



## Case study

### Ympress® Laser

- Project name:** Reliable supply of top-quality laser grades
- Project:** Light casings, shopfittings, engine flanges, crossmembers
- Client:** hp-polytechnik oHG via MCB Deutschland
- Product:** Ympress® Laser E250C and S420MC in 2-15mm



# HP-POLYTECHNIK AND MCB DEUTSCHLAND

## Ensuring efficient laser cutting for top-quality components with Ympress® Laser

Demands in respect of surface-finish quality of sheet metal parts have increased considerably in recent years, while sustained cost pressures in metal processing are driving the need for maximum production efficiency. To meet both challenges, a holistic view of the process chain is critical to hp-polytechnik from Iserlohn, Germany.

As a specialist in the processing of thin sheet metal, hp-polytechnik handles more than 800 tonnes of material every year. Using a wide variety of materials such as stainless steel, steel sheet, aluminium, tin and copper, the company produces blanks and components for customers in sectors such as sanitation, lighting, shopfitting, machine tools and decorative waste systems.

hp-polytechnik handles the whole sheet metal processing chain for its clients, e.g. laser cutting, stamping, folding and further processing, including deburring, welding and grinding. If required, it also supports its customers with product design and specialist advice in selecting the best material for each application.

By focusing completely on the needs of their customers, hp-polytechnik is aware of their requirements regarding cutting quality and paintability of the ordered sheet metal parts. The company addresses this with an extensive portfolio of different grades, the smart selection of the appropriate material and an in-house deburring center for the finishing touch. hp-polytechnik has noticed that it often is already the purchase of the appropriate material that decides whether a high-quality component can also be produced cost-efficiently.

The heat associated with laser cutting can release tension in the material, leading to distortion. In the worst-case scenario, this can lead to damage in the processing line or



require time-consuming post-processing to correct the distortion. However, the additional processing means either additional costs for the customer or, when not incorporated within the offer, losses for hp-polytechnik. Laser-optimised steel grades are thus crucial.

### **New product recommendation by MCB Deutschland**

Against this background, MCB Deutschland introduced Tata Steel's Ympress Laser to hp-polytechnik. The steel grade has been specifically developed for efficient and precision high-speed laser cutting. The homogeneous, hot-rolled steel combines reliable flatness with excellent surface quality. This laser-optimised steel helps hp-polytechnik to reduce the post-processing efforts and customers benefit of a high-quality product at lower overall costs.

MCB Deutschland has been an important material supplier to the company since hp-polytechnik was founded in 1995. The metal wholesaler is part of the MCB Group and sets great store by close customer relationships, as a distributor can only recommend the right material when it knows exactly the purpose for which a material is required, the processing steps it will undergo, and the kind of demands faced by the end product.

When hp-polytechnik experienced difficulties in sourcing laser grades paired with a continued rise in customer quality demands, MCB Deutschland's detailed knowledge enabled it to recommend Tata Steel's Ympress Laser as an alternative. Because the customer criteria included not only laser cutting, but also good surface quality and flatness as well as excellent edge quality.

“With price pressure increasing, it is crucial for us to produce as efficiently as possible and to take also downstream processes into account. Therefore, we must be able to rely on consistent material characteristics. Using Ympress® Laser means less time for post-processing, which gives us greater reliability when calculating our tenders.”

Markus Kahlert, Mechanical Engineer of hp-polytechnik oHG

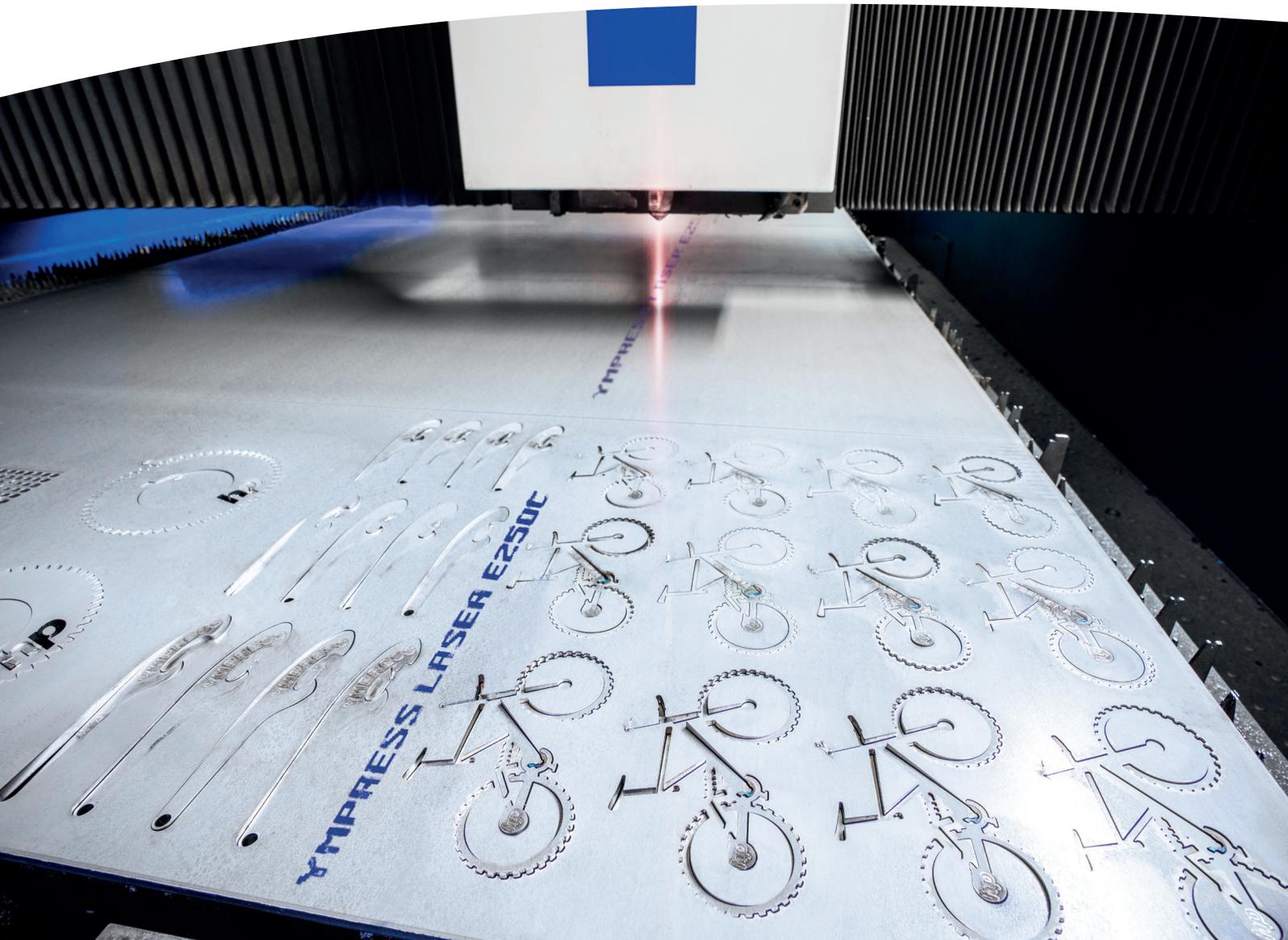
#### Usage benefits of Ympress Laser

Following a test phase, hp-polytechnik adopted Ympress Laser into its range as a new laser-optimised grade. The company now uses Ympress Laser E250C and S420MC in thicknesses from 2 to 15mm, with its greatest requirement being for 3mm Ympress Laser S420MC and 5mm E250C. Their high strength means these grades are used for light casings, as support elements for ceiling mounts in shopfittings, crossmembers for e.g. cranes, circlips, engine flanges, stiffening brackets and in machine building.

hp-polytechnik was convinced by Ympress Laser's guaranteed product characteristics even after laser cutting and its consistently tight dimensional and flatness tolerances. The constant processing quality favours

automated manufacturing, and fabricating the laser-optimised steel requires less time-consuming post-processing. For instance, Ympress Laser is considerably faster to deburr than conventional steel grades. Moreover, cutting it is 10 to 15% faster for hp-polytechnik. All-in-all, processing Ympress Laser – including laser cutting and deburring – takes the company significantly less time, making the little higher material costs economically viable in the end.

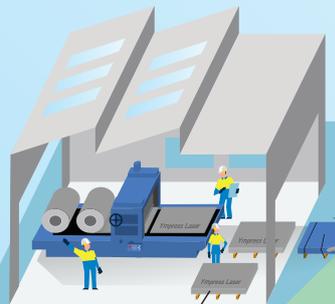
One of the challenges faced by the specialist fabricator is highlighting these benefits and material features in customer discussions. MCB Deutschland therefore provides support with sales personnel specifically trained in Ympress Laser as well as sales and marketing material from Tata Steel. This materials expertise helps hp-polytechnik providing added value for its customers by identifying the best material for the specific application, which ultimately benefits the end product.



# Ympress® Laser

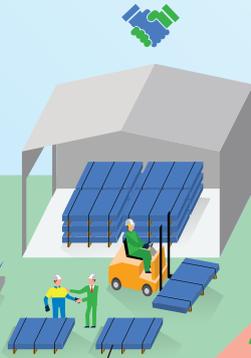
Tata Steel carefully controls every step in the supply chain - from manufacturing at our mill, through decoiling and sheet delivery via partner to end customer.

## Product & processing



- Exceptional flatness
- Excellent surface and cut edge quality
- Customer technical support through the chain

## Partner



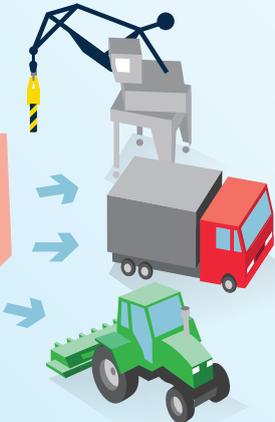
- Reliability of supply

## Customer



- Right first time
- Increased productivity
- Improved part yield
- Better end product quality

## Applications



### Reliable and flexible supply chain

Because hp-polytechnik manufactures to customer specifications, flexible material supply is a key consideration. This facilitates fast project turnaround at short notice without the need to maintain costly inventories. As an official distributor for Ympress Laser, MCB Deutschland delivers the required quantities within 24 hours. The metal wholesaler gets its coils directly from Tata Steel and de-coils in-house or at approved Ympress Laser processors.

Tata Steel produces Ympress Laser in IJmuiden (Netherlands) and ensures consistently tight dimensional and flatness tolerances. Strict monitoring and control of the steel's chemical composition and process parameters safeguards the guaranteed, constant product characteristics.

High quality standards apply to the entire supply chain to bring the benefits of Ympress Laser to the end customer, too. Standardised, recyclable protective packaging, controlled

storage in defined temperature zones and precise technical specifications for decoiling mean this premium product reaches the next processing stage in perfect condition.

“We nurture collaborative relationships with our customers. The better we know their business, the more able we are to provide them with the best material for the job. We also handle supply-chain management, which frees them up to concentrate on their core business.”

Thomas Bauer, Team Leader Steel of MCB Deutschland

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