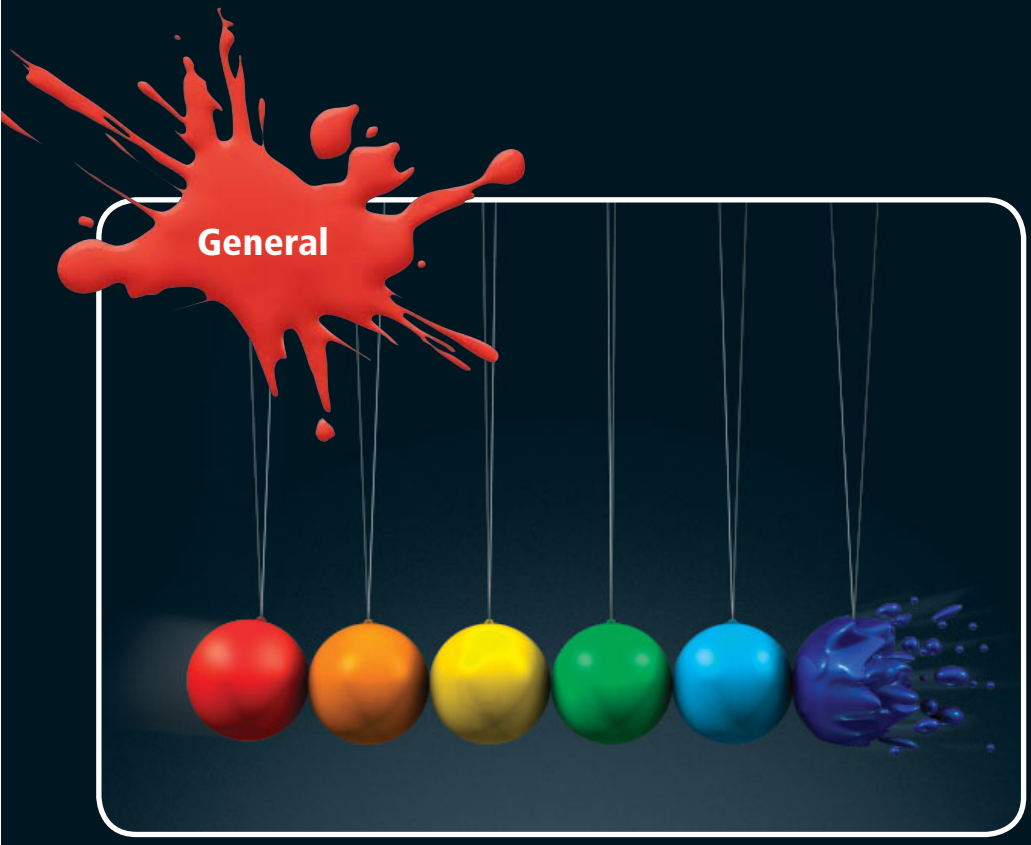
Resene

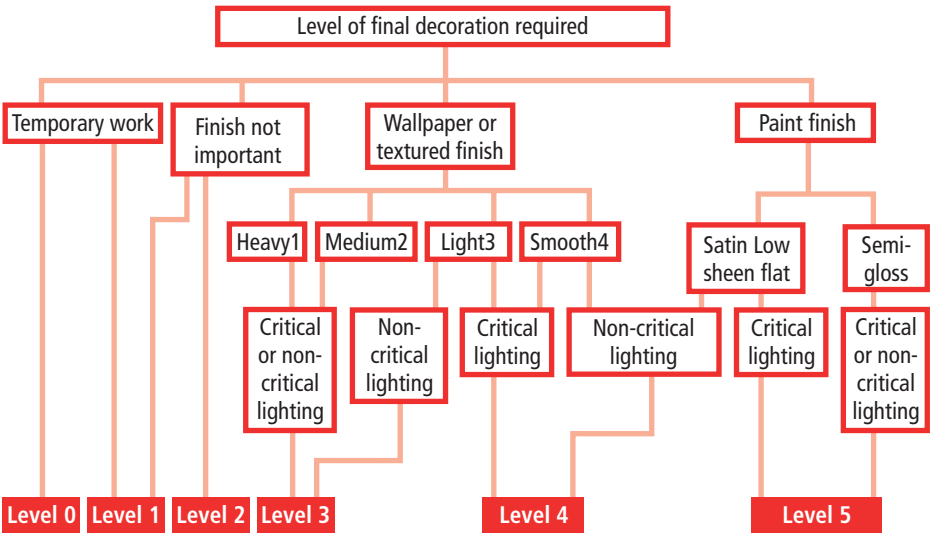
Professional development programme™



Resene

the paint the professionals use

Finish level	Expected quality and areas of use
Level 0	Unstopped sheets.
Level 1	Suitable only in plenum areas above ceilings, in attic spaces, in areas where the paint will be concealed from view or in areas of a building not open to public view, such as plant rooms and service corridors.
Level 2	Suitable for garages, warehouses, storage or other similar areas where surface appearance is not of primary concern. Minor ridges and tool marks are acceptable.
Level 3	Suitable for appearance areas that are being finished with a heavy or medium textured finish before final painting, or where heavy grade wallcoverings are being applied. This level of finish is not generally acceptable for painted finishes or for light-to-medium weight wallcoverings.
Level 4	Suitable for areas where light textures and wallcoverings are being used, where economy is of concern, or where a flat or low sheen paint finish is being used in areas of non-critical light conditions. The finished stopping must be smooth and free of all tool marks.
Level 5	Suitable for use where gloss, semi-gloss, low sheen or non textured flat paints are being applied or where critical light conditions exist. To achieve a level 5 finish on plasterboard and fibre-cement, a thin skim coat is applied to the entire surface of the sheets. For fibrous plaster linings, the final compound application is trowel polished.



1: Heavy = a build-up of over 3mm.
2: Medium = a build-up of over 1mm up to and including 3mm.
3: Light = a build-up of over 1/2mm up to and including 1mm.
4: Smooth = a build-up of up to and including 1/2mm.

From: AS/NZ 2589.1

Some quick steps to estimate paint litres from house plans

Look for the statement of area on the customer's house plans (it is a legal requirement) and it will look something like:

186m²

divide this total

by 10 = litres of sealer for ceilings

by 5 = litres of 2 coats for ceilings

by 4 = litres of sealer for walls

by 3 = litres of sealer for walls and ceilings

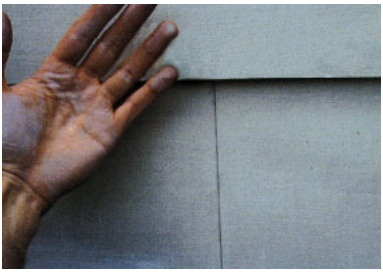
by 2 = litres of 2 coats for walls

Doors, frames, trim, allow 8 litres of Resene Quick Dry Acrylic Primer Undercoat and 12 litres of topcoats. This works for most houses, but extreme designs will need a more careful approach.

Typical painting problems

Chalking

Formation of fine powder on the surface of the paint film during weathering, which can cause colour fading. Although some degree of chalking is a normal, desirable way for a paint film to wear, excessive film erosion can result from heavy chalking.



Possible causes

- **Use of a low quality highly pigmented paint.**
- **Use of an interior paint for an outdoor application.**

Solution

First, remove as much of the chalk residue as possible, scrubbing with a stiff bristle brush (or wire brush on masonry) and then rinse thoroughly or use power washing equipment. Check for any remaining chalk by running a hand over the surface as it dries. If noticeable chalk is still present, apply a quality primer (or comparable sealer for masonry) then repaint with a quality exterior coating. If little or no chalk remains and the old paint is sound, no priming is necessary.

Courtesy of the Paint Quality Institute.

Typical painting problems

Peeling

Loss of paint due to poor adhesion. Where there is a primer and topcoat, or multiple coats of paint, peeling may involve some or all of the coats.

Possible causes

- **Seepage of moisture through uncaulked joints, worn caulk or leaks in roof or walls.**
- **Excess moisture escaping through the exterior walls (more likely if the paint is solventborne).**
- **Inadequate surface preparation.**
- **Use of lower quality paint.**
- **Applying a solventborne paint over a wet surface.**
- **Earlier blistering of paint (see Blistering).**

Solution

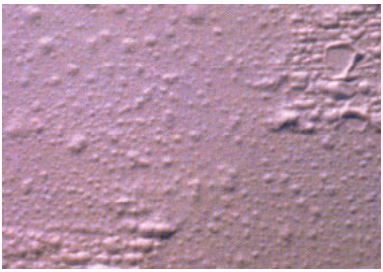
Try to identify and eliminate the source of moisture. Prepare surface by removing all loose paint with a scraper or stiff wire brush. Sand rough edges and apply the appropriate primer. Repaint with a top quality waterborne exterior paint for best adhesion and water resistance.

Courtesy of the Paint Quality Institute.

Typical painting problems

Blistering

Bubbles resulting from localised loss of adhesion and lifting of the paint film from the underlying surface.



Possible causes

- **Painting a warm surface in direct sunlight.**
- **Application of solventborne paint over a damp or wet surface.**
- **Moisture escaping through the exterior walls (less likely with waterborne paint than with solventborne paint)**
- **Exposure of waterborne paint film to dew, high humidity or rain shortly after paint has dried, especially if there was inadequate surface preparation.**

Solution

If blisters go down to the substrate try to remove the source of moisture. Repair loose caulking and consider installing vents or exhaust fans. Remove blisters (see below).

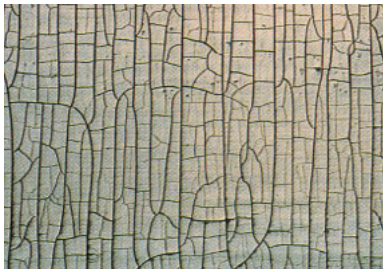
If blisters do not go all the way down the substrate then remove them by scraping, then sanding. Prime bare wood and repaint with a quality exterior waterborne paint.

Courtesy of the Paint Quality Institute.

Typical painting problems

Alligatoring (also called crocodiling)

Patterned cracking in the surface of the paint film resembling the regular scales of an alligator.



Possible causes

- **Application of an extremely hard, rigid coating, like a solventborne enamel, over a more flexible coating, such as a waterborne primer.**
- **Application of a topcoat before the undercoat is dry.**
- **Natural aging of solventborne paints as temperatures fluctuate. The constant expansion and contraction results in a loss of paint film elasticity.**

Solution

Old paint should be completely removed by scraping and sanding the surface. A heat gun may be used to speed work on large surfaces, but take care to avoid igniting paint or substrate. The surface should be primed with high quality primer, then painted with a high quality exterior waterborne paint.

Courtesy of the Paint Quality Institute.

Macroclimates

For the purposes of selecting an appropriate protection system it is useful to classify the steel structure's environment according to the macroclimate overleaf. This figure shows which regions of New Zealand are more prone to marine deposition than others. While marine depositions (including salt) are not the only causes of protection system breakdown, they are often a large contributor.

Meteorological parameters for selected New Zealand cities			
	Total annual rainfall (mm)	9am mean annual relative humidity	Mean annual temp.
Kaitaia	1430	81	15.3
Auckland	1268	77	15.3
Hamilton	1197	80	13.0
New Plymouth	1584	78	13.4
Gisborne	1034	73	13.8
Wellington	1271	81	12.4
Greymouth	2488	83	12.1
Christchurch	626	77	10.9
Dunedin	772	74	10.9
Invercargill	1042	83	9.5

The classification; very severe, severe, moderate and special conditions, are the same as those found in AS2312:1980, where:

- **Very severe** refers to regions where the rainfall is generally higher than 1000mm p.a. the average humidity is in excess of 70% and is subject to marine depositions of industrial pollution.
- **Severe** refers to regions where the rainfall is generally higher than 1000mm p.a. or has an average humidity in excess of 70% or slight marine deposition or industrial pollution.
- **Moderate** refers to regions where the rainfall is lower than 1000mm p.a., the average humidity is below 80%, there is no marine deposition and the area is remote from industrial activity or geothermal activity.
- **Special conditions** refers to the geothermal region of New Zealand.

Rainfall, humidity and temperature data for some New Zealand cities is listed below. For fuller details refer to TRANS., IPENX, VOL. 9 No 3/E Mch December 1982).

A commentary on AS2312 "Guide to the protection of iron and steel against atmospheric corrosion", published by HERA, provides a basis for selecting the appropriate macroclimate. It also draws attention to amendments that make this standard applicable to New Zealand use.

Microclimates – immediate exposure environments

Types of microclimates or typical on-site factors that cause the breakdown of protective coatings include the following:

- Abrasion or impact.
- Alkaline or acidic aqueous fallout.
- Concentrations of industry.
- Consistent channelling of run-off water across an area of the protected surface.
- Contamination from airborne fertilisers and other chemicals.
- Damp locations not dried out by sunlight.
- Exposure to marine atmospheres.
- Hot or cold surfaces.
- Prevailing winds that transport contamination from one surface to another.
- Protection of surfaces from direct rainwashing.

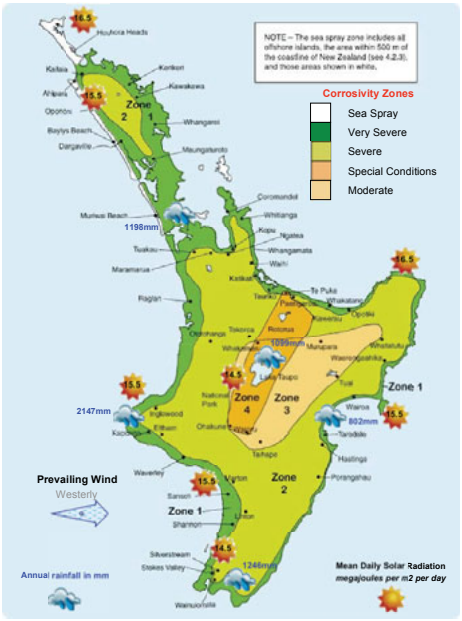
> continued

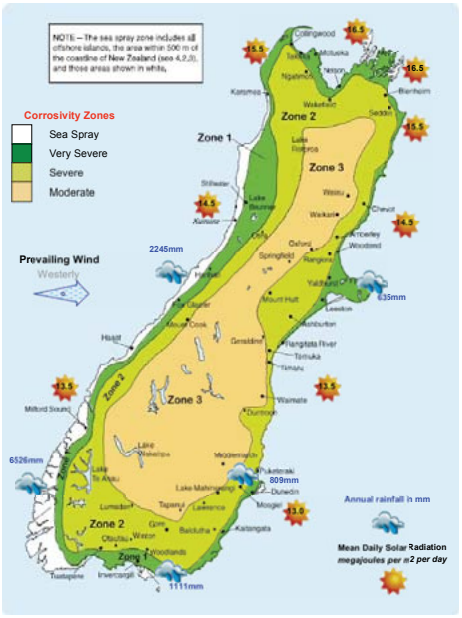
Microclimate effects, such as those listed above, together with shelter from or exposure to direct rainwashing, can outweigh the parameters of the macroclimatic zonings.

Unwashed and dirt collecting areas are the first to deteriorate. The only solutions are to either better eliminate them by cladding, or frequently wash them down.

Specifications should protect the 'worst case' situation on the structure or cladding surface. The amount or type of protection required is proportioned to the severity of microclimate corrosivity that results from the effects listed.

Environmental impacts on protection systems





New Zealand lies in a subtropical ocean with salt laden prevailing winds and high humidity.

Steel structures are subject to atmospheres usually more conducive to corrosion than experienced in many other parts of the world. Experience has shown that all exterior New Zealand environments are aggressive to metal protection systems and only by carefully selected and controlled applications, can satisfactory protection be obtained. The main factors affecting atmospheric corrosion in New Zealand are salt blown inland and high relative humidity's.

Information as per Met Service Data, AS/NZS 3604:1999,
HERA – Protection of Steel, AS/NZS1580.457.1.1996, AS/NZS 2312:2002

Notes

Notes

Painting checklist

You will need:

- ☐ Extension pole
- ☐ Lint-free cloth
- ☐ Paintbrush
- ☐ Paint pot
- ☐ Putty and fillers
- ☐ Roller
- ☐ Roller tray
- ☐ Sandpaper
- ☐ Tac rag
- ☐ Turps

You may need:

- ☐ Brush cleaner
- ☐ Dust mask
- ☐ Gloves
- ☐ Masking tape
- ☐ Paint stripper
- ☐ Painter's gloves
- ☐ Pole sander
- ☐ Putty knife
- ☐ Rags
- ☐ Resene Hot Weather Additive
- ☐ Resene Interior Paintwork Cleaner
- ☐ Resene Moss & Mould Killer
- ☐ Resene Paint Prep and Housewash
- ☐ Scraper
- ☐ Steel wool
- ☐ Window scraper

Resene

the paint the professionals use

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