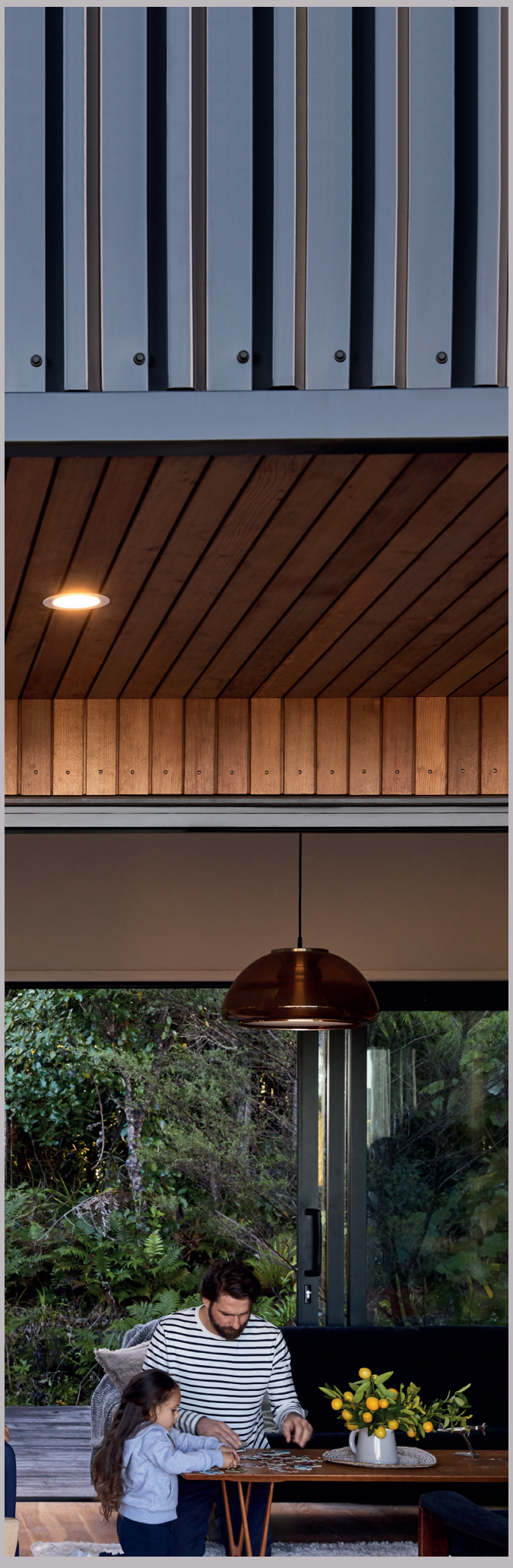
COLORSTEEL®

Swarf Staining

Steel Roofing & Cladding



What is swarf?

Swarf is the term used to describe the steel debris that occurs from the cutting or piercing of steel roofing and cladding products.

As well as these fine particles, swarf may also include other discarded steel objects such as rivet shanks, nails, screws and nuts that may come into contact with coated products like COLORSTEEL®, ZINCALUME® steel and galvanised steel.

If left on the surface, swarf particles will corrode and cause rust stains which will detract from the finished appearance of the product. These stains can often be mistaken for early deterioration of the roofing or cladding itself.

It is strongly recommended that the preventative measures detailed in this brochure are followed closely.

How does swarf occur?

Generally swarf particles come into contact with coated steel sheet products in three ways:

1. Through loose particles left after cutting, drilling and riveting procedures.
2. Through hot swarf particles from disc cutting or drilling which may adhere to the finished surface and;
3. Via loose particles which may be trodden on or become embedded in the surface film of the prepainted products.

Many swarf staining problems are not caused by the installers, but by other contractors working in the vicinity. Architects and builders should be aware of this and warn contractors accordingly.

What are the best cutting and drilling methods?

- In general, power shears or hand snips produce the least amount of debris.
- Power nibblers provide a clean cut, but do generate debris which, if left, can cause corrosion.
- Metal friction blades produce fine hot particles which can embed easily into the coating surface and corrode rapidly.

If cutting with a friction blade is your only option, the sheet should be cut away from the immediate vicinity of the job and any other sheets. Where this is not possible, newly-fixed roofing should be masked off to allow for the collection and disposal of any swarf particles. The sheet should be cut with the top surface facing downwards to minimise potential damage. Hand shears should then be used to trim back any ragged edges.

When drilling, the area around the hole should be similarly masked to shield the product from hot swarf.

Taking care of the clean up

Swarf should be swept or hosed from the job progressively and certainly at the end of each working day. This will help remove any loose particles.

Maximum care should be taken when attempting to detach swarf which has become stuck. No action which is likely to remove the paint or metal coatings should be attempted. Any damage to these coatings will detrimentally affect the lifespan of the material.

When sweeping or hosing into a gutter, clean out the gutter before leaving the job to prevent premature corrosion. Upon completion of the work, give the surface a final wash or sweep down.

For critical applications, inspections of the job should be undertaken two weeks after completion. By this time rain or condensation will have caused any remaining swarf to rust and this will highlight affected areas.

In such instances, treat as you would a repair.

What does swarf look like?

Fresh swarf stains appear as small red-brown coloured blemishes with a central dark spot (the remains of the steel particles). The surface will feel like sandpaper and the particle may be lifted with a fingernail.

An old swarf stain will appear as a localised red-brown stain, the steel particle having corroded away and the surface will be smoother.

How does it affect performance?

Swarf staining usually only has an aesthetic impact on COLORSTEEL® products. Although this is far from ideal, everyday resilience is not normally affected.

However, product integrity can be compromised in cases where swarf particles penetrate the prefinished film and come into contact with the protective metallic coating.
This only occurs, however, in extreme cases.

On metallic coatings, concentrated corrosion can arise in small areas as the zinc in the coating sacrifices itself to prevent oxidation of both the swarf and, over time, exposed parts of the steel base.

To prevent this, removal of the swarf at the time of installation is always recommended.

How should you handle repairs?

METALLIC-COATED STEEL SHEET
Brush the surface with a stiff bristle brush (not metallic wire) to dislodge swarf particles. These must be completely removed, not just swept into the guttering.

Steel wool **MUST NOT** be used, as it breaks up and becomes swarf itself.

PREPAINTED STEEL SHEET
No cure will restore the surface to its original condition. Damage can, however, be reduced by prompt action.

New Zealand Steel is not responsible for any necessary remedial action beyond its control.

MILD STAINING
When used according to instructions, a standard household cream cleanser should remove most mild swarf stains. Take great care to remove the stain only and minimise damage to the paint film. You should similarly minimise contact with unaffected areas. Cream cleansers are abrasive and will have some impact on the paint film.

SEVERE OR EXTENSIVE STAINING
Overpainting may be the quickest and most suitable solution for aged roofing and cladding products. The entire visible area must be repainted as air drying paints will weather more rapidly and in a different manner to COLORSTEEL® roofing and cladding products.

Replacement is the best option for swarf damage on new roofing and cladding products.

For more information about COLORSTEEL® products
call **0800 697 833** or visit **colorsteel.co.nz**

NOTE: Buyers and users of New Zealand Steel Limited products and services must make their own assessment of the products for their own conditions. All queries regarding product specification, purpose or application should be directed to New Zealand Steel Limited, phone 0800 697 833. New Zealand Steel Limited reserves the right to modify products, techniques, equipment and statements to reflect improvements in the manufacture and application of its products. The information contained in this brochure is supplied without prejudice to New Zealand Steel Limited's standard terms and conditions of sale. In the event of conflict between this information and the standard terms and conditions, the standard terms and conditions prevail. COLORSTEEL® is a registered trademark of New Zealand Steel Limited. ZINCALUME® is a registered trademark of BlueScope Steel Limited.

Copyright© New Zealand Steel Limited. October 2018. 114026.

NEW ZEALAND MADE

NZS0005_303