

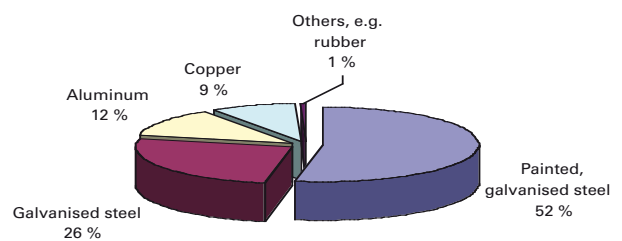
ENVIRONMENTAL SPECIFICATION

Ventilated Cooled Beams



Materials

Ventilated cooled beams are mainly made of hot galvanized steel. Visual parts of cooled beams, i.e. side panels, bottom plates and ceiling brackets, are made of powder painted, hot galvanized steel. The fins of heat exchanger are from aluminum and water pipes are made from copper. Other materials are e.g. EPDM rubber gaskets and hot glue



Convenient Materials

Finishing is sufficient also in demanding environments e.g. against corrosion. Thickness of steel plate (0,75 ... 1,5 mm) ensures the durability of product during the transportation, installation and consumption phase.

Good heat transfer properties are achieved with existing coil materials.

No PVC-coatings, jointing compounds or glues including hazardous substances have been used.

Cooled beams includes following heavy metals: zinc (hot galvanizing $300 \text{ g}_{\text{zinc}}/\text{m}^2$), manganese (steel) and copper (water pipes).



Maintenance and Destruction

The cooled beams requires practically no maintenance during its life cycle, 20 ... 40 years, because there is no filters or moving parts.

However the beam and the ductwork need to be cleaned in every 5 years. This is simple with Halton beams due to the bottom plate, which can be opened easily without any tools.

When cooled beams are carefully designed, there is no noise or drought in the space. The special attention has been paid to the design of air paths to decrease the pressure drop and sound level of the beam.

There is no filters or such in cooled beams, which creates waste. Only in those models, which includes a light, the fluorescent lamp need to be delivered to the collection place of lamps.

Cooled beams are removed during the refurbishment of the space or when the building is torn down.

99 % of weight of the beam is recyclable metals. The whole product can be delivered to the scrap collection.

Energy Consumption

The energy consumption of cooled beam is only 1 % of energy consumption of total ventilation system.

The biggest part of life cycle energy is used already when row materials are produced.

Manufacturing and Packing

Manufacturing is mainly handling of sheet metal. Machining liquids are not used i.e. no hazardous waste is generated. Parts are attached by riveting, gluing or spot welding.

Products, excluding some special colors, are painted with powder painting i.e. there are no air emissions. Grease is removed with water-dilatable detergent before painting and no solvents are used.

Manufacturing generates 800 g of sheet metal scrap per beam meter (7% from raw materials) and 350 g of dump waste in 1997. The amount of damp waste has decreased due to sorting of waste. Hazardous waste becomes only from painting of some special colors (solvents).

Outside surfaces of beams are protected against scratches and dust with PE plastic film. Plastic is removed during commissioning of building and afterwards it can be burned or taken in to the collecting place of PE plastic. Packing is made of cardboard and timber.

Life cycle energy consumption

