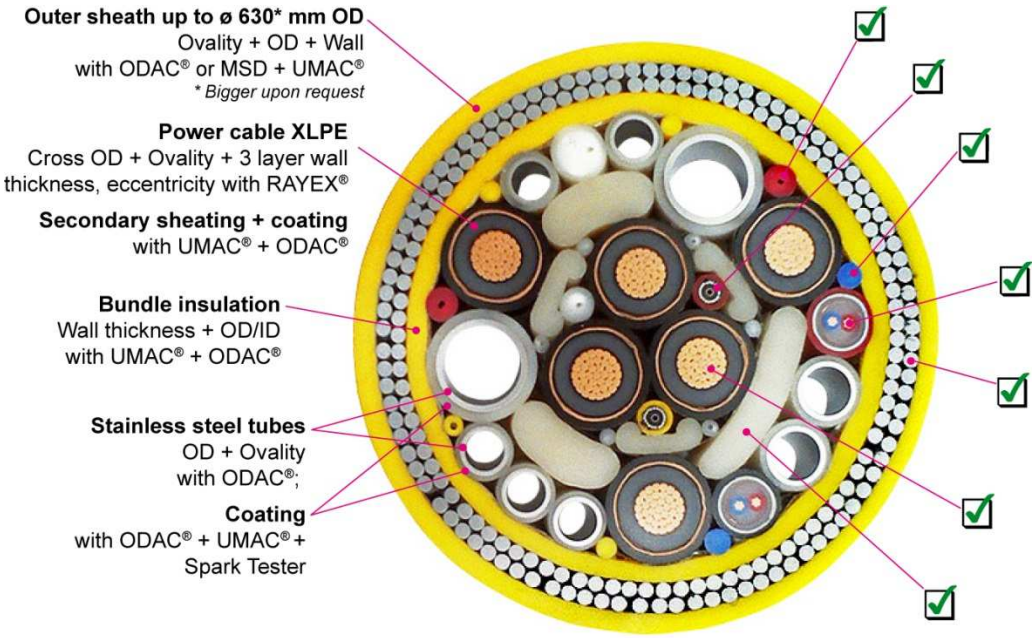
SWISS PRIME MEASURING SINCE 1957

Press Release

All Components in View -
Measure Any Offshore Flexible with Instruments from Zumbach

The production of offshore Flexibles involves complex process's requiring varying individual performances for quality control. Any deviations from the required standards can risk horrific consequences if failure occurs depending the application scenarios.
In order that the risks for future product failure are eliminated during the manufacturing processes, such as wire drawing, profile rolling / extruding, stranding and sheathing, ZUMBACH provides reliable solutions for the measurement of all critical parameters.

Zumbach has measurement solutions for nearly all wires, cables, tubes and profiles:



Picture: Any Offshore flexible can be measured with gauges from ZUMBACH

3-axis ODAC 550 system, measuring an Offshore cable of 500 mm OD

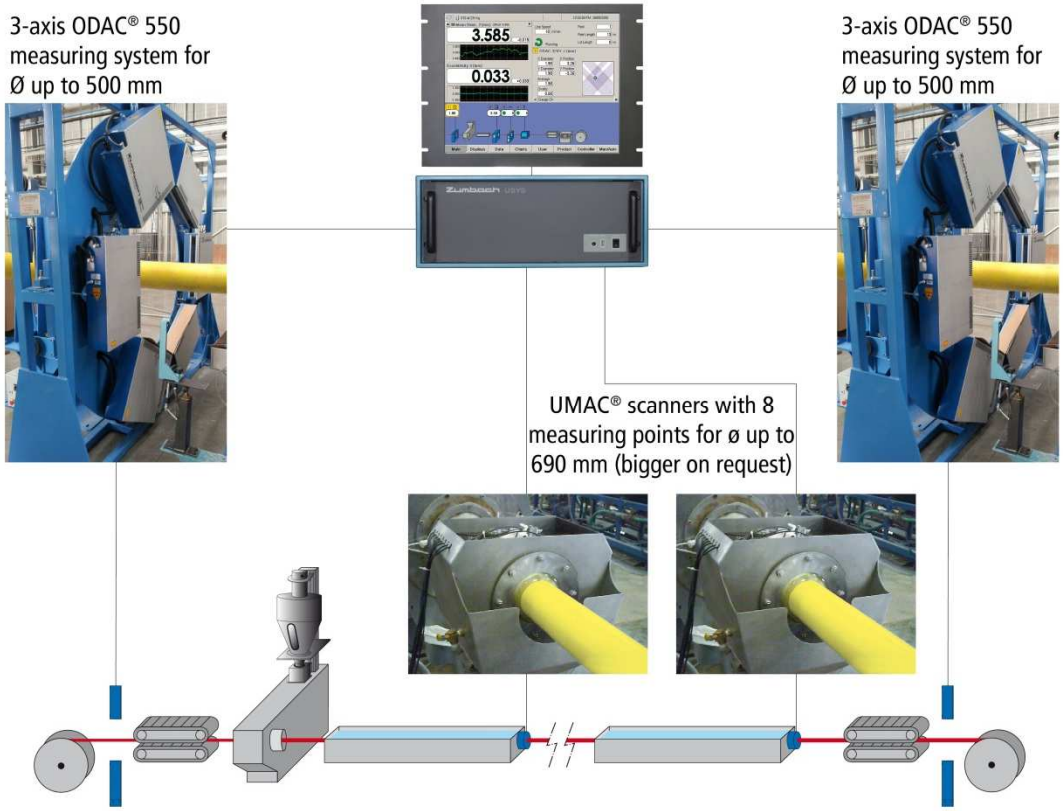
If continuously improving quality is your target

Is your specialty industry gas, oil, energy generation by wind farms, or wave power? Find out more about our modern measuring and control techniques for your application if your target is a better quality.

Step by step all values under control

From the first seconds of extrusion, ultrasonic measurement systems (UMAC®) with up to eight real measurement points, allow the eccentricity, independently of the material temperature to be measured. Once the eccentricity of the cable is optimized, it comes down to the next stage of maintaining the required average wall thickness and then further to derive the minimum wall thickness limitation. These measurements are typically performed before and after the extruder by ODAC® and UMAC®. An additional measurement of the outside diameter at the end of the line allows the integration of the measured cold diameter value. This allows the determination of the shrinkage, which can thus be fed back within the process to realize optimum configuration.

Similar approaches generate quality improvements in pipe extrusion. At the beginning of the process, the eccentricity of the pipe must be brought under control, then the wall thickness and finally outer diameter as quickly as possible. The optimization of the wall thickness and the monitoring of the outside diameter is also ensured by the combined and cost-effective ultrasonic and laser measurement technology from Zumbach.



Picture: Customer specific solution with ODAC® and UMAC® gauges in an extrusion line for products up to 500mm OD.

Switzerland *(H.Q.)*
ZUMBACH Electronic AG
P.O. Box, CH-2552 Orpund
Tel.: +41 (0)32 356 04 00
E-Mail: sales@zumbach.ch
www.zumbach.com

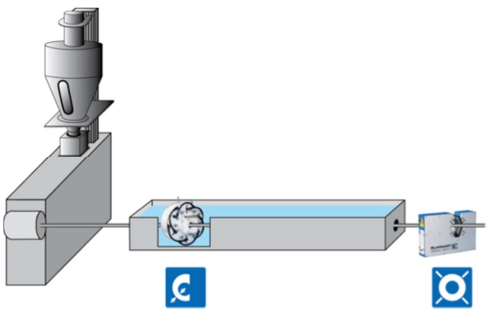
Accurate process monitoring and quality control during cable and pipe extrusion
In the extrusion of cables or pipe jackets, UMAC® ultrasonic measurement ensures early notification of product centralization and achieved Wall thickness. UMAC® measures and controls parameters such as eccentricity and wall thickness for up to 5 layers of materials at a maximum of 8 individual measuring points around the circumference. Additional installed ODAC® or MSD® diameter measuring heads benefit by checking the diameter and ovality. Using these technologies, allows the manufacturer to closely monitor the extrusion processes and thus continuously maintain the quality requirements.

Dual Loop Strategy maximizes quality on extrusion lines

Control solutions such as Zumbach's dual-loop method, as example, takes into account the product properties in both the hot and cold conditions. The resultant reported data is determined from a combination of the diameter measurement using ODAC laser measuring heads and UMAC ultrasonic eccentricity and wall thickness scanners.

Wherever several ZUMBACH systems are used in combination, remarkable successes can be achieved in DLP measurement and control.
Considerable thought should always be given to investing in several high precision and reliable control technologies within the extrusion line. After all, global material costs are rising just as fast as quality requirements. Whether it is quality improvement for very precise cables or further material savings for commodity tubing – with the ZUMBACH hot end dual loop control strategy, the extrusion can be monitored and controlled even more precisely and quickly.
The unique and cost-effective process exploits the benefits of ultrasonic measurement and perfects it in combination with laser scanner technologies.
The intelligent solution offered by the ZUMBACH control strategy makes allowance for the product's properties at the hot and cold ends of the line. It utilises data from the diameter measurement, determined from the ultrasonic eccentricity and wall thickness scanner UMAC®. These data measurements are automatically adjusted based on the data from the ODAC® laser diameter scanner at the end of the line and evaluated.

This creates a very fast control feedback loop (due to the short distance from the point of change to the point of measurement) while still basing the control decisions on the final diameter measurements. Using this dual loop, transient deviations can be minimised, in turn leading to a significant reduction in standard deviation and ultimately an increase in the process capability index (CPK).



Picture: Dual Loop configuration with UMAC® at the hot end, and ODAC® at the cold.

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ZUMBACH Electronic AG
P.O. Box, CH-2552 Orpund
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E-Mail: sales@zumbach.ch
www.zumbach.com