



# Maintenance manual

# PROTECT YOUR BUILDING INVESTMENT AGAINST WEATHER AND PREMATURE AGEING

Astron buildings are manufactured from materials of the highest quality and are renowned for their long-term durability, whatever the end-use and local environmental conditions.

However, regular inspection will maximize the performance and service life of your Astron building. You have made a major investment – it makes good sense to follow a program of planned inspection and maintenance to ensure that the building remains in first class condition.

Your local Astron Builder is your ideal partner to protect your building investment. Ask for his help in establishing a planned maintenance program.

Your building has been designed and fabricated for a low-maintenance service life. The use of high quality raw materials and high engineering and manufacturing specifications minimize the effects of weather and other environmental factors. Wind and snow loads have been carefully calculated within the structural design thereby reducing the risk of severe weather damage.

Equally, the threats of premature ageing and attack by acid rain, vehicle fumes, agricultural chemicals and other forms of environmental pollution have been lessened by the use of specifically formulated protective coatings on wall and roof surfaces. Furthermore, wall and roof seams and fastening systems include sealants and tapes mastics that have optimal resistance to weathering, ultraviolet rays and ageing.

Astron buildings technology and experience reduce the risk of premature ageing and other forms of damage. A planned maintenance program will further extend service life.

In its simplest form, your Astron building consists of three major elements: the steel structure, the walls and the roof. Each element is designed for trouble-free service. However, a building – like a car – gives better service when correctly maintained.









# BUILDING STRUCTURE

The Astron steel structure has been designed to comply with the wind, snow and additional loads supplied by your Astron Builder. It can also be designed to accommodate future building needs and modifications.

However, where retroactive alterations are being considered, the integrity of the original structural design, are erected, must be taken into account. Astron recommend that you consult your local Astron Builder before proceeding with any work which may have significance for the structural integrity of your building.

This includes the removal of parts such as flange braces or wind bracings. These are structural elements and can not be removed without having contact your local Astron Builder.

Failure to notify your local Astron Builder could endanger human life, the durability and/or structural integrity of your building, and the validity of insurance cover.

Where additional loads are to be imposed on the structural frame, the original design and calculations must be reviewed. Your Astron Builder must be consulted before installing systems such as air-conditioners, heating units, sprinklers or other works which impose extra loads.

These installations may require minor reinforcement work for secure attachment. This can be achieved easily and without altering the aesthetics or structural integrity of the building.

In many countries certain mechanical and structural items, such as bridge cranes, monorails and automatic smoke vents, are subject by law to regular inspections by qualified and legally approved organizations. Builders can recommend on how and with whom to sign an inspection contract.

## **IMPORTANT NOTE:**

Please note that Astron declines any responsibility with regard to damage to the building or to its structural integrity, should any modifications, alterations and/or additional loads, of which Astron has not been notified nor has specifically given its agreement; result in problems and damage to the building.

The steel structure should be checked annually (or as per legal requirements) and if occurring, any abraded or damaged areas should be cleaned to the bright metal and then repainted. Those repairs should be carried out immediately to minimize the effect. In addition we would recommend that on a regular basis you check the wind bracing rods on their tightness. These rods should be tight and not loose. In case you find them loose, they can easily be retightened with the nut and counter nut.

# CLADDING

## **WALLS**

The walls of your Astron building are designed for durability, but regular inspection and simple preventive maintenance will enhance their life. Wall panels of Astron buildings normally have one of the following types of coating:

- superpolyester resin
- PVDF (polyvinylidene fluoride)
- high density polyester

All the above coatings offer excellent weathering resistance, depending on building use and environmental conditions.

## **SURFACE DAMAGE**

Any minor damage to wall surfaces should be dealt with during regular inspections. "Touch-up" paint is available for Astron buildings to match the building color.

More serious damage may require the replacement of the wall panel.

Replacement panels can be ordered for swift delivery and easy repair.

Please consult your local Astron Builder for panel specifications.

## **CLEANING**

Steel walls are less prone to the accumulations of dust and dirt deposits than the walls of conventional buildings. Rain showers will clean the walls of your Astron building. However, should you decide to wash the walls of your building, which could be required for horizontal sheeting, simply use a soft brush, mild detergent or shampoo and large amounts of water.

Do not use abrasive cleaners or chemical solvents. Always clean your

building from top to bottom. Clean a square meter at a time, continually rinsing with water to avoid staining from detergent or shampoo.

## **LANDSCAPING**

When landscaping your Astron building, it is important not to "dig in" the base of your wall panels. The base of the wall must remain free from earth and grass. The gap between the lower edge of the panel and the base profile should be free from dirt and obstructions which may accumulate moisture over long periods and so encourage corrosion. Defoliants used to kill grass and weeds around the base of your building contain aggressive chemical agents which may result in accelerated corrosion of wall panels. Always ensure that chemical agents do not come into contact with Astron wall panels.

## **DOORS**

Swing doors and industrial doors generally receive more daily wear and tear than other building component. They should be repainted regularly. Flashings and closures connecting the wall cladding and door frame should be examined periodically. Door hinges and door gear should be regularly lubricated. A simple door stop, optional part in the Astron delivery, can be used to avoid the door to damage the wall cladding.

## **ALTERATIONS**

Before deciding upon any modifications – such as installing an additional door, window or ventilator – consult your local Astron Builder. He will advise you on how best to achieve the required alteration.











# ROOFS AND GUTTERS

When accessing the roof, it is important that you use the adequate safety equipments as requested by applicable laws and regulations.

An annual inspection of roofs and gutters will prolong the life of your Astron building (or more frequently if required by local legal requirements). Gutters, of course, accumulate water, snow, ice, debris and pollutants. They should be inspected and cleaned at least once a year, perhaps more frequently in areas surrounded by trees.

Once gutters are cleaned, if need be a light coat of bitumen-based paint should be applied to the inside surfaces (only valid for inside gutters in Aluzinc). On those with laminated foil coating, damaged surface must be repaired by a patch of original material.

The annual roof inspection shall include an inspection of the vapour barrier in case of single skin roofs. Eventual holes or cuts in the vapour barrier must be closed to ensure proper building physics performances of the roof. A repair kit is available at Astron.

In regions where there is a high risk of snow and ice blocking the gutters and or downspouts, it must be ensured via a gutter heating system, that gutters and downspouts remain free for water evacuation all over the year.

Annual inspection of the gutters offers the opportunity to carry out detailed inspection of the roof (or more frequently if required by local legal requirements). The area around chimneys and vents should be checked (especially the area of prevailing wind direction) for any sign of fume corrosion of the roof panels. In some situations, it may be beneficial to extend the chimney to reduce

exposure to smoke or to apply protective paint in an area where obvious signs of corrosion are visible.

Be aware of the possible effects of new construction in your area: fertilizer plants, power stations, etc. During walking on the roof it is recommended not to step on the high ribs of the roof panel and the ridge caps. A point load on an upper rib can make a deformation on it and the high rib fixation screw can be damaged. It is recommended to step between the high ribs. It is also recommended not to wear heavy boots with deep profile sole and with nail applications on the sole as stones, concrete, nails and so on may mechanically and/or chemically damage the protection coating of the roof panels.

It is recommended to walk over the supporting purlins as they offer the strongest support for live loads. This zone can be identified on the roof by the line of the fixation of the panel to the purlin. After works performed on the roof all metal filling and other sharp metal items have carefully be removed from the roof by cleaning with a soft brush.

The rust of these metal items can affect the quality of the panel coating. In general the roof has to be cleaned carefully after all works performed on the roof and not used and/or not installed material has to be removed from the roof.

Roof panels of Astron buildings normally have one of the following types of coating:

- Superpolyester resin
- PVDF (polyvinylidene fluoride)
- High density polyester
- Aluzinc (AZA)

# CLEANING

Cleaning routines depend largely on the character of the immediate environment. It may be necessary to wash the roof periodically in industrialized urban areas or near to the coastline, while the mere brushing or roof surfaces may suffice in rural, low pollution areas.

Use similar methods to wash the roof as for the walls, using a soft brush, mild detergent and lots of clean water. Do not use abrasives or chemical agents.

When cleaning, move about very carefully on the roof structure. Do not walk on the high corrugation of the panels. We recommend that only shoes with rubber soles be worn.

Safety must be your priority when working on the roof. Your local Astron builder is fully insured to carry out roof cleaning and maintenance. He also has the right equipment and the trained personnel.

## **SKYLIGHTS / SMOKE VENTS**

When inspecting or cleaning your roof, take special care not to walk over skylights or plastic panels.

If skylights have to be cleaned, use the same procedure as for the roof panels. Check these components for any sign of cracking.

Concerning smoke vents, it is imperative that the smoke vents are checked and tested at least once a year by the constructor or by a certified company. Separate maintenance instructions for smoke vents delivered by Astron are available on simple request from your Astron Builder.

It is recommended to simply paint the top surface of the skylight with a transparent acrylic paint, ensuring again the UV protection.

## **INSULATION**

Astron can provide adequate material (repair kit) to help you to repair all cracks and tears in the facing.

## **INSTALLING PUBLICITY PANELS**

Installation of publicity, or advertising panels, requires points for access and fastening.

Before installing these panels, check with your local builder. He will advise you on correct installation. He can also supply the appropriate sealants and fasteners.

## **CUTTING HOLES IN ROOF AND WALLS**

An upgrading or change of production facilities or other modifications may require the penetration of new pipe work through the roof or walls, or the installation of new ventilators and extractors. In these situations, Astron recommend that you consult your local builder. He has the know-how to ensure that holes are cut and sealed in such a way that weather-tightness and appearance is preserved.





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