
NOVEL INSTRUMENT FOR HIGH TEMPERATURE THERMOGRAVIMETRIC MEASUREMENTS IN HIGH WATER VAPOUR CONTENTS

L. Mikkelsen¹, M. Solvang^{1}, P. H. Larsen¹ and J. Blumm²*

¹Materials Research Department, Risø National Laboratory, 4000 Roskilde, Denmark

²Netzsch Gerätebau GmbH, 95100 Selb, Germany

A novel instrument for high temperature thermogravimetric measurements in atmospheres containing high water vapour contents was developed in a collaboration between Netzsch and Risø National Laboratory. The development of the instrument was initiated to facilitate the investigation of high temperature corrosion of steels in humidified atmospheres. The instrument consists of a standard thermal analyser unit, including a new water vapour furnace, balance and sample carrier. The design of the instrument is discussed and thermogravimetric measurements on a Fe₇₈Cr₂₂ steel are presented.

Keywords: corrosion, thermogravimetry, water vapour
