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## Evaluation of Resistance of Coating ChemLINE 784 in Chloro Acetylic Chloride at 55 °C

**Reference Number** VII.3/14222**Issue** 2 of 2**Client** Chemline (Europe) Ltd,  
Mr. L. Harder**Order date** 2005-10-25**Sign****Received at** 2005-10-25**Subject to be tested** The test is related to the evaluation of corrosion resistance of delivered specimens coated with ChemLINE 784 in chloro acetylic chloride at 55 °C according DIN 50905 and DIN 6601 and of possible changes of coating properties according DIN EN ISO 2178, DIN ISO 4624 and following DIN EN ISO 10308.**Summary** Exposure tests have not shown any significant corrosion effects or corrosion relevant changes of the coating.Therefore the tested coating **is corrosion resistant** in the investigated medium **at 55 °C**.**PRÜFUNGSZEUGNIS**

This test certificate consists of page 1 to 3.

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 Sicherheit und Zuverlässigkeit in Chemie- und Materialtechnik

9096

**Tested material according client's information:**

The objects tested are Chemline 784/32 coated specimens (plates and cylinders) of Advanced Polymer Coatings LLC (Avon, Ohio USA) and chloro acetylic chloride of SF-Chem (Switzerland).

**Test performance and results:**

The specimens provided by the client were exposed in chloro acetylic chloride for 4 weeks at 55 °C according DIN 50905 and DIN 6601. The plates were completely immersed, and the cylinders half immersed and in the vapor phase. The specimens were weekly evaluated visually and gravimetrically regarding corrosive effects, and the coating thickness was determined according DIN EN ISO 2178. At the end of test at the plate the adhesive strength of the coating was determined according DIN ISO 4624 as well as its porosity following DIN EN ISO 10308 and compared to a non exposed specimen.



**Figure:** Survey of specimen surfaces after 4 weeks in chloro acetylic chloride at 55 °C

Gravimetric investigations have not shown any corrosion relevant mass loss at all specimens (see figure). No signs of corrosion attack could be observed too. Even at the spalled spots (caused by falling down) on the plate no creeping underneath the coating nor significant corrosion attack at the bare surface could be detected. By thickness measurements a slight swelling of the coating in the range of some  $\mu\text{m}$  combined with a light mass increase was observed.

Apart of a slight darkening of the coating no differences compared to non exposed specimens could be observed.

The slightly brown colorations in the fixing areas are caused by evaporations from the Teflon thread used for fixation.

No pores have been detected.

#### Evaluation of Corrosion Resistance:

Exposure tests at 55 °C do not show any significant changes at all specimens caused by corrosion.

Therefore the tested coating system Chemline 784/32 is **corrosions resistant in chloro acetylic chloride up to 55 °C** according DIN 50905 und DIN 6601 if applied correctly.

**Federal Institute for Materials Research and Testing (BAM)  
12200 Berlin, 2006-01-19**

#### VI.1

#### Corrosion and Corrosion Protection

on behalf

Dr.-Ing. B. Isecke  
Direktor und Professor

#### Corrosivity of Dangerous Media

on behalf

Dr. rer. nat. R. Bäßler  
Regierungsrat

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Correct translation is approved by



Division VI.1  
Corrosion and Corrosion Protection  
on behalf

Berlin, 2006-01-19

Dr. R. Bäßler  
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