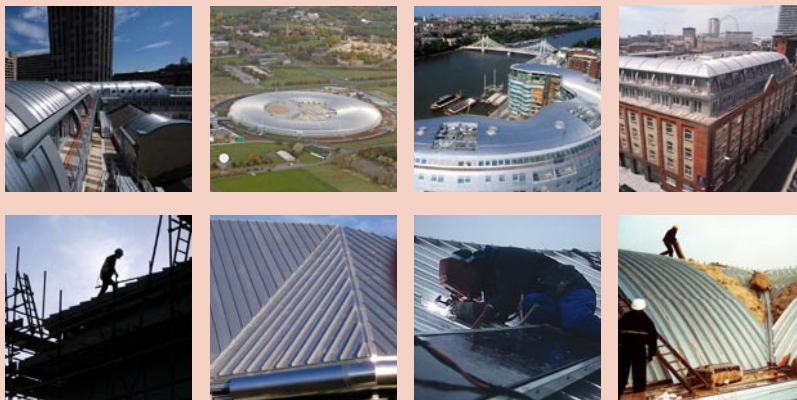


SITE WELDING



The welding on site of thin gauge aluminium roofing materials was pioneered by Melvyn Rowberry in the 1980s – and the design of many of the soakers, hips, valleys and cranked sheets which are common on modern roofs, owe their origins to Rowberry.

The methods and procedures adopted by MR Site Services are tried and tested having been developed over 25 years



M.R. Site Services Ltd

Unit 6 Worcester Trading Estate Blackpole Worcester WR3 8HR England
t: +44(0)1905 755055 **f:** +44 (0)1905 755053 **e:** welding@mrsiteservices.co.uk
www.mrsiteservices.co.uk

PRODUCT INFORMATION

M.R.SITE SERVICES

MR Site Services provide permanent leak-free solutions on joints and sheet shape modifications throughout Europe and across the Middle East, Far East, Africa and Asia

Benefits

- One-fix TIG welded solution
- Guaranteed watertight.
- Insurance-backed guarantees

Certification/Qualification

- All welders are CSCS card holders and fully trained to:
- ASME IX
- EN 287-2/BS EN ISO 9606-2: 2004
- Welding Procedure Qualification 012 complies with EN 288-4

Durability

- Totally watertight
- Strong and lightweight.
- Corrosion-free.

Welding consumables

- Tungsten Ceriated Tungsten 1.6, 2.4 or 3.2 mm dia
- Filler Wire Grade 5556A Aluminium filler wire to BS EN ISO 18273:2004 2.4 or 3.2 mm dia.
- Shielding Gas; Argon; 99.99% Pure Argon.
- Ceramic Nozzles; Type and size to suit welding operation and condition.

General welding parameters

- Three-phase AC straight polarity supplied from shop welding sets or from diesel powered generators on-site (carried in MR mobile workshops)
- As a general guide the amperages for the various material thicknesses are as follows:
- 0.7-0.9 mm aluminium alloy 30 -40 amps
- 1.0 mm aluminium alloy 35 -50 amps
- 1.2 mm aluminium alloy 45 -60 amps
- 1.6 mm aluminium alloy 55 -75 amps
- 2.0 mm aluminium alloy 65 -85 amps
- 3.0 mm aluminium alloy 115 -145 amps
- Voltages required shall be around 80 volts
- Shielding gas flow will normally be in the range 17-20 litres/min. The choice of the settings suitable for the conditions shall be at the discretion of the operator.
- For in-situ welding during bad weather a canopy may be erected to protect the welder from rain and high winds.
- The troughs of the up-slope aluminium roofing sheets may be temporarily blocked by the insertion of filler blocks to prevent rainwater ingress into weld areas.

Sales and after-sales support

- Back up and maintenance service is available.
- Call the sales office for more details.

SITE WELDING

METHOD STATEMENT INDEX

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MS 01B	Site Welding of Stramit SpeedDeck Aluminium Standing Seam Roofing System	1
MS 01C	Welding of Kingspan Aluminium Composite Roofing Panels	1
MS 02	Safety Precautions	1
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MS 06	Dye Penetrant Testing	1
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MS 12	Repair of Rejected Welds	2
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Complete method statements are available. Call the sales office for more details.

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METHOD STATEMENT EXAMPLE

M.R. SITE SERVICES

MS01 Aluminium – TIG process

This method statement applies to the welding on site or in works of Aluminium Alloys in the Aluminium Association 1000, 3000 and 5000 series of thicknesses in the range 0.5 mm to 3.0 mm inclusive by the TIG (Tungsten Inert Gas) process with filler wire.

Preparation prior to welding

- If metal is coated, reference should also be made to Method Statement MS 04.
- Edges for welding shall be freshly cut or freshly wire brushed using only stainless steel wire brushes.
- Where edge preparation of aluminium before welding is necessary, then preparation may be achieved with standard tools such as band or circular saws, at cutting speeds between 458 to 1525 m per minute, depending on the alloy and thickness of parent material. Band saws of wood working type are ideal for this purpose and shall have skip teeth, about 12-16 teeth per 10 cm. Portable hand tools such as circular saws, planers and reciprocating or jig saws may also be used. *Grinders are not suitable for sheet edge preparation.*

Control of distortion (see also MS 03)

- To reduce distortion, welds can be made from the centre of a joint to a free edge by using a backstep method, ie welding a cold section of a joint to a hot section already welded or by suitably staggering weld runs.
- The joints likely to undergo most expansion and contraction should be welded first.
- Under normal conditions tack welding is the most widely used method of setting up the assembly for welding.

Weld dimensions

- Butt welds shall extend on either side of the joint centre line to a minimum distance equal to the thickness of the joint. Butt welds shall have full penetration unless otherwise defined.
- Fillet welds for lap-type joints shall have minimum leg lengths equal to the thickness of the thicker part to be joined.
- All other fillet welds shall have minimum leg lengths equal to the thickness of the thinner part to be joined.

Safety precautions

- The instructions and recommendations contained within Method Statement MS02 shall be followed.

Welding design and accessibility

- The instructions and recommendations contained within Method Statement MS03 shall be followed.

Inspection and testing

- Every weld shall be given a thorough visual inspection.
- For weld acceptance levels refer to Method Statement MS15.
- Dye Penetrant Inspection, when contractually agreed shall be performed in accordance with Method Statement MS06.

Reinstatement of coating

- Where coatings have been removed they shall be reinstated in accordance with Method Statement MS05.