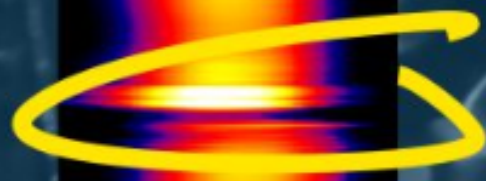


ThermoProfilScanner



inline

Weld Seam Monitoring

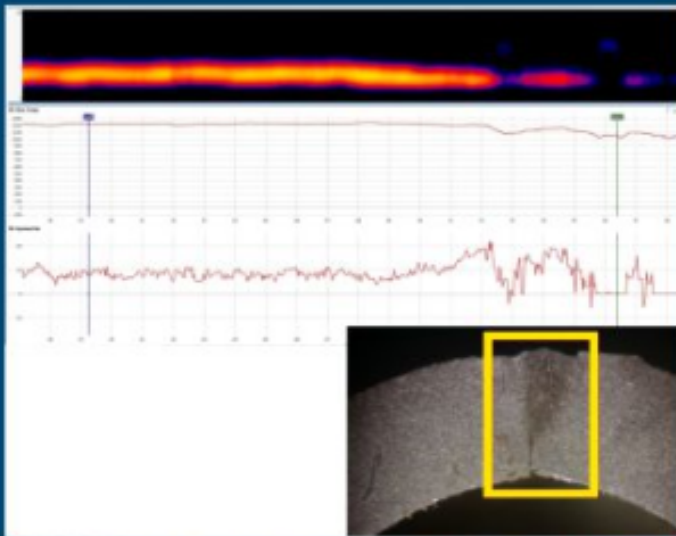
- Approved method of non-destructive testing
- Passive thermography of the cooling seam
- Special IR-camera for welding applications with low maintenance

HKS-Prozesstechnik GmbH
Heinrich-Damerow-Str. 2
D-06120 Halle / Saale
Tel. +49 (0)345 68309-0
Fax +49 (0)345 68309-49
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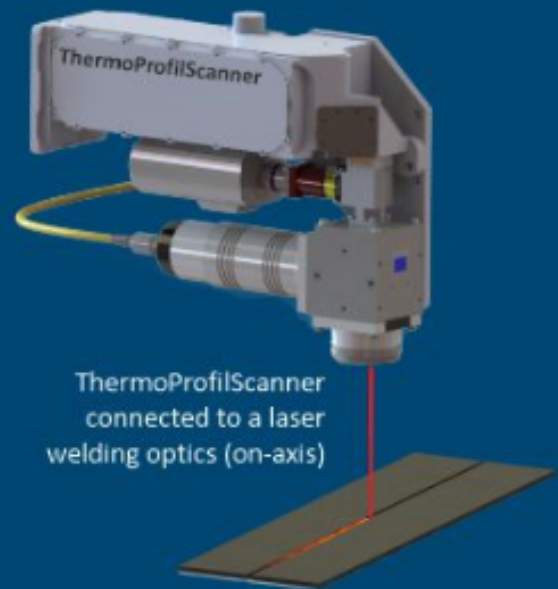


AN ESAB® BRAND

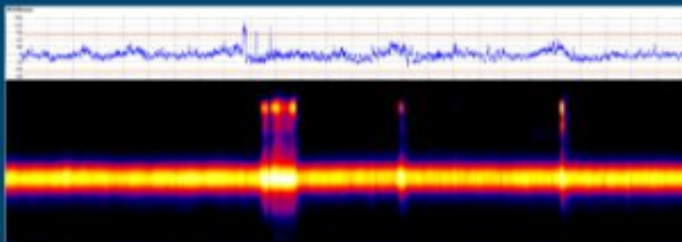
Laser Welding Applications



Asymmetric penetration: detected in the thermal field



ThermoProfilScanner connected to a laser welding optics (on-axis)



CO₂-laser welding with plasma disturbances: detected in the thermal field

- Incomplete penetration
- Asymmetrical penetration
- Misalignment problems
- Holes
- Porosity
- Plasma disturbances

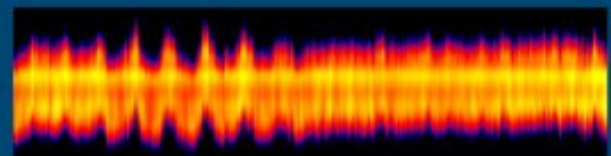


ThermoProfilScanner

CO₂-laser welding (off-axis)

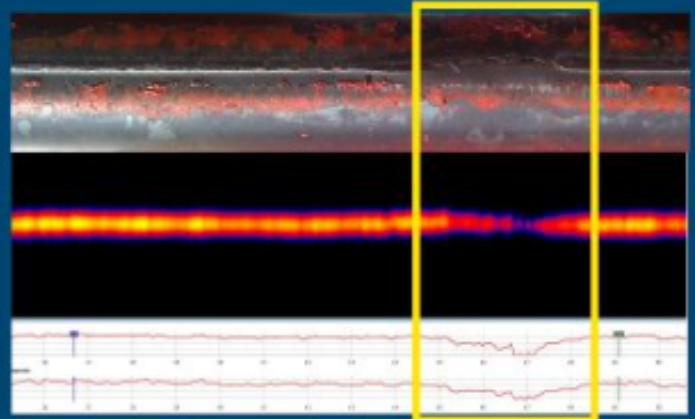
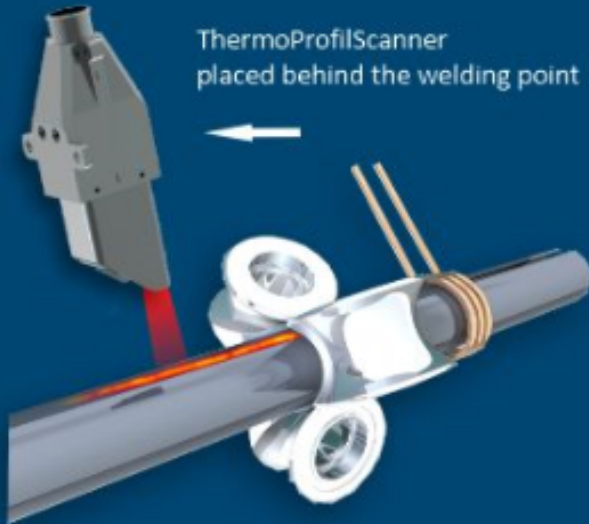


GUI during welding with automated seam evaluation



CO₂-laser welding with disturbances of the process gas detected in the thermal field

ERW Welding Applications



- Seam monitoring for **reproducible quality**
- **Automatic marking** of faulty parts
- **Visualisation** of the welding process
- Reducing of setup time
- Documentation and traceability of the NDT results

- Cold welds
- Roll pressure
- Edge offset
- Power drops
- Damaged coil edges

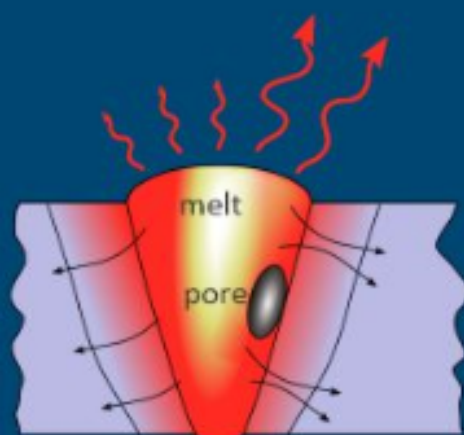


- ➔ 100% monitoring of weld seam
- ➔ Scrap reducing by real-time monitoring
- ➔ Reliable seam quality

Control cabinets in different versions for your needs

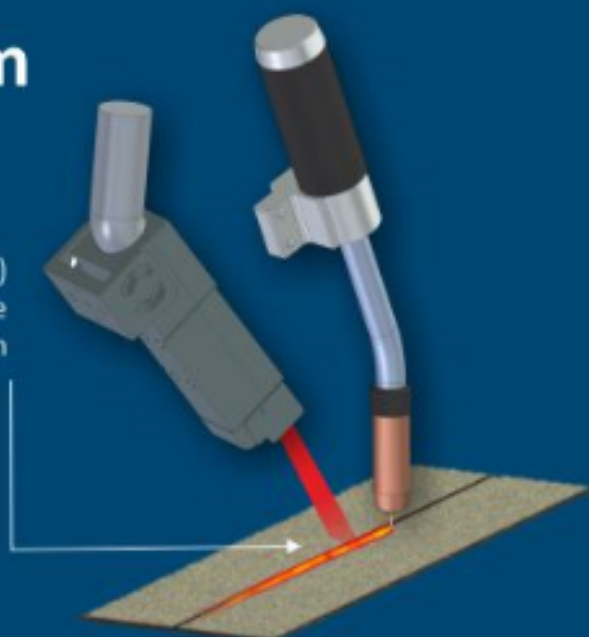


A look into the welding seam



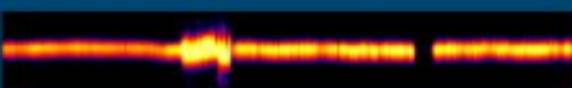
The ThermoProfilScanner (TPS) measures the heat zone of the cooling seam

The disturbed heat flow, caused by a pore, changes the heat radiation



Welding Irregularity

Abnormal Welding Profile



- Volumetric non-destructive testing of the weld seam based on thermography
- Measurement of the thermal field and calculating seam parameters like temperature, width and symmetry in real-time
- Automatic evaluation, marking and sorting of faulty parts or seams

- ➔ Worldwide applied since 2007
- ➔ Wall thicknesses: 0,05 to 25 mm at steel, copper, titan and others
- ➔ Application: tube manufacturing, automotive, medical technique, energy industry, aerospace, ...

Designed to withstand the conditions of a harsh welding environment:

- Optional with self-cleaning spatter shield
- Resistant against smoke, heat, vapour and shocks
- Low maintenance construction



Arc Welding Applications

