PRESS RELEASE
October 18, 2012

Docol 1400 MZE – the safest Ultra High Strength, electro galvanized steel for the automotive industry

Sweden: To meet increasingly stricter demands from the automotive industry, the popularity of Ultra High Strength Docol MZE steels from SSAB, which feature an electro galvanized coating, have increased rapidly. Now, the next generation of these steels, Docol 1400 MZE, is providing automotive manufactures with a way to take safety, innovation and cost-efficiency to a new level.

Docol MZE – Ultra High Strength, electro galvanized coating

Docol MZE steels from SSAB offer many benefits that make developing more competitive car safety applications a reality. They are stronger, safer, lighter and come with a highly corrosion resistant electro galvanized coating that stands the test of time. They are developed in a tightly controlled process that ensures consistent, high quality steel. And they provide OEMs and automotive suppliers with a new way to offer customers innovative products, while maximizing cost-effectiveness.

“Our Docol MZE steels represent the strongest UHSS steels that SSAB produces for the automotive industry. What may be surprising, however, is the combination between the ultra high strength and formability, weldability and consistent mechanical properties, which are all important aspects when it comes to designing safety applications,” says Joachim Larsson, Head of Structural Technology at SSAB’s Knowledge Service Center.

Many companies throughout the world have already benefited from Docol MZE. One of them is Beycelik Gestamp, one of Turkey’s largest automotive Tier 1 suppliers for the production of exposed parts, body in white parts, chassis parts, bumpers and pedals. For a new side impact beam they chose Docol 1200 MZE due to the best combination of low weight, crash performance and corrosion protection.

The next generation of Docol MZE – Docol 1400 MZE

Docol 1400 MZE is the safest UHSS electro galvanized steel for the automotive industry. It allows applications to obtain the highest crash performance, while ensuring complete resistance to hydrogen embrittlement. Docol 1400 MZE can be used for side impact beams, bumpers, battery protection for hybrid/E cars, sill reinforcements, tunnel reinforcements, as well as cross and floor beams, but many more possibilities exist.

Processing references

”For years, Docol 1400 MZE has been produced and used in automotive applications from the world’s largest car manufacturers. And our customers have provided a lot of positive feedback from using this Ultra High Strength Steel grade,” explains Anke Meyer, Manager Marketing SSAB EMEA.

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Recently, Gestamp Metal Forming Germany tested Docol 1400 MZE in a production line for a side impact beam normally made from cold rolled 1200 MPa steel. The results were very positive.

“We ran Docol 1400 MZE with the same settings in the production process as for a cold rolled 1200 MPa steel and did not have any problems. The result was a side impact beam with a reduced weight and better cost-efficiency. No investments were made in order to run with Docol 1400 MZE,” explains Manfred Lonnemann, Planning Press Plant, Gestamp Metal Forming, Germany.

Furthermore, the Danish steel forming specialist, IB ANDRESEN INDUSTRI, recently tested Docol 1400 MZE in one of their roll forming lines.
Per Rasmussen, Roll Forming Director at IB ANDRESEN INDUSTRI explains: "During the test runs in Docol 1400 MZE, we experience absolutely no problems in the production. We were able to achieve the demanding narrow radii required to produce the profile without making any changes to the tools or equipment in our production process. For future applications, we will definitely take Docol 1400 MZE into consideration when proposing new steel grades to our customers."

Wide range of benefits

Docol 1400 MZE not only supports in obtaining the highest crash performance and safety in production, it also provides many other important benefits like cost-efficiency, increased productivity, as well as excellent forming and welding properties. As a cold forming steel, less energy is needed for trimming processes than with hot stamped boron steel. This allows for more productivity and can translate directly to a significant cost savings. Furthermore, Docol 1400 MZE is also more cost-effective than other lightweight materials like aluminum, magnesium and carbon fiber reinforced plastics.

The unique strength and technical properties of Docol 1400 MZE mean that the amount of material needed for manufacturing an application can be reduced by utilizing thinner dimensions. At the same time, conventional production equipment can be used.

Docol 1400 MZE can also be welded using all standard methods thanks to its very lean chemical composition, while complex shapes can also be formed using both stamping and roll forming techniques.

Institute of Road Safety

Recent tests performed by the Institute for Road Safety at Engineering University also confirmed numerous performance benefits.

“The 3D laser scanning of the safety parts made with Docol 1400 MZE presents perfect shape accuracy compared to their original CAD data. Crash tests of side impact beams made with Docol 1400 MZE show that this UHSS steel grade has a very large energy absorption capacity. The increase in use of UHSS Martensitic grades is a good contribution to improving the passive safety of the car,” says J.J. Alba, Head of the Institute for Road Safety at the Engineering University in Saragossa, Spain.

Image text:

1. Joachim Larsson, Head of Structural Technology at SSAB’s Knowledge Service Center
2. Gestamp side impact beam made from Docol 1400 MZE with reduced weight and better cost-efficiency.
3. Many structural components for the automotive industry can be manufactured from Docol 1400 MZE.

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SSAB is a global leader in value added, high strength steel. SSAB offers products developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has employees in over 45 countries and operates production facilities in Sweden and the US. SSAB is listed on the NASDAQ OMX Nordic Exchange, Stockholm. www.ssab.com.