Case Study

Pocan® S 7020 for telecommunications terminal distribution box housings

PBT, injection molding grade, elastomer-modified, UL 94V-0 at 1.5 mm, non-migratory flame-retardancy, good UV stability

Figure 1 Telecommunications terminal distribution box housing made of Pocan® S 7020

A terminal distribution box is a component in a telephone network's line technology and terminates the telephone cable ("local connection cable") leading into the telephone customer's house. Subscriber service lines run from here to the connecting boxes. Older equipment, such as the EVza 25, was designed for cable termination outdoors or in damp rooms. The housing was made of cast iron, and needed time-consuming maintenance (derusting, priming, and coating). To overcome this disadvantage, more recent terminal distribution box housings have been made of polyesters.

The various sizes of terminal distribution box housings in the Unibox series, produced by ADC Krone, are made with Pocan S 7020, ensuring that they also withstand potential limit loads. The excellent resistance of Pocan S 7020 protects the housing even from stress cracks when it accidentally comes into contact with aggressive materials during cleaning, for example. Mechanical damage caused by exceptional stresses, e.g. being dropped from telecommunications masts or impacting onto frozen ground, is largely prevented by the material's outstanding impact resistance and low-temperature impact strength. Naturally, all other standard material requirements for housings of this type are also satisfied. Covers that self-lock in every open position are a key advantage in this series.

Pocan S 7020 is a V-0 product at 1.5 mm and has a high GWFI (glow wire flammability index) of 960 °C. The oxygen index (LOI) is 30 % and the RTI values (relative thermal index) are between 115 and 125 °C. The ALL COLORS listing enables Pocan S 7020 to be used in all colors.

Its electrical properties are also outstanding. With a UL rating (PLC class) of 0, the tracking rate shows the best possible result. It has achieved a PLC classification of 3 for HWI (hot wire ignition) and 0 for HAI (high amp arc ignition) and can thus be used in a wide range of insulation material applications in compliance with UL 508.

Pocan S 7020 is elastomer-modified, which is also evident in its mechanical properties. A strain at break of 10 % and a Charpy impact strength of 120 kJ/m² at -30 °C are reached at a tensile modulus of 2,400 MPa and a stress at break of 34 MPa. The flexural strain at flexural strength is 6 %. The polyester's isotropic shrinkage behavior is another notable feature.

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Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions and the coloring.

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