GLASS SURFACE: ALTERATIONS AND TREATMENT

SUMMARY

Float glass is produced all over the world. Storage and transport conditions depend on the local conditions and influence the corrosion state of the glass. On the other hand, the glass surface more and more becomes the substrate of high sophisticated functional coatings. As a consequence, a perfect glass surface is decisive because even smallest corrosion defects can spoil the end product. Prof. Rädlein will report different chemical / physical methods which characterize the state of glass surfaces freshly produced and after storage. Which types of alteration have to be tolerated, which ones are deteriorating? A discussion will follow regarding the minimum needs of further processing of glass. Furthermore, test methods to simulate glass aging will be on focus.

Dr. Emonds will give basic information regarding the chemistry of (glass) washing compounds. The technical needs for an optimal washing machine will be described as well as the proper maintenance of the washing circuit.

Different concepts of corrosion protection are discussed. Special attention will be paid to anti-corrosion interleaving powders and to liquid anti-corrosion products. The positive influence of anti-corrosion products on low-e coating will be demonstrated.

A major problem in corrosion protection is the proper application of anti-corrosion products. Mr. Senft will talk about different application possibilities and their advantages/ disadvantages.

KEY POINTS

- Glass surface
- Glass corrosion
- Glass alteration
- Glass corrosion protection
- Glass storage, glass transport
- Glass surface characterization
- Glass corrosion tests
- Glass washing
- Glass interleavants
- Anti-corrosion liquids
- Powder/liquid applicators

TIMETABLE

9:00 Introduction of the speakers and the participants
9:15 Part 1: Characterization of the glass surface by Edda Rädlein, TU Ilmenau
9:45 Part 2: Glass surface defects by Edda Rädlein, TU Ilmenau
10:15 Part 3: Further processing strategies by Edda Rädlein, TU Ilmenau
11:00 Part 4: Washing by Michael Emonds, Chemetall GmbH
12:30 Lunch Break
13:15 Part 5: Corrosion protection by Michael Emonds, Chemetall GmbH & Reinhold Senft, Grafotec
14:45 Discussion
15:00 End
Duration: 6 hours.

ORGANISERS

Michael Emonds, Chemetall GmbH (part of BASF group)
Dr. Michael Emonds was born in 1957 and studied chemistry at RWTH Aachen University. In 1991 he received his doctorate from RWTH in the field of biocompatible polymers. In 1992 he joined a company for the application of biological methods in the industry, where he was responsible for the analytical laboratory. From 1993 he worked for Aachener Chemische Werke (ACW), which was integrated into Chemetall GmbH in 2013 as Segment Glass. Dr. Emonds is responsible for the analysis and improvement of Chemetall products for the preprocessing of glass.

Edda Rädlein, TU Ilmenau
Prof. Dr. Edda Rädlein of Technische Universität Ilmenau is a worldwide recognized specialist in glass physics/chemistry having a huge knowledge especially regarding the surface alterations and ageing of the glass surface.

Reinhold Senft, Grafotec Spray Systems GmbH
Reinhold Senft is the managing director of Grafotec Sparay Systems GmbH/Augsburg. Grafotec is one of the world´s leading specialists for separator application systems. For more than a quarter century it has been a proven leader and reliable partner providing innovative, cutting edge solutions to the glass industry.