



Abcite®

Corrosion Protection



Making playgrounds a safer place for children

Contractor:

McDonald's, of Lys-les-Lannoy, near Roubaix, France and of Fribourg, Switzerland

Project:

To protect the perforated sheet metal structures of McDonald's playground installations against corrosion resulting from ultraviolet rays, moisture and pollution, the constructor decided to use Abcite®, a thermoplastic coating powder from DuPont. The product was also chosen for its soft feel and evenness, which helps eliminate possible injury to children.

Problem:

When fastening sheet metal with screws, the pressure that is exerted may damage conventional adhesive layers such as paint, plastics or shrink film, thus exposing the underlying metal structure to corrosion. In fact, even galvanised steel cannot withstand corrosion forever. In open-air playgrounds, which are continuously exposed to sun, rain, industrial

pollution and engine exhausts, the deterioration of the installations may occur at a rapid pace and require a costly replacement. In addition, a run-down playgrounds is far from being an incentive for visitors to come along with children.

Solution

To avoid damage, McDonald's turned to Abcite®. The product belongs to the new DuPont family of thermoplastic reversible cross-linked copolymer powder coatings, which are easily applied electrostatically after preheating the metal parts. In this particular case, the sheet metal was coated using the fluidised bed dipping process. Good edge coverage of the perforated plates, which form the tower compartments leading to the toboggans, was obtained in a single application, with a 600 µm thick, durable layer of Abcite®. This made it possible to achieve an even and smooth, but firmly adhering, non-porous and thus impermeable surface.

The advantages of such an installation are an attractive and safe playground for children and a sound investment for the contractor.

Features and Benefits:

- Abcite® adheres firmly to most intricate shapes and surfaces.
- Its outstanding resistance to impact (even at very low temperatures), to abrasion and excellent edge coverage, prevent corrosion and therefore deterioration of the coating.
- It has good adhesion to metal and excellent chemical resistance in aggressive environments.
- Abcite® will not chip or flake-off under long exposure to UV and thermal cycles.
- All this allows the part to keep its original look, and results in maintenance cost savings to the end user while making this playground a safer place.

Application case history

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DuPont Powder Coatings