



CASE STUDY

PLASTIC BUSHINGS USED IN HOT AIR BALLON'S WORLD RECORD FEAT

APPLICATION OVERVIEW:
iglide® G300 and W300 plastic bushings were used in the pressurized capsule of this hot air balloon.

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Plastic bushings used in pressurized capsule at high altitudes

A world record for flight altitude in a hot-air balloon partly owes its success to the iglide® plastic bushings used in its pressurized capsule, escape hatches, and lower seat structure.

A conventional hot-air balloon has a large overhead parachute valve, which the pilot opens with a cord when he wants the balloon to descend.

However, in the specially designed balloon used to achieve the world altitude record, this mechanism was accommodated inside a pressurized capsule where two hand wheels were installed on either side of the pilot's seat. These were linked to a drum outside the capsule through a shaft mounted with iglide® plastic bushings. The string to operate the parachute valve was wound onto the drum.



By winding the hand wheels, the pilot could open or close the parachute valve and control the descent of the balloon. The balloon

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envelope was approximately ten times bigger than the average passenger balloon, so this descent system was absolutely crucial.

iglide[®] plastic bushings were also used in the main and escape hatch operating levers. Although these were all mounted inside the capsule and not subjected to extreme temperatures, they still had to be extremely light and completely reliable.

The bearings additionally enabled a simple, lightweight sliding-seat support to be built, which could absorb the bulk of the load resulting from a heavy landing, when integrated with a pair of variable rate gas struts. This reduced the likelihood of pilot injury. On the day, the pilot was able to make a good landing despite difficult conditions and this shock absorption system was not called into play. However, this was imperative to have as a backup safety feature.

Wear resistant despite extreme conditions

iglide[®] G300 and iglide[®] L280 plastic bushings fulfilled the project's requirements for lightweight bushings resistant to high temperatures. These bushing materials are also extremely wear resistant, even when subjected to extremely demanding environmental conditions.



More product information

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