

Maintenance instruction Luxalon® Metal Ceilings

1.1 Introduction

This document covers the cleaning and maintenance of Luxalon® Metal Ceilings. A Luxalon® Metal Ceiling is by virtue of the use of high quality materials and extensively tested coatings almost maintenance free. However, environmental influences may make it necessary to establish an inspection and maintenance routine. Paragraphs 1.2 t/m 1.4 discuss the sense behind cleaning and maintenance. The other paragraphs cover cleaning and maintenance itself and the appropriate materials.

1.2 Preventing damage

Damage to the surface and/or substrate (base material) can be caused by mechanical actions, by the adherence of dirt or by chemical reactions. During the construction phase there is an enhanced risk for mechanical damages and soiling due to building processes. The general contractor/ installer shall take appropriate measures to avoid damages. It should be prevented that ceiling elements are soiled by cement droplets and/ or other alkaline pollutions. In the event this has occurred, this pollution shall be removed immediately by flushing the ceiling element with abundant clean water. Cement water and other alkaline-type soiling may damage the surface of metal (in particular aluminium) elements. Attention! Perforated ceiling panels with non-woven acoustics tissue glued to the inside **shall never** be cleaned wet due to staining.

In the use phase chemical contamination may occur internally, especially in environments like swimming pools, dairy factories, breweries. Chemical contamination may also occur externally due to traffic (deposit of chemicals in exhaust fumes), dust from brakes or friction on power lines (railway- and metro stations). A strict inspection and cleaning regime shall be maintained to prevent degradation of the ceiling.

Self-adhesive foils used for surface protection shall be removed as soon as possible after protection is no longer required. When let on too long they may damage the coating.

1.2.1 Corrosion

Corrosion on ferrous and non-ferrous metals is caused by, among others:

- Metal particles
- Chlorides
- Soiling

When metal particles from the air deposit on a metal surface, corrosion can develop under influence of moisture. Dissimilar metals in combination with dirt or moisture will cause electrolytic (galvanic) corrosion. Less noble metals are sacrificed in favour of more noble metals. Corrosion often occurs near industrial areas, railways and tramways. In coastal areas high salinity and chloride levels are sources of corrosion. In addition, corrosion can occur due to the interaction of dirt on metal surfaces.

1.3 Preservation appearance

The appearance of metal ceiling elements can be negatively influenced by soiling and weathering and lead to loss of colour and gloss. Timely cleaning and maintenance may prevent or limit detrimental effects.

1.4 Durability of surface treatments

The durability of surface treatments and ceiling elements is negatively influenced by moisture and soiling, interaction of acids, salts and other aggressive substances. To conserve the durability, timely cleaning and maintenance is necessary.

1.5 Cleaning frequency

The cleaning frequency is determined by the level of soiling and weathering of the ceiling elements. Aggressive conditions are:

Environmental factors:

- Located within 25 km from the coasts (salt deposits)
- Located above/near water (condensation)
- Urban areas (emission of exhaust gasses)
- Industrial areas (emission of chemicals, flue gasses , (metal) ore particles)
- Traffic loads (sulphuric compounds, nitrous compounds, brake pad particles, iron and copper particles from railway traffic)
- High temperatures (> 30°C), high RH (>95%) and interaction with chlorides and/or salts (i.e. swimming pools, dairy factories and breweries)

Use factors:

- Difficult access for proper maintenance and cleaning

Table 1 Indication inspection- and cleaning frequency metal ceilings

Indication inspection- and cleaning frequency metal ceilings			
Interior ceilings		Exterior ceilings	
Normal load	Aggressive conditions	Normal load	Aggressive conditions
Inspection: 1x per 2 yr.	Inspection: 1x per yr.	Inspection: 1x per yr.	Inspection: 1x per yr.
Cleaning: 1x per yr.	Cleaning: 2x per yr.	Cleaning: 1x per yr.	Cleaning: 2x per yr.

When one or more of above soiling or weathering factors are present we talk about aggressive conditions; in all other cases we talk about normal loads. The level of corrosion of the coating and/or substrate caused by above factors depends on:

1. Type of metal
2. Type of surface coating
3. Type of application
4. Severity and duration of soiling and weathering factors.

Point 1-3 are agreed upon with the principal (where necessary after consultation with experts) and are part of the product performance as defined by Hunter Douglas, based on the intended use of the product. Pt. 4 is excluded from the influence and responsibility of Hunter Douglas. This is a responsibility of the principal, respectively the user or facility manager who is also responsible for the actual cleaning, maintenance, inspection and repairs (see also par. 1.7). It is important that immediately after finalisation or even during installation the cleaning, inspection and maintenance moments are defined and where necessary adapted to actual situations. These may differ from project to project. The inspection should focus on level and type of soiling and the present soiling factors. The surveyor shall have a sufficient level of knowledge and expertise. Practice has shown that a quality coating when cleaned in time will maintain its protective and aesthetic properties for decades. Table 1 gives a first indication concerning inspection- and cleaning frequencies.

1.6 Cleaning agents

When cleaning is required we advise to clean the ceiling with a slightly damp, non-linting and non-abrasive cloth. A mild neutral (pH=7) detergent (i.e. car shampoo) may be used when necessary. Perforated panels with non-woven acoustic fabric glued to the inside shall never be cleaned wet, due to the risk of staining. The use of water on high mirror surfaces may cause stains. High mirror and high gloss surfaces are also very sensitive for scratching. Grid type ceilings are best cleaned dry utilising a feather duster. It is not recommended to utilise high pressure- or steam cleaners. It is damaging to expose the ceiling to aggressive agents. One should always test the intended cleaning agent on a non-visible part of a panel before commencing cleaning.

1.7 Facility management

The principal shall allow in the design of a building that all ceiling elements can be reached in a safe way, by means of provisions in the building, for inspection, cleaning and maintenance. At hand-over of a ceiling Hunter Douglas will provide a copy of this maintenance instruction for the facility manager. This instruction is also available as download from www.hunterdouglascontract.com. This instruction contains guidelines for preventive maintenance, inspection, cleaning and attention points. As an indication for the urgency and frequency of periodic refer to the information as presented in the inspection- and maintenance matrix (table 1). This matrix is dependent on materials used and environmental influences and may have to be adapted or extended, where necessary.