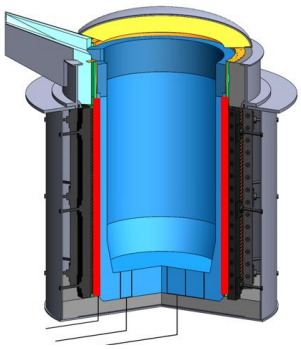
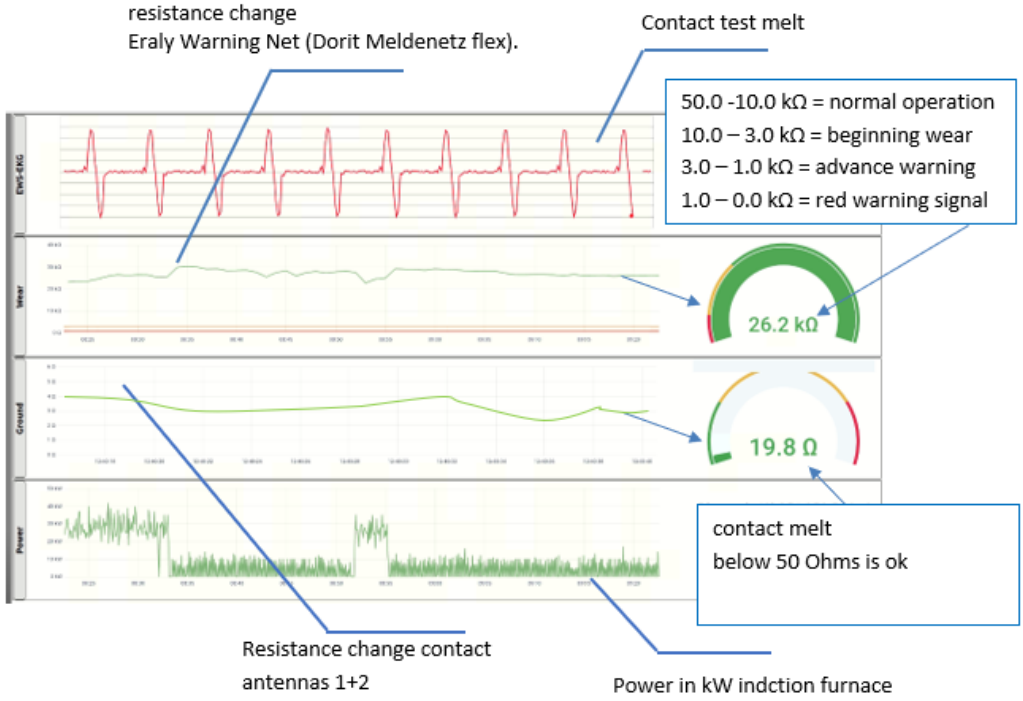
EWS 2.2 Early Warning System

EWS 2.2 is an assistance system for real-time wear indication of the refractory lining of induction crucible furnaces. In this context, EWS is a novel and cost-effective monitoring tool for the furnace operator, which allows to operate the furnace and its refractory lining in a safe and controlled manner with optimized service life. The EWS 2.2 is used to monitor metallic infiltrations between the wear lining and the permant coil grout, which is applied to the water-cooled coil body of the induction melting furnace.



Installation of the detection mesh, instead of the mica sliding layer, easy to cut



Online display of the proportional change of the refractory resistance with decreasing lining thickness

For this purpose, a detection mesh is used between the coil grout and the wear lining, instead of the normally used mica sliding layer. This detectionmesh combines an embedded, non-magnetic stainless steel mesh in a flexible mica laminate layer and can be freely cut on site by the customer according to the furnace size. The condition of the wear lining is continuously monitored via the change in impedance between the detection mesh and the melt.

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EWS 2.2

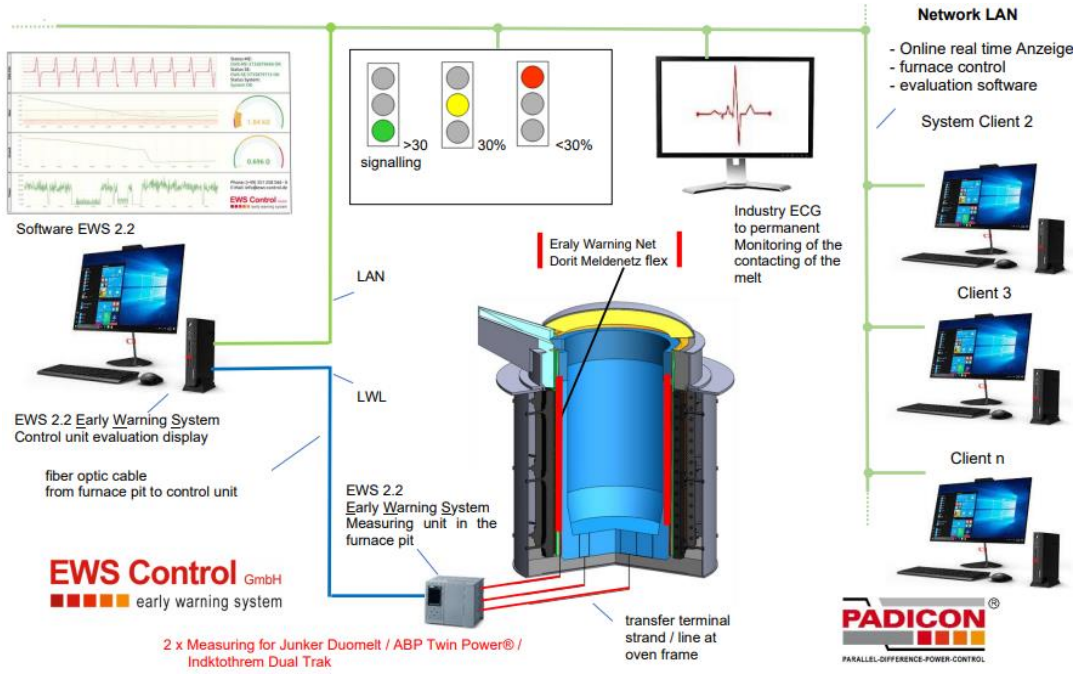
Combined with the EWS 2.2, the refractory costs per ton of casting and any repair work on the coil in the coreless induction furnace can be reduced to a minimum. In addition, premature furnace shutdowns as well as impending furnace breakthroughs or leaks and the associated accidents are reliably detected, visualized and avoided at an early stage.

Installations can easily be retrofitted to existing coreless induction furnaces. The installation is carried out without major technical conversion measures and additional work for the operator or the lining crew. This guarantees the operator a certain degree of independence and flexibility.

The optical visualization of the wear condition is carried out by means of an easy-to-understand traffic light principle. An additional alarm output via relays when falling below customer-definable threshold values for advanced warning and critical wear. The patented automatic intelligent adjustment of the measuring parameters and automatic detection of disturbance factors enables stable operation and reliable detection of wear.

For self-monitoring during operation, self-tests are performed regularly and a permanent test pulse is generated. This guarantees the furnace operator that the contacting of the melt is effective as the opposite pole of the measurement.

The detection mesh of the company DFP Feuerfestprodukte of the type Dorit- Meldenetz EL flexible according to the material data sheet article number 100 321 012 50, is used. Initial installation and technical instruction is carried out for the first time by our partner, DFP Feuerfestprodukte GmbH & Co KG. Subsequent installation can be carried out independently by the end user on his own responsibility.



Description Online trend display:

With its memory function, the online trend display enables you to create individual residual wall thickness tables of the specific lining recipes. For this purpose, Dörentrup Feuerfest Produkte as well as EWS-Control GmbH are at your disposal with their employees and special service offers.

Technical data:

Device connection 2x 230V 10A required, network connection measuring unit near furnace, - control unit via fiber optics in Bopla housing control room / office.