

## Alkine Sour Water Corrosion Calculation for Asset ID k

### Asset Name/ID

k

### H<sub>2</sub>S concentration in system

*It is suggested to determine  $\text{NH}_4\text{HS}$  value with ionic process models. However, approximate values may be calculated from API 581 Table 2.B.7.1*

1.40 wt%

### NH<sub>3</sub> concentration in system

*It is suggested to determine  $\text{NH}_4\text{HS}$  value with ionic process models. However, approximate values may be calculated from API 581 Table 2.B.7.1*

4.00 wt%

### NH<sub>3</sub> concentration in system

*Determine the concentration of the  $\text{H}_2\text{SO}_4$  present in this equipment/piping. If analytical results are not readily available, it should be estimated by a knowledgeable process engineer*

2.10 wt%

### Stream Velocity

*The vapor phase velocity should be used in a two-phase system. The liquid phase velocity should be used in a liquid full system.*

5.00 m/s

### %mol H<sub>2</sub>S in the system

1.40 %

### System pressure

*Fill the Total system pressure psia*

120.00 psia

### H<sub>2</sub>S partial pressure

*Fill the Total system pressure KPa*

26.00 psia

### Baseline CR mm/yr

0.11 mm/yr

### Baseline CR mpy

4.33 mpy

### Adjusted CR mm/yr

0.17 mm/yr

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### Adjusted CR mpy

6.82 mpy

### Corrosion Damage Morphology

General thinnig

## *Remaining Life and Next Inspection Date Calculation*

### Corrosion Rate (overwritten)

*Corrosion Rate Overwritten by the user*

No

### Material Thickness Units

*Units of the thickness*

in

### T Actual

*Current thickness of the material*

0.9

### T Required

*Minimum required thickness for safe operation*

0.85

### Selected Date

*Start date of the remaining life*

Tue Apr 01 2025

### Remaining Life years/Retirement date

7.33 / Sat Jul 31 2032