



## email850P

The special surface protection for the pharmacy

email850P

email800

email350

email250*light*

# email850P – especially for the pharmaceutical

With our new glass lining **email850P** for pharmaceutical applications we meet

- high requirements of the sterile process technology with regard to **cleanability and product safety**
- the criteria of “QHD” Qualified Hygienic Design for increased **process safety**

**email850P** combines improved surface properties, optimized corrosion properties and biologically neutral behaviors giving advantages for operational safety and reduced product contamination in pharmaceutical production processes.



## Resistance

“Multi-purpose” glass with optimized corrosion properties under alkali attack to meet the requirements of pharmacy processes (CIP, SIP).

## Safety

### Product safety means...

- no critical heavy metal oxides in the glass structure
- no contamination of the product by heavy metal oxides
- biological neutral behaviour of the surfaces in contact with the product

### Process safety means...

- special colouring (light-blue) in order to easily detect dirt and product residues on the glass surface
- optimized lining thickness and pore-structure even for small radii
- good contrast between the surface to the process media

## Cleanability

Properties such as base material, surface roughness, topography and structure determine significantly the **function of the surface** with regard to cleanability.

### Good cleanability means...

- to avoid cross contamination
- short cleaning periods with stable product quality

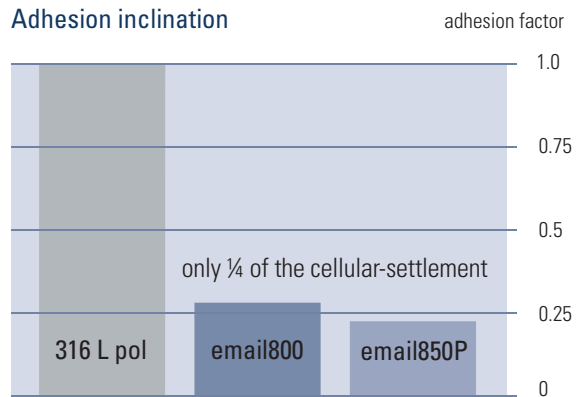
**email850P** has significantly better cleanability than the currently used stainless steels 316 L because of the optimized topographical roughness ( $R_a < 0.3 \mu\text{m}$ ) and the lower adhesion inclination (surface energy). No change will take place on the product-contacted surfaces after longer operation periods (cleaning-cycles) of the production plant. Effects like “rouging” will not occur.



# l industry

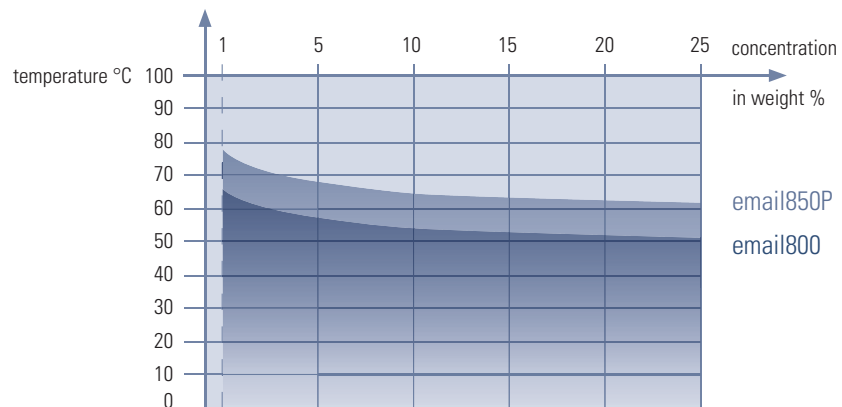


Adhesion inclination



Corrosion resistance NaOH-aqueous solutions

Improvement of the alkali-resistance > 30 %



Pipeline components designed to customer requirements...

... are a further specialty in the **Glass Lining Technologies** range of products. Customized versions or special lengths are possible. In case of distributors – also called collectors – we offer certain standard versions.

## Quality and safety

Certified quality ensures safety. Extensive internal tests in accordance with DIN-ISO, ASME, factory standards and specific company stipulations ensure optimal certified safety. The easy cleaning of our enamel products is evidenced by QHD certification.

Please ask for our special produced pipe parts and for further information. You can also find more details on our homepage [www.dueker.de](http://www.dueker.de)



GLASS LINING TECHNOLOGIES

JOBGING FOUNDRY

FITTINGS AND VALVES

DRAINAGE TECHNOLOGY

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