



## Think Lead.

More durable. More carbon friendly.  
More economical than any man-made alternative.

### Research undertaken by the LSA

The LSA has worked with some key organisations in the construction industry to examine more closely the properties and benefits of using lead, particularly in relation to its economic, technical and environmental characteristics. It also undertook some comparisons in its workshop with some of the manmade products currently available in the market.

Some of the key findings of this research, carried out in conjunction with The Building Research Establishment and Franklin + Andrews are summarised below. We have also drawn up a number of tables for ease of comparison with other metals and manmade products. The research identified some key points which might often be overlooked.

Rolled lead sheet used in construction outperforms competing manmade products such as flashings, and hard metals, on many fronts.

- The carbon footprint of lead, compared with other hard metals, is extremely low making it a very environmentally friendly material. Its lifespan also means it lasts a generation without having to be replaced - on average more than three times longer than other proprietary flashing products.
- There is an established recycling infrastructure so almost 100% of the waste can be re-used.
- Lead's longevity means that architects can safely use it in designs needing to comply with Euro code requirements for a 60 year design life.
- Lead installation is not impacted by damp or cold weather conditions, thereby minimising project delays.
- Working with lead is a highly skilled job and will more likely be undertaken by skilled tradesman, thereby minimising the risks of employing unskilled labour using other products.
- The economic benefits of using lead also came through strongly. Over a 40 year period lead can be up to 50% cheaper than manmade flashing products and over 65 years it is almost 100% cheaper.
- The concentration of lead in rainwater run-off is proven to have no public health or environmental impact.

Lead is considered so safe and reliable that it is possible to obtain a 25 year insurance backed guarantee covering the material and installation when it is installed by an LCA (Lead Contractors Association) accredited contractor. Many roofing contractors also express a preference for using lead as there is almost no risk of leakage and negligible post installation maintenance inspections required, providing peace of mind for contractors and building owners.



### Background to the LSA

The Lead Sheet Association is the foremost independent technical authority on the design, specification and application of Rolled Lead Sheet. The Association also promotes the use of lead sheet manufactured to BS EN 12588 on behalf of its Members. It has been in existence for over 85 years.

At its purpose-built training centre in Kent it runs a range of courses for lead workers, specifiers, surveyors, contractors and conservationists. These range from Basic Bossing and Welding to more advanced courses such as the City and Guilds 6055 Leadworkers' Certificate, Specialist Apprenticeship Programmes (SAP) and On-site Assessment and Training (OSAT). It also works with a list of accredited satellite centres around the UK where some of the courses are available.

The LSA provides a wealth of technical information via its website including the LSA Pocket Guide, AutoCad drawings for flashings, gutters, cladding and roofing as well as health and safety information. This information is free of charge. More detailed information can be found in the Rolled Lead Sheet – The Complete Manual, which can be ordered through the website. LSA Technical Officers are also available for consultation on specific projects.

### Lead Sheet Association

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## Economic benefits

	Proprietary Products	Lead Sheet
Cost Supply & fix	<ul style="list-style-type: none"> <li>• Similar to lead</li> </ul>	<ul style="list-style-type: none"> <li>• Generally equal to other flashings</li> <li>• Cheaper than most hard metals</li> </ul>
Life Expectancy	<ul style="list-style-type: none"> <li>• Variable 1 – 20 yrs.</li> </ul>	<ul style="list-style-type: none"> <li>• Lead will last at least 3 times longer</li> </ul>
Maintenance	<ul style="list-style-type: none"> <li>• Regular inspections advisable</li> </ul>	<ul style="list-style-type: none"> <li>• Little inspection needed</li> </ul>
Life Cycle Costs	<ul style="list-style-type: none"> <li>• £37–58/m 300mm girth</li> <li>• £64-£104/m 450mm girth</li> </ul>	<ul style="list-style-type: none"> <li>• Over 40 yrs. lead is 50% cheaper</li> <li>• Over 65 yrs. lead is 100 % cheaper</li> </ul>
Consequential Costs	<ul style="list-style-type: none"> <li>• Potential for leakage</li> <li>• Damage to structure and internal fabric</li> </ul>	<ul style="list-style-type: none"> <li>• Almost no risk of leakage</li> </ul>
Guarantees	<ul style="list-style-type: none"> <li>• 1 -10 years. Generally material only</li> </ul>	<ul style="list-style-type: none"> <li>• 25 year guarantee for material and installation</li> </ul>

## Environmental performance

	Proprietary Products	Lead Sheet
Land Fill and Waste	<ul style="list-style-type: none"> <li>• Waste not reusable</li> <li>• Not deconstructable</li> <li>• Must be sent to land fill</li> </ul>	<ul style="list-style-type: none"> <li>• All waste re-useable</li> </ul>
Recycling	<ul style="list-style-type: none"> <li>• No recycling infrastructure</li> <li>• Must use landfill</li> </ul>	<ul style="list-style-type: none"> <li>• 100% waste recyclable</li> <li>• Established infrastructure process</li> </ul>
Green Guide	<ul style="list-style-type: none"> <li>• No Green Guide data</li> </ul>	<ul style="list-style-type: none"> <li>• Current data favourable and being up-dated with BRE</li> </ul>
Carbon Footprint	<ul style="list-style-type: none"> <li>• No carbon footprint data</li> </ul>	<ul style="list-style-type: none"> <li>• Low carbon footprint</li> <li>• 0.7-1.7Kg CO2/Kg</li> </ul>
CSR & RSM	<ul style="list-style-type: none"> <li>• Few policies in place</li> </ul>	<ul style="list-style-type: none"> <li>• Have existing policies and being updated</li> </ul>
Energy Usage	<ul style="list-style-type: none"> <li>• High production temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Low melting temperature</li> </ul>

## Technical benefits

	Proprietary Products	Lead Sheet
Application	<ul style="list-style-type: none"> <li>• Flashings and gutters</li> </ul>	<ul style="list-style-type: none"> <li>• Flashings, gutters, copings, cladding, decorative</li> </ul>
Installation	<ul style="list-style-type: none"> <li>• Dry and above 5°C</li> </ul>	<ul style="list-style-type: none"> <li>• Most weather conditions</li> </ul>
Adhesives	<ul style="list-style-type: none"> <li>• Can degrade under UV light</li> <li>• Porous brickwork must be sealed</li> <li>• Long drying time</li> <li>• Higher risk of incorrect application with unskilled labour</li> </ul>	<ul style="list-style-type: none"> <li>• No jointing materials required</li> </ul>
Life Span	<ul style="list-style-type: none"> <li>• 1 - 20 years</li> <li>• Adhesive - indeterminable</li> </ul>	<ul style="list-style-type: none"> <li>• 60 - 100 years</li> </ul>
Weather	<ul style="list-style-type: none"> <li>• Can become brittle due to UV and low temp</li> </ul>	<ul style="list-style-type: none"> <li>• Does not degrade</li> </ul>
Shaping	<ul style="list-style-type: none"> <li>• Aluminium mesh can make cutting difficult</li> <li>• Cut joints can be unsightly</li> </ul>	<ul style="list-style-type: none"> <li>• Easily cut with knife or snips</li> <li>• Neat finish</li> </ul>
Security	<ul style="list-style-type: none"> <li>• Laps create potential for leakage and internal damage</li> </ul>	<ul style="list-style-type: none"> <li>• High degree of water tightness</li> </ul>
Aesthetics	<ul style="list-style-type: none"> <li>• Joints/adhesive unsightly</li> </ul>	<ul style="list-style-type: none"> <li>• Clean/neat finish</li> </ul>
Euro Design Code	<ul style="list-style-type: none"> <li>• Not compliant</li> </ul>	<ul style="list-style-type: none"> <li>• Compliant</li> </ul>

**Summary** - The LSA can provide a wealth of information to support your business and you can access much of it on our website [www.leadsheet.co.uk](http://www.leadsheet.co.uk). Whether you need help on a specific project or want to run a CPD seminar, we are happy to help.

Our Members:

