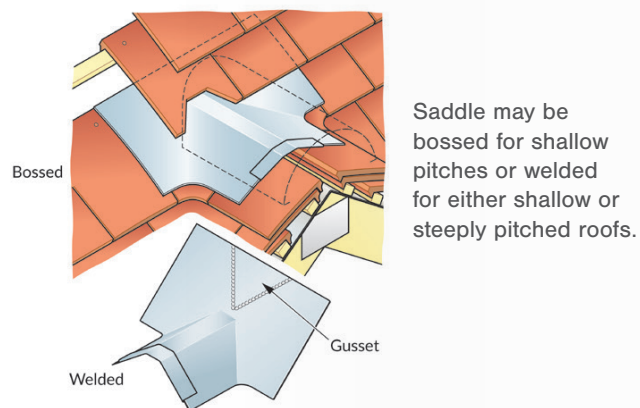
A. RIDGE SADDLE AT ABUTMENT (BOSSED)



B. RIDGE SADDLE AT ABUTMENT (LEAD-WELDED)

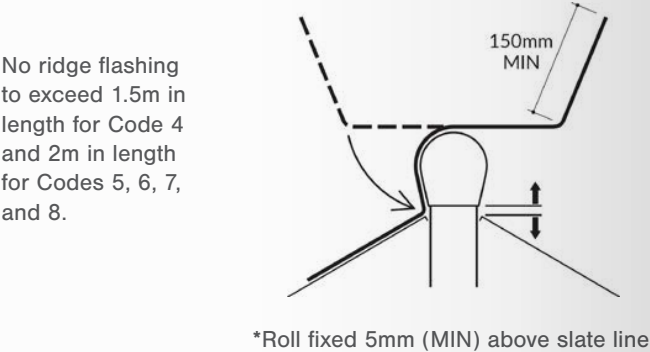


C. RIDGE SADDLE AT THE TOP OF A VALLEY

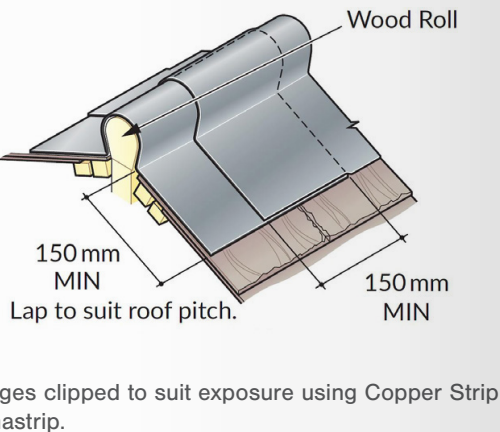


Ridge and hip flashings

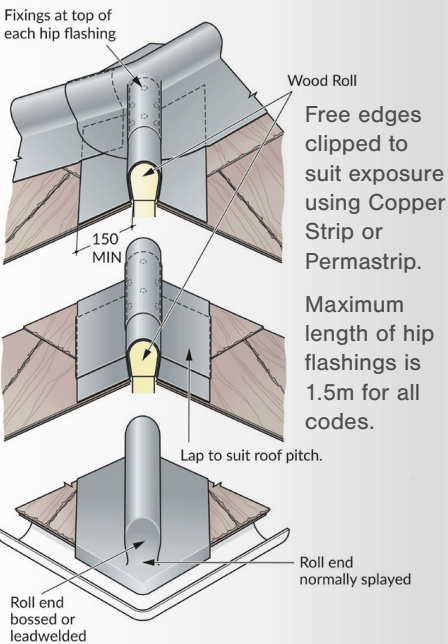
A. CROSS SECTION



B. RIDGE FLASHING



C. RIDGE AND HIP INTERSECTION

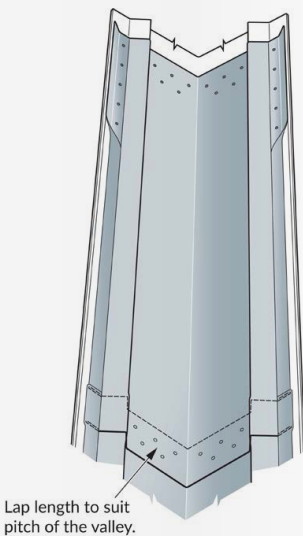
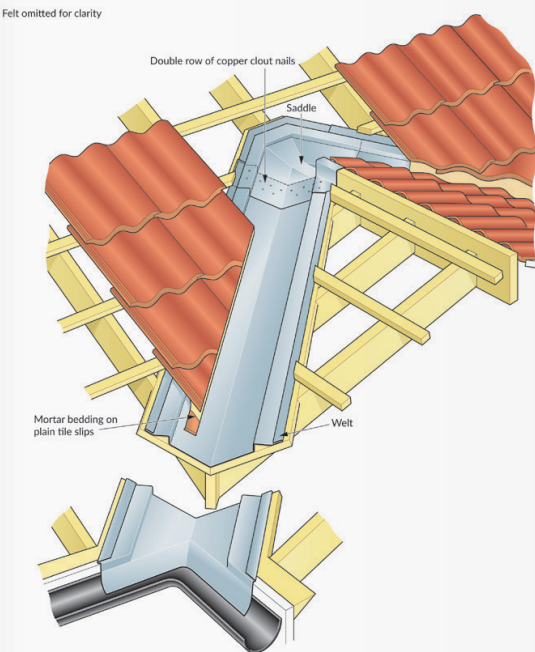


D. HIP FLASHING

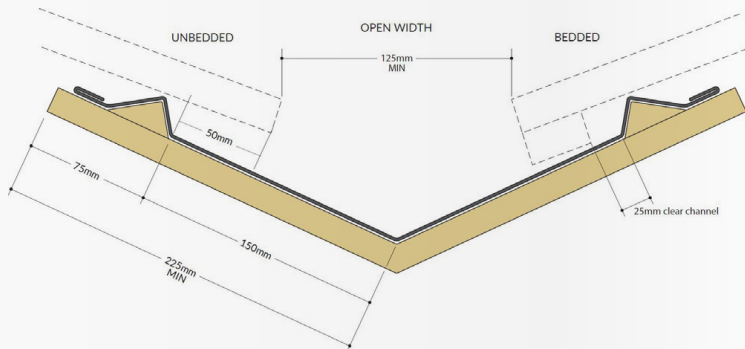
E. HIP FLASHING ROLL END

Pitched valleys

A. DETAILS



B. CROSS SECTION

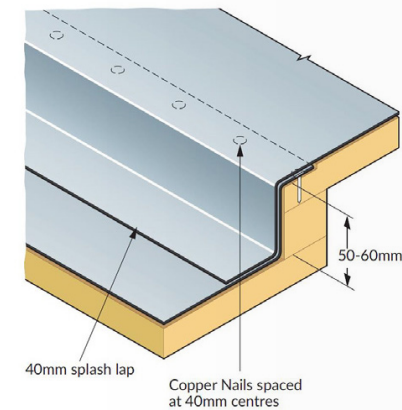


Open Width (mm)	With bedded tiles Width of Lead to line valley (mm approx)	With unbedded tiles or slates Width of Lead to line valley (mm approx)
100	500	400
125	525	425
150	550	450
200	600	500
250	650	550

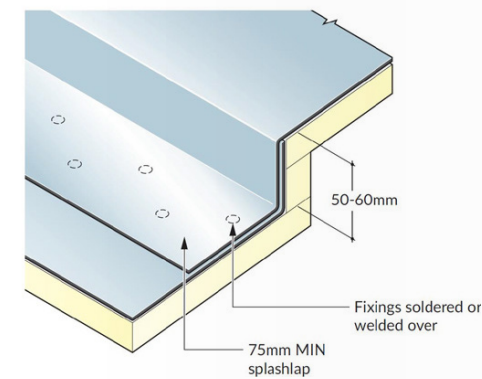
For information on the sizes of pitched valleys in relation to catchment area, it is essential to refer to Rolled Lead Sheet The Complete Manual published by the LSTA.

Drips and rolls

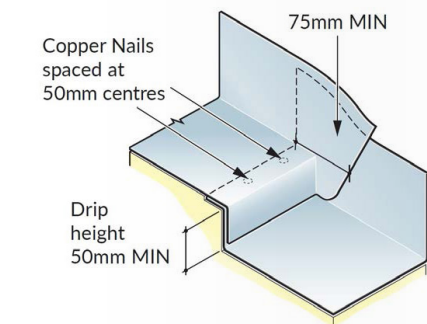
A. DRIP (UP TO 3°)



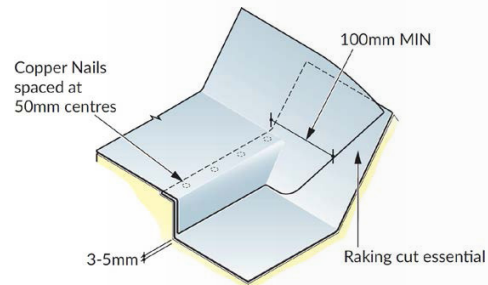
B. DRIP (OVER 3°)



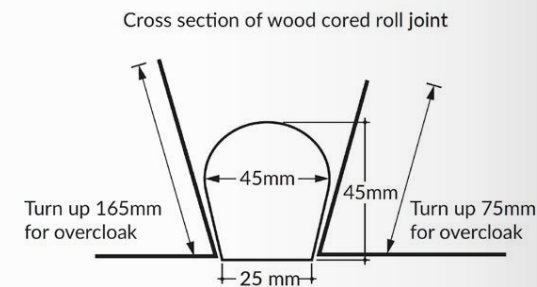
C. BOX GUTTER DRIP WITHOUT SPLASH LAPS



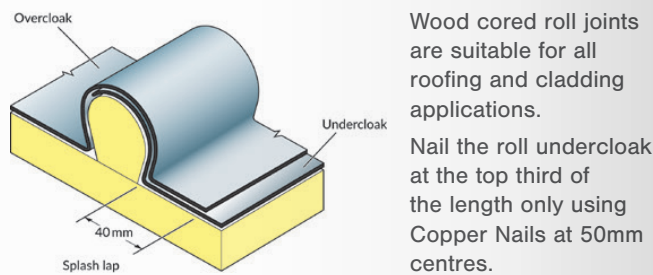
D. TAPERED GUTTER DRIP WITHOUT SPLASH LAPS



E. STANDARD WOOD CORED ROLL WITH SPLASH LAP



F. STANDARD WOOD CORED ROLL WITH SPLASH LAP



G. ROLL DRIP INTERSECTIONS FOR WIDE GUTTERS

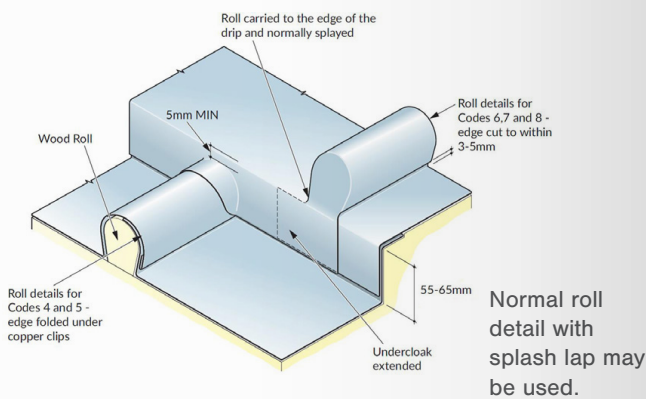
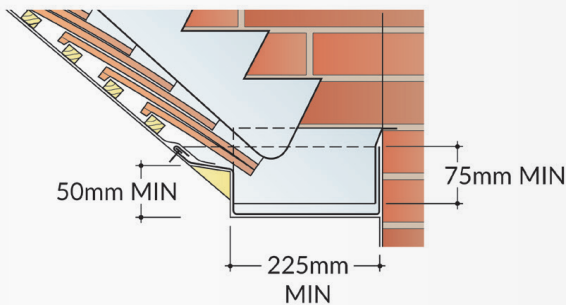


TABLE 1

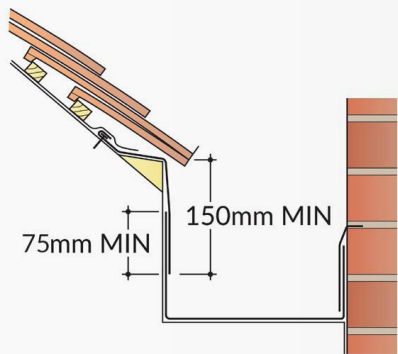
Gutter drip heights	
BS EN 12588 Code No	Minimum drip height (mm)
4, 5, and 6	50 where there is no roll to drip intersection
4	55
5	55
6	55
7	60
8	60

Parapet and tapered gutters

A. CROSS SECTION OF PARAPET GUTTERS



B. CROSS SECTION OF BOX GUTTER



For details of maximum sizes, see table 2.

C. MEASUREMENT OF GIRTH

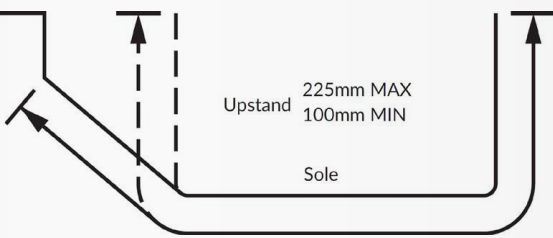
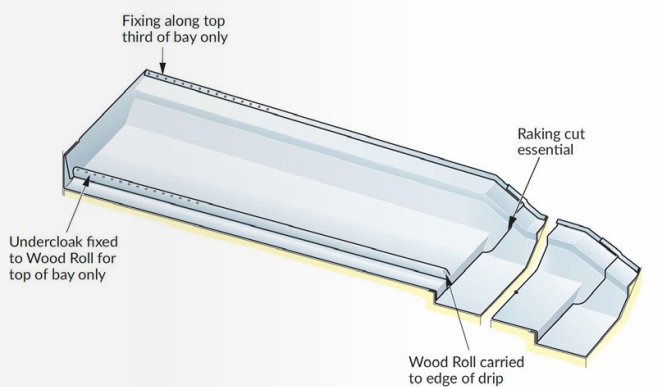


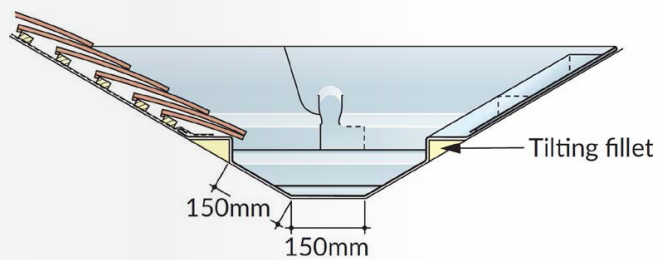
TABLE 2

Gutter dimensions		
BS EN 12588 Code No	Maximum length between drips (mm)	Maximum overall girth (mm)
4	1500	750
5	2000	800
6	2250	850
7	2500	900
8	3000	1000

D. TAPERED GUTTER DETAILS



E. CROSS SECTION OF TAPERED GUTTER



LSTA Technical Support & Training

TECHNICAL

The correct specification and installation methods for Rolled Lead Sheet are set out in 'Rolled Lead Sheet – The Complete Manual', available from the Lead Sheet Training Academy – the foremost independent technical authority on the design, specification and application of Rolled Lead Sheet in construction.

Purchase your copy of Rolled Lead Sheet – The Complete Manual at www.leadsheet.co.uk/manuals

TRAINING

The Lead Sheet Training Academy is at the forefront of training for those using lead in the construction industry. The academy offers a full range of training courses specifically designed to meet the needs of installers and employers. The LSTA operates from a purpose-built training facility in East Peckham, Kent with satellite centres around the UK. The training centre includes full scale training rigs and resources as well as providing a well-equipped environment in which to learn as it re-creates real-life situations.

The centre is recognised as a Recognised & CITB Approved Training Organisation. The tutors are fully qualified with experience of working on-site and are CITB NSAC approved assessors. The LSTA courses are all City & Guilds accredited programmes and the NVQ Level 2 & 3 on our Specialist Applied skills Programmes (SAP). The LSTA also offers NVQ Level 2 & 3 On-Site Assessment and Training (OSAT), and bespoke training packages are also available.

For help choosing the right course, information on fees and grants, course dates and to book your place on your chosen course, please contact the LSTA on [01622 872432](tel:01622872432) / [07961 659802](tel:07961659802) or email info@leadsheet.co.uk. For further technical support please call [03303 333535](tel:03303333535).



Ecobat Resources' Scrap Back scheme offers contractors buying regularly from our supplied merchants the chance to return their scrap Lead at preferential rates, further underlining our commitment to recycling and sustainability.

- Contractors can now return their scrap Lead direct to Ecobat Resources
- Open to contractors regularly buying Lead from our supplied outlets
- Collection service available with mechanical loading
- Payment direct to the contractor
- Terms & Conditions apply



100% recycled





For more information on our products, please contact our sales team on 0800 117 882, email us on sales.uksheet@ecobat.com or visit www.ecobat.com/leadsheet, where Product Data Sheets, H&S Data Sheets and Basic Fitting Guides are available for download.

For technical queries please call 0330 333 3535 or email us at technical.uksheet@ecobat.com.

Freephone: **0800 117 882**

ecobat.com/leadsheet

Pear tree Lane, Welwyn Garden City
Hertfordshire AL7 3UB

