

Transportation - Automotive

The visual appeal of polished stainless steel is regularly used to good effect in enhancing the outward appearance of modern road vehicles of all types. Where quality and durability are the primary considerations, stainless steel is often chosen in preference to other metallic materials and coatings.

Less widely known, however, is the important functional role that stainless steel has to play in automotive construction which, in volume terms, greatly outstrips the market for decorative trim. Here, the unique properties of the material make it the optimum choice for unseen, but vitally important component parts. This is easily illustrated by selecting two out of many examples:

- The material's outstanding corrosion resistance provides a solution to the age-old problem of rotting exhaust silencers and catalytic converters. The problem is double-edged, as hot exhaust gases attack the inner surfaces while water, salt and general road dirt attack the exterior. Where carbon steel and various coatings have failed, stainless steel has provided the modern, cost-effective solution.
- Significant future growth is foreseen in the use of stainless steel for key structural components in automotive construction. Due to its unique mechanical properties, stainless steel can add an extra dimension of passenger safety, especially in the way that a large part of the energy produced in a collision is absorbed as the material deforms under impact. This property is already put to good effect in the design of modern large passenger vehicles such as buses, but the future potential in all types of road vehicle is immense.

The publications in this section offer information on the practical, economic and safety advantages of using stainless steels in the field of automotive transport, one of the fastest-growing end-use sectors for the material.