

Fire resistance of a tubular frame door

Summary



In the course of renovation work at Munich Airport, a 'forster fuego' all-glass steel tubular frame door that had been in use for some 24 years was removed. (Via a drive for hinged and pivoted doorsets connected to the door, it was possible to read off a figure of approximately 8 million opening cycles.) This fire resistant door had qualified for T30 classification when assessed for a national technical approval (*allgemeine bauaufsichtliche Zulassung*) issued in 1987 at the time of its installation. The aim in removing the door was to determine the current fire safety characteristics of a door that had aged under real-life conditions, and to compare them to those achieved by the door when it was new.

The results of the fire test conducted at the **ift** Rosenheim as per EN 1634-1 show that the fire resistant doors made out of thermally broken steel tubular profiles serviced on a regular basis, even if they have been subjected to extreme mechanical loading of approximately 8 million opening and closing cycles and display the signs of ageing and wear that inevitably follow from that, satisfy the requirements of a fire test designed to verify fire resistance, and qualify for T30-FSA classification as per DIN 4102-5 and as required by the current national approval process.

A particularly impressive feature of fire resistant door, which was in constant operation for 24 years, was the length of time for which its steel tubular frame profiles and its fire resistant laminated glass remained fire resistant.

According to the **ift** Rosenheim, the result of the latest fire test is suitable as one of the forms of test evidence required for the national technical approval of a fire resistant door of class T30 as per DIN 4102-5.

From this it can be inferred that even fire resistant doors of the construction type "all-glass steel tubular frame door" awarded a national technical approval by the approving body as far back as 1987 meet the requirements of the current national approval process, and hence also satisfy the requirements of the building regulations of the individual German Federal states for these construction products.