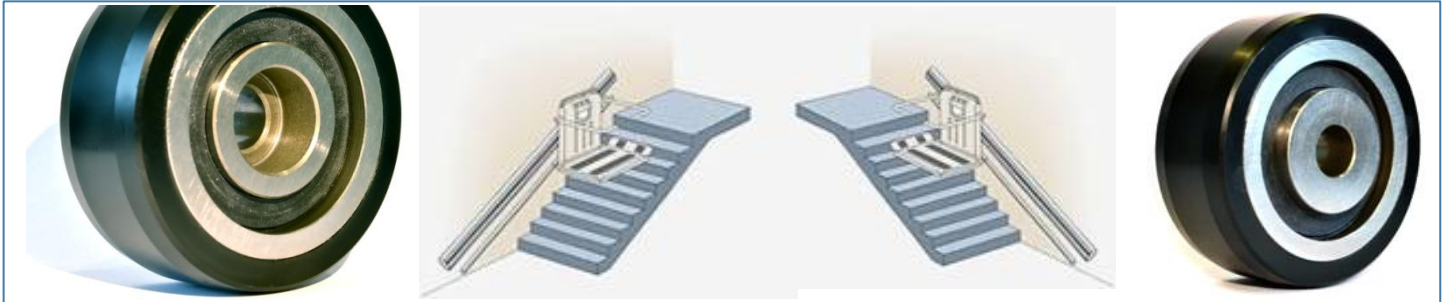


## Special profile roller for stairlifts



### Background

- The stairlift application is a difficult one for overmolded rollers. The stairlift chair steel guide rail, needs to have high quality rollers to support heavy loads, at a high offset moment, and on inclined stairs up to 52 degrees.
- The roller can rest in the same position for a long time, and the roller polymer must not “flat spot”.
- The equivalent of 10 years service life, at maximum load and stair incline is the project objective.
- Low noise with lubrication for life, without grease leakage is a much needed roller attribute.
- The material used for the roller should not be too hard so as to damage the guide rail.

### JESA Innovation

- JESA developed a glass fibre reinforced polymer roller to suit this demanding application.
- JESA used it's unique overmolded bonding method, on a special steel bearing, to produce the roller assembly.
- The interface between the polymer molding and the special steel roller enable the roller to absorb side loads without “de-tyreing” the polymer wheel.
- JESA's research and product testing resulted in a successful special outer profile design and finish.
- Customized sealing and lubrication solutions were also developed.

### JESA Solution

- The use of JESA's Chinese experience for the steel roller, as well as the JESA Swiss knowledge of mixed material integration and polymer know how, provided the exact solution for the customer.
- Accelerated testing at maximum load, in the most difficult stairlift application, resulted in well over 10 years maintenance free life time being achieved.
- An innovative solution that exceeded the design brief and reduced the customer costs.

### Customer Benefits

- The customer now receives the whole solution from one supplier as opposed to buying a standard bearing and sub-contracting out the polymer molding.
- The customer has increased the products life time from 5 years on the old rollers to over 10 years with JESA's expertise.
- Flexible delivery arrangements to suit fluctuating build requirements.
- Reduced costs of manufacture and maintenance.

