oerlikon balzers

TruStory

Superior part quality in production of internal automotive pressed panels

Automotive manufacturer UNIPRES substantially improves productivity using BALINIT® FORMERA

The challenges faced by automotive manufacturers are bigger than ever before, with increasingly stringent CO2 emission and passenger safety regulations requiring vehicles that are both more lightweight and more robust at the same time. Many new models contain a larger amount of modern, ultra-high-strength steel (UHSS), which meets these demands but is very difficult to process, meaning that tool service life is shorter and consequently that productivity is lower, and costs are higher. As a result, tools used in forming UHSS components need surface solutions offering even higher performance in order to guarantee high quality and productivity in these demanding applications.

Tier 1 supplier UNIPRES is well aware of these requirements. Based in Sunderland in the North East of England, the company presses sheet metal for automotive manufacturers and specialises in high-strength steel pressing, tailored blank welding and hot pressing technology to make components lighter and safer. The company has high-output 3,000-tonne transfer presses and state-of-the-art hot press machines to ensure it has a wide range of ways to meet the ever-changing demands of its customers.

UNIPRES, states: “The quick onset of wear reduced the service life of our tools, thus producing a high scrap rate after 100,000 strokes with a CVD-coated die, which heavily

Factbox

UNIPRES

UNIPRES (UK), established in 1987 in Sunderland, UK, manufactures a range of press-formed body in white automotive components.
http://www.unipres.co.uk

Challenge
- High production volume
- Producing consistently high quality
- Wear causing short tool service life
- High scrap rate after 100,000 strokes with a CVD-coated die

Objectives
- Highest product quality
- Maximum tool service life

Solution
BALINIT® FORMERA

Features and benefits
- An especially durable coating
- Outstanding coating adhesion
- Very good protection against abrasive and adhesive wear
- Consistently high productivity when forming difficult-to-process steels
- Reproducible coating thickness
- Significantly longer tool service life
- Forming technology for automotive manufacturers: makes tools last 6 times longer

impaired our productivity." Stoppages in production had a domino effect: production costs and material losses due to the scrap rate increased, which in turn meant overall component manufacturing costs grew high enough to become a financial burden and reduced our overall efficiency.

To guarantee high productivity in the challenging process of forming these materials, especially durable coatings such as BALINIT® FORMERA that can withstand the demands of UHSS forming applications are required. UNIPRES is one of a number of manufacturers using BALINIT® FORMERA to coat their tools.

"We tested lots of different coatings, but none came near the performance of BALINIT® FORMERA. The coating from our previous provider lasted 120,000 strokes. Since we started deep drawing with BALINIT® FORMERA we have nearly reached 1 million strokes, and our tools are still in operation." Expert advice and consultation also matter to UNIPRES: "That was why we came to Oerlikon Balzers. When we spoke to Andrew Murray, Product Manager for metal forming tools, it was immediately clear that he had a wealth of experience and expertise and we knew that BALINIT® FORMERA would be the best solution for our applications. This coating from Oerlikon Balzers has hugely increased our productivity", they state.

BALINIT® FORMERA hasn't just made the tools used by UNIPRES last six times longer; it has also reduced the preventive maintenance frequency of the form tools significantly. This has also played a key role in increasing the company's efficiency.

About Oerlikon Balzers

Oerlikon Balzers is one of the world's leading suppliers of surface technologies that significantly improve the performance and durability of precision components as well as tools for the metal and plastics processing industries. Extremely thin and exceptionally hard coatings marketed under the BALINIT and BALIQ brand names, reduce friction and wear. The BALITHERM brand opens up a broad range of heat treatment services, whereas BALTONE comprises coatings that are available in a full range of elegant colours, perfectly suited for decorative applications. BALIMED ThinFilm coatings, with wear-resistant, biocompatible, antimicrobial and chemically inert properties, have been developed especially for medical applications. Under the BALIFOR technology brand the company has introduced technologies which provide tailor-made solutions for the automotive market, while ePD allows the metallisation of plastic parts with a chrome look.

Worldwide, more than 1'300 coating systems are in operation at Oerlikon Balzers facilities and its customers. Equipment engineering and assembly of Balzers' systems are processed in Liechtenstein, in Langenthal (Switzerland) and in Bergisch Gladbach (Germany). Oerlikon Balzers operates a dynamically growing net-work of more than 110 coating centres in 36 countries in Europe, the Americas and Asia. Oerlikon Balzers is – together with Oerlikon Metco and Oerlikon AM – part of the Surface Solutions Division of the Switzerland-based Oerlikon Group (SIX: OERL).

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