



---

## OPTICAL FOAMING SLAG MANAGER

### DETECTION AND CONTROL OF EAF FOAMING SLAG

The Optical Foaming Slag Manager is an optical foaming slag detection and control system for automated carbon injection in all types of electric-arc furnaces. The main purpose is precise determination of the slag height inside the EAF vessel. It also contains advanced control algorithms intended to achieve the most efficient use of injection material.

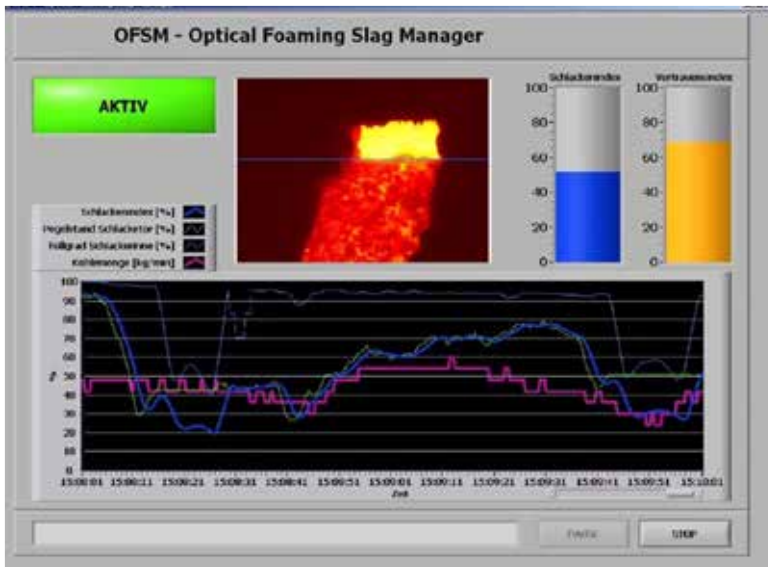
The Optical Foaming Slag Manager is a closed loop control system used to control the height of foaming slag inside the electric-arc furnace. A cooled industrial camera, including advanced machine-vision software, detects the height of foaming slag inside the electric-arc furnace. The system successfully deals with temporary line-of-sight obstructions by using patented machine-vision software algorithms. An easy-to-install controller determines the amount of carbon needed for injection. The interface to the carbon injection machine is very versatile and allows different types of control valves for carbon injection. The integrated HMI makes it easy to define the setpoint height of the foaming slag.

#### FIELD OF APPLICATION

All types of electric-arc furnaces with slag doors and appropriate view of the slag door. Applicable with all types of carbon injection systems.

#### BENEFITS

- Fully automated slag foaming process
- Higher degree of automation
- Reproducible process results
- Reduced specific energy consumption up to 3%
- Reduced carbon consumption up to 15%



Optical Foaming Slag Manager HMI



Protective housing

## PRODUCT FEATURES

Slag height setpoint	adjustable
PC	SIMATIC IPC, Core i7
Software	Windows based with C++ application
HMI	Integrated
Interface to PLC	S7SAPI
Camera	Industrial grade IR
Camera housing	Industrial grade with air cooling/purging

## TECHNICAL DATA

Distance camera to EAF	5 to 15 m
Max. cable length camera to cubicle	50 m
Camera housing dimensions	700 x 200 x 300 mm (H x W x D)

## OTHER RELATED PRODUCTS

Electrode Control System

## SERVICES

- Integration engineering
- Software parameter adjustment
- Spare parts
- Logistics

**Primetals Technologies Austria GmbH**  
 A joint venture of Siemens, Mitsubishi Heavy Industries and Partners  
 Turnstrasse 44 | 4031 Linz | Austria  
[primetals.com](http://primetals.com)

Order No. T02-4-N116-L2-P-V1-EN  
 Printed in Linz | © 04.2015

The information (including, e.g., figures and numbers) provided in this document contains merely general descriptions or characteristics of performance based on estimates and assumptions which have not been verified. It is no representation, does not constitute and/or evidence a contract or an offer to enter into a contract to any extent and is not binding upon the parties. Any obligation to provide and/or demonstrate respective characteristics shall only exist if expressly agreed in the terms of the contract. These estimates and assumptions have to be analyzed on a case-to-case basis and might change as a result of further product development. Primetals Technologies excludes any liability whatsoever under or in connection with any provided information, estimates and assumptions. The provided information, estimates and assumptions shall be without prejudice to any possible future offer and/or contract. Any use of information provided by Primetals Technologies to the recipient shall be subject to applicable confidentiality obligations and for the own convenience of and of the sole risk of the recipient.

**ClimatePartner**  
 printed climate-  
 neutrally

Certificate Number:  
 006-53612-0411-1001  
[www.climatepartner.com](http://www.climatepartner.com)