



MAINTENANCE INSTRUCTIONS

COLOUR COATED STEELS



Energy-efficient steel solutions for better **LIVING. WORKING. MOVING.**

The roofs and facades of buildings are exposed to many kinds of impurities and pollution in the air. These include sulphur, chlorine and nitrogen compounds causing acid rain, and various mineral salts, dirt and soot. These impurities together with water and UV radiation of the sun affect the coating. The effects are worst on those areas of the building where impurities are not washed away by rainwater.

From the point of view of the durability of coated steel sheet the most critical things are knocks and scratches, in which the impurities come into direct contact with the zinc layer under the paint coating or, especially, with the steel core.

The effect of the impurities in the air is greatest close to polluted industrial and in coastal areas. Emissions containing sulphur or chlorine are especially difficult. Impurities put a strain on the coatings and reduce their useful life, so the regular cleaning of wall and roof surfaces is an important part of the care and maintenance of the coatings.

- **Annual inspection**

Parts of a building where colour coated sheets have been used should be inspected regularly. If any defects are found in the coating they should be repaired immediately, in order to ensure long life. The annual inspection should include the following procedures:

- **Initial inspection**

Remove all loose objects such as loose fittings, pieces of sheet, drillings swarf and other metal articles from roofs and rainwater systems immediately after the installation.

- **Visual inspection**

Visual inspection of the coated surfaces should be carried out once a year as a general inspection. A more thorough inspection should be carried out every five years during the warranty period. The coated surfaces should then be inspected at a viewing distance of 1,5 metres. After the warranty period has expired, the surface should be inspected every two years at a viewing distance of 1,5 metres.

- **Cleanliness of the roof**

Check the roof for cleanliness. Dirt and soil cause a corrosion risk by keeping the surface of the sheet wet. A dirty roof also spoils the appearance.

- **Condition of the fittings**

Check the condition and attachment of the fittings. Damaged or partly loose fittings cause leakage, decay, and a risk of corrosion. If a fitting is damaged, it and/or the roof batten should be replaced with a stronger one.

- **Condition of the coating**

Check the condition of the colour coating. Remember to inspect the roof valleys and rainwater system edges. Peeling of coating, uneven fading, blistering and cracking as well as local scratching are all signs of the need to repair the coating.

Follow the painting instructions given in this document when repairing the coating.

- **Rainwater systems**

Rainwater systems should be cleaned every year. Blocked, partly blocked and dirty rainwater systems cause icing and corrosion problems.

Remove any possible blockage and dirt and flush, and, if necessary, wash the whole system. Repair any damage.

- **Washing and removal of dirt**

Rainwater is usually sufficient to keep colour coatings clean. Impurities, such as leaves from trees, however, should be cleaned off the roof, roof valleys and rainwater systems once a year.

Coating should be cleaned with a soft brush and water or high-pressure water (< 100 bar). More stubborn dirt can be removed using a cleaning agent suitable for paint coatings (see table 4). Difficult dirt spots can be removed with a cloth moistened in white spirit. The rinsing should be carried out from the top of the roof downwards after the cleaning agent has taken effect for a few minutes. The rainwater gutters should then finally be rinsed down with water. It should be noted that the use of unsuitable or excessively strong cleaning agents will damage the colour coating.

- **Touch-up painting and maintaining eaves edges**

It is always worthwhile to repair any damage which occurs to the coating as soon as possible. Only paints suitable for repair painting of coatings should be used. Spray-paints must not be used.

Table 1.
Touch-up painting

Clean the damaged area using white spirit or cleaning agent as necessary.
Paint the damaged area, 1 – 2 coats.

Coating	Recommended paint	
	Semi-gloss	Matt
Hiarc® (PVDF)	Panssari Akva	Kirjo Aqua
Hiarc® matt (PVDF matt)	Panssari Akva	Kirjo Aqua
Hiarc® reflect	Panssari Akva	Kirjo Aqua
Pural®	Panssari Akva	Kirjo Aqua
Pural® matt	Panssari Akva	Kirjo Aqua
Purex™ / Galea Pro	Panssari Akva	Kirjo Aqua
Polyester	Panssari Akva	Kirjo Aqua
Polyester matt	Panssari Akva	Kirjo Aqua
Plastisol	Panssari Akva	Kirjo Aqua

The area should be touch-up painted using as small a brush as possible. If the damage reaches down to the primer coat only, one coat of paint is sufficient. If, however, the damage reaches down to the zinc, it is recommended that a second coat of paint be applied after the first coat is dry.

Edge corrosion, in which the cut eaves edge of the sheet begins to rust, can sometimes occur, particularly on low-pitch roofs. Painting the eaves edges after the new roof covering has been installed can prevent this. This is highly recommended especially in seaside conditions by transparent Marking Paint lacquer (Teknos).

Table 2.
Repair painting of damaged eaves

Scrape off any peeling or flaking coating.

Remove any rust by sanding or with a steel brush.

Paint the metal surfaces with a paint brush.

Use Rostex Super + Panssari Akva or Ferrex + Kirjo Aqua.

- **Repainting of coating surfaces**

Before any decision is made to completely repaint whole surfaces it must be checked that there are no local damages and the adhesion of the coating to the base is good. If significant localised damage is found, or the coating has faded unevenly, it is best to consult an expert to establish and plan a repainting scheme.

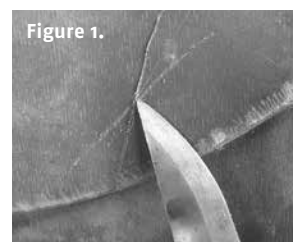
It is difficult to give an exact time for when maintenance painting should be carried out, as the useful life of colour coatings is dependent on many factors. These are colour and type of coating, local climate conditions, slope of the roof, building method, and installation method. The strain on coating is at its greatest on the south-facing slope of a roof, when the colour of the coating is dark.

The most general reasons for repainting are significant changes in the colour or gloss of the surface. Impurities in the air and the sun's UV and heat radiation have the greatest effect on coatings. Durability of different coatings varies. It is recommended that Plastisol be repainted after 12 to 20 years, Polyester, Polyester matt and Purex™ after 15 to 20 years, and Pural and Hiarc (PVDF) after 20 to 30 years after installation. As a general rule it can be said that dark colours should be repainted earlier than light ones. A colour-coated surface, which is repainted in good time, grants an extremely long useful life (up to over 50 years). Even when the protection given by the colour coating ends, the steel is still protected by the zinc coating.

Repainting should be carried out according to instructions given in Table 3.

Table 3.
Repair painting of an old colour coating

- Check the adhesion of the old coating by a cross-scratching method. Refer to Figure 1.
- Remove any peeling or flaking coating by high-pressure water or cleaning agent.
- Make sure not to damage the zinc layer beneath the colour coating.
- Remove any rust by sanding or with a steel brush.
- Wash the surface using Panssaripesu or Peltipesu.
- Rinse thoroughly from the top downwards.
- Make sure that the surface is dry before applying a new layer of coating.
- Make sure the paint suitability and adhesion by test painting.
- Use Rostex Super or Ferrex if primer is needed.
- Paint, 1 – 2 layers of coating.



Coating	Recommended paint	
	Semi-gloss	Matt
Hiarc® (PVDF)		Kirjo Aqua
Hiarc® matt (PVDF matt)		Kirjo Aqua
Pural®	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua
Pural® matt	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua
Purex™ / Galea Pro	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua
Polyester	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua
Polyester matt	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua
Plastisol	Panssari Akva or Temaclad SC 50 ¹⁾	Kirjo Aqua

¹⁾ For professional use only.

Table 4.
Cleaning agents and repair paints

Cleaning agents	Paints	Manufacturer
Peltipesu	Kirjo Aqua ¹⁾ Ferrex ²⁾	Teknos www.teknos-group.com
Panssaripesu	Panssari Akva ¹⁾ Temaclad SC 50 ³⁾ Rostex Super ⁴⁾	Tikkurila www.tikkurila.com

¹⁾ Water-thinned acrylic paint.

²⁾ Solvent-thinned acrylic paint.

³⁾ 2-component acrylic-polyurethane paint for professional use.

⁴⁾ Solvent-thinned alkyd-epoxy primer.

More information about the paints www.teknos-group.com and www.tikkurila.com.



**Ruukki provides its customers
with energy-efficient steel
solutions for better living,
working and moving.**

This publication is accurate to the best of our knowledge and understanding. Although every effort has been made to ensure accuracy, the company does not assume any responsibility for any errors or omissions, or any direct, indirect or consequential damage caused by incorrect application of the information. We reserve the right to make changes. Always use original standards for accurate comparison.

RUUKKI

Ruukki Metals Oy, Suolakivenkatu 1, FI-00810 Helsinki, +358 20 5911, www.ruukki.com

Copyright© 2014 Rautaruukki Corporation. All rights reserved. Ruukki, Rautaruukki, Living. Working. Moving. and Ruukki's product names are trademarks or registered trademarks of Rautaruukki Corporation.