

E-CTFE (chlorotrifluoroethylene)

Like PVDF, E-CTFE belongs to the partially fluorinated thermoplastics and it is known by the trade name of Halar. The material is a copolymer made from ethylene and chlorotrifluoroethylene.

On account of its chemical and physical properties this partially crystalline thermoplastic is chiefly used in the chemical industry, where high corrosion resistance is required. Owing to the high cost of raw material and the difficult processing sheets are often only offered up to a thickness of 5 mm. E-CTFE is mainly used for lining steel tanks and in composite construction in conjunction with GRP (glass-fibre reinforced plastic). The chemical resistance of E-CTFE is generally between that of PVDF and PTFE (teflon). As opposed to PVDF, however, E-CTFE has good chemical resistance in the alkaline range above a pH of 10.

In addition, E-CTFE possesses a low permeation coefficient, which is particularly advantageous in composite construction. Just like PVDF, E-CTFE is insensitive to UV-A and UV-B light.

Nevertheless, processing E-CTFE is more critical than with PVDF because the welding temperature has a more restricted window. This also applies to thermoforming because E-CTFE has a reduced elongation at break between 165°C and 175°C.

The partially fluorinated high-performance material ethylene-chlorotrifluoroethylene (E-CTFE) is extremely chemically resistant, even in the alkaline range, features low flammability, is physiologically safe and exceptionally weather resistant. E-CTFE has excellent material properties so it is suitable for the most demanding requirements in tank and apparatus construction.

Standard product:

E-CTFE: Partially fluorinated high-performance material

E-CTFE-GK: Partially fluorinated high-performance material, glass fibre backed

Special properties

- high-performance material
- low flammability in accordance with DIN 4102
- extreme chemical resistance, even in the alkaline range
- physiologically safe
- excellent weather resistance