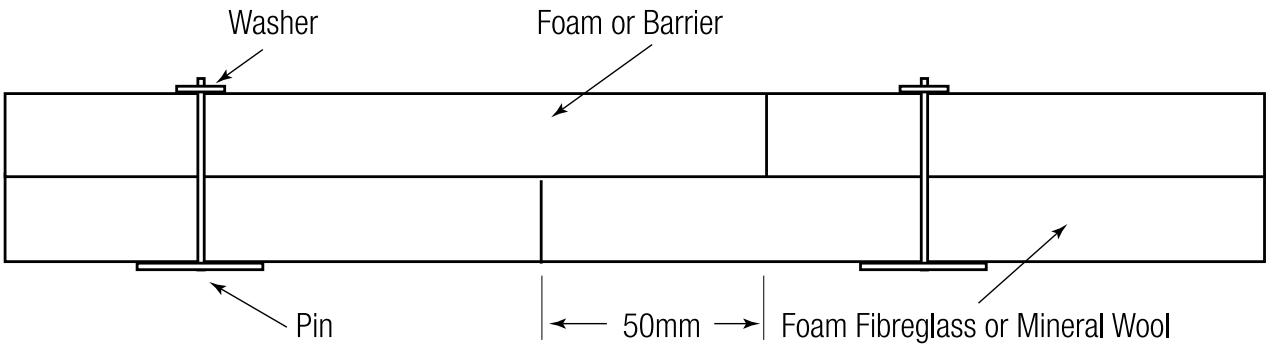
INSTALLATION GUIDELINES

SUPERLAG

INSTALLATION INSTRUCTIONS FOR CMS DANSKIN ACOUSTICS SUPERLAG RANGE

- Spot weld or pop rivet insulation fixing pins onto ductwork using a minimum of 9 per m^2, if duct system cannot be penetrated use perforated base pins and pin adhesive
- Cut the barrier to 50mm over size and width and length to allow a lap joint
- All joints should be made in a staggered brick effect. It is important to limit the number of joints as the performance of the finished system relies upon the integrity of the joints
- When making a joint the foam, fibreglass or mineral wool and lead or barrier should be pared back as shown below



- Apply adhesive or silicone sealant to the ductwork and joints in the barrier
- Offer up the barrier, spiking it on the pins and firmly push the washer into place. If using a barrier heavier than 10kg/m^2, an additional washer is required
- Any voids should be filled and sealed with silicone sealant
- The joints in the Class '0' foil facing should then be taped using 75mm wide self-adhesive foil tape. This enhances the transmission loss and forms a vapour barrier

FITTING RECOMMENDATIONS

The method required in the fitting of Duct Lagging/Acoustic Insulation is dependent on several factors. The principles detailed below are relevant to Superlag Original and Superlag Prime series of acoustics insulation materials.

1. The size and circumference of the duct.

2. The shape of the duct – round or rectangular.

3. The ambient temperature and the temperature within the duct – normal and maximum.

4. The position of the duct – inside or outside.

EFFECT OF THE SIZE AND SHAPE OF THE DUCT

Round ducts where one sheet of material will completely lap the circumference can be insulated without the need for adhesives or extra mechanical fixings subject to the size of the duct. Mating edges are sealed with tape. Adhesive tape to match the finish is required. Duct Lagging/Acoustic Insulation may be secured to large round ducts using proprietary banding systems used in conjunction with edge tape. Bands are not recommended on rectangular ducts as insufficient support is given across the duct face, and the insulation is flattened by the band at the duct corner, unless corner protectors are used.

Rectangular ducts normally require additional support for the material in the form of contact adhesive or proprietary insulation hangers, particularly on the underside where the Duct Lagging/Acoustic Insulation will tend to hang away from the duct surface. It is recommended that that intricate ducts be further supported and reinforced with 25mm wire mesh (e.g. chicken wire) and wire ties.

INSULATION FIXING PINS

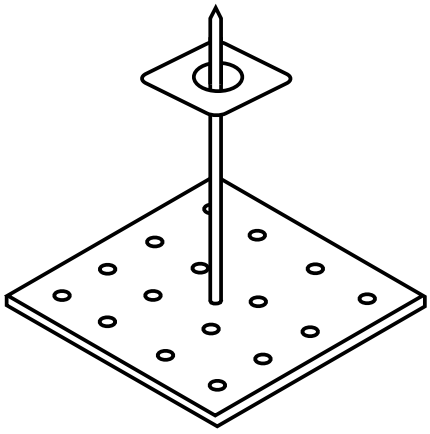
Spike and Washer Type

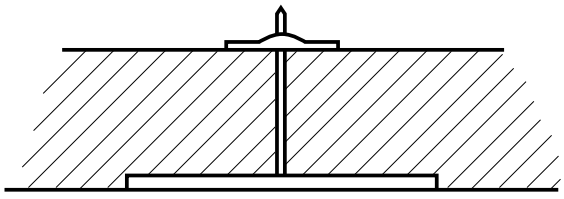
These consist of a pointed spike attached to a square steel base. Insulation is held in place by a self-locking washer which is slid over the spike.

These hangers are available in two forms:

a) With a self-adhesive base.

b) With a perforated base for use with separate adhesive.





CHOICE OF HANGER ATTACHMENT METHOD

This method of attaching the hangers to the surface of the duct is dependent upon the temperatures inside and outside the airflow, and the loads placed upon each hanger.

Under most circumstances self-adhesive hangers are sufficient. Increased numbers of hangers at reduced spacing will be required as the operating temperatures and insulation weights rise. If too few are used the hangers will gradually detach themselves. This may take some time and will not be immediately apparent.

At high temperatures and insulation weights plain hangers with separate adhesives should be used. The use of adhesives may be desirable as a means of reducing the number of hangers, i.e. by increasing the load each hanger can accept.

It should be noted that self-adhesive hangers require a smooth clean surface to bond. Hangers can be fixed using a separate adhesive to a less perfect surface, but it should still be dry and free of loose particles.

At extreme temperatures (above 90°C) and loads, pop-riveting or weld pins will be required. Sealed type pop-rivets must be used to prevent air leaks.

Note:
The use of pop-rivets may not always be allowed by the architect or ductwork designer. Obtain permission prior to fixing. Details of temperature, individual hanger load, spacing and adhesive types are contained in a table at the end of this leaflet. Determining the Material Length.

Establishing the length of insulation required to cover the duct should be done by trial wrapping with a sheet of material. Straightforward measuring of the duct with a tape measure will not allow for the extra material required to negotiate the corners and curves of the duct. 50mm should be added for the joint as a minimum.

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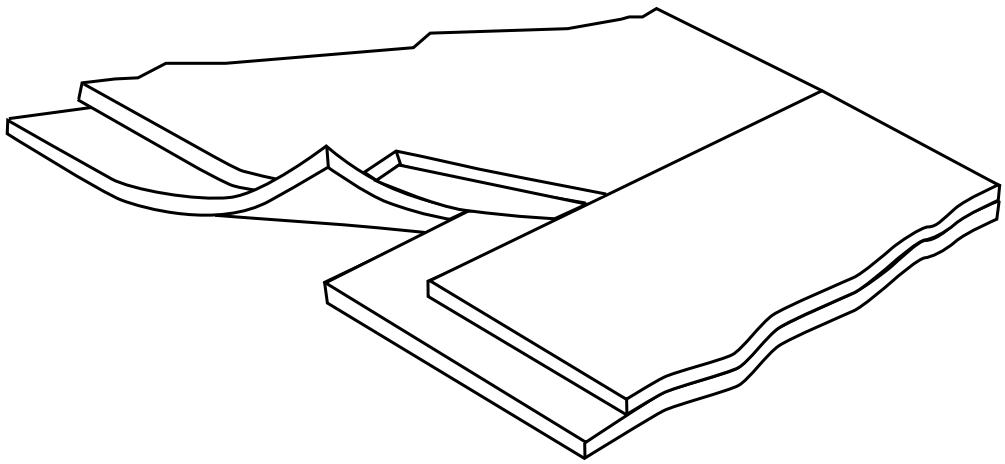
JOINTS IN DUCT LAGGING ACOUSTIC INSULATION

In order to maintain the acoustic and thermal properties of Duct Lagging/Acoustic Insulation it is recommended that the ends and edges of the sheets be joined by trimming and overlapping.

Cut the sheet 50mm oversize and trim back the insulation to give a z-type joint (see illustration).



PREPARATION OF THE DUCT SURFACE

Before attempting to fit hangers or apply adhesive all duct surfaces must be clean, dry and free of oil, grease, loose paint and dust. Oil and grease are best removed by wiping down with methylated spirit or thinners (not white spirit or oil based cleaners). If painted, ensure that the paint has completely cured and is firmly bonded to the surface. A light rubbing with abrasive paper before using thinners will provide a good key for adhesive on very smooth surfaces.

FITTING HANGERS

Warning

Do not attempt to insert the pins into the insulation, remove the release backing and then offer to the duct surface. This method will result in failure due to insufficient pressure being applied to each hanger, inaccurate alignment and the possible contamination of the adhesive surface by loose insulation fibres.

FITTING INSULATION

Spike and Washer Type Hanger

Position the sheet carefully over the pins and press uniformly until the insulation butts up against the surface. Fit the self-locking washer (dome side outwards) to the pins and press up to the insulation surface. Do not compress the insulation. A further layer of wire netting can be secured using a second self-locking washer. Snip off any excess, pin to 5mm long using wire cutters or pliers. Hold the cutters steady and do not work from side to side. Do not bend the pin as this will weaken or fracture the contact of the self-adhesive pad with the metal surface.

Hanger Specifications and Performance – Self Adhesive Hangers.

Insulation Type and Weight	Optimum number of Hangers per square metre use 9m^2			
Temperature	23 ºC	40 ºC	55 ºC	70 ºC
2kg/m^2	4	4	4	6
4kg/m^2	4	4	6	8
5kg/m^2	5	6	8	10
6kg/m^2	5	6	8	12
8kg/m^2	6	8	12	16
10kg/m^2	8	10	14	18

Note:
Where the material is 1 square metre (or less) it is recommended that an extra hanger is used in the centre of the area to prevent sag. When more than 1 square metre is erected it is possible to position the hangers to minimise sag.

CMS DANSKIN ACOUSTICS

Scotland Office: Tel: **01698 356000** Fax: **01698 372222**
1 Netherton Road Wishaw ML2 0EQ

Central/Southern Office: Tel: **01925 577711** Fax: **01925 577733**
Unit 2 Lyncastle Road, Appleton, Warrington, WA4 4SN

Email: **info@cmsdanskin.co.uk** Website: **www.cmsdanskin.co.uk**

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Issue 2 10/2017 MH