

Specification: ARA-LT[®] „Aluminium“

Laser-transferable aluminium PVD-coatings on PET-films

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Description

ARA-LT[®] „Aluminium“ consists mainly of Aluminium on a PET film. The PET film is transparent for the laser wave length used (1064 nm) and acts as a carrier for the aluminium coating to be transferred.

Depending on the purpose of use and on the product surface, the aluminium coating may be embedded between a release layer and a thin adhesive layer.

The whole coating is made by using the vacuum based coating technology Physical Vapor Deposition (“PVD”).

The coated PET-film is rolled up on a standard core in such a way, that the PVD-coating is located on the inner side.

Purpose of use

With ARA-LT[®] „Aluminium“ different products can be equipped to get decorative and extremely robust markings with excellent mechanical and chemical properties by using a standard marking laser.

A description is given in the operation manual.

When the selective transfer of the aluminium coating was proceeded correctly, for example on ceramic or glass surfaces, then the remaining marking is opaque, extremely abrasion resistant and shows an excellent adhesion.



Photo: Laser-induced PVD-marking, showing “Aluminium” on glass

Suitable product materials to be equipped with ARA-LT[®] „Aluminium“ are glass, ceramics, marble, stone and some plastics.

Technical data

PET film

The corresponding data sheet is given upon request. The standard thickness of

the PET carrier is 72 µm and its width is 30 mm. Depending on request, ARA-LT® “Aluminium” coated PET-films with thicknesses between 12 µm and 100 µm and a width between 10 mm and around 600 mm can be delivered.

PVD-coating

The transferable aluminium coating consists mainly of Aluminium (99,99 %) with a thickness between 300 nm and 400 nm.

Properties of the ARA-LT® “Aluminium” - coated PET-film

- It's mechanical, chemical und thermal resistance is limited by the PET carrier itself (please see the corresponding data sheet).
- Storage conditions: 8-25 °C; RH <60 %; one year

Properties of the transferred aluminium layer

The mechanical, chemical and thermal properties as written below are valid only in case of a correct transfer on a suitable product surface.

- Optical appearance: aluminium colored
- Strong contrast, sharp edges – even on very small graphics and structures
- Adhesion and abrasion resistance: excellent
- Chemical stability: not affected by standard cleaning agents, acids and bases; sterilizable
- Thermal stability: up to 600 °C
- Corrosion resistant
- The product surface is not affected by the PVD-marking process
- The manufacturing is environmentally friendly

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