

Corrosion Modeling Software and Corrosion Prediction  
Software Series

## **HF-Compass®: HF Corrosion Modeling and Prediction**

*High-Value Software Solutions to Costly Corrosion*

Version 9.23

★ Performance ★ Functionality ★ Usability



Anytime    Anywhere    Any Device    Any OS  
No USB dongles    No installation    No Browser Plug-ins

Contact Us for Licensing Details

Why WebCorr | Performance Guarantee | Unparalleled Functionality | Unmatched Usability | Any Device Any OS | Free Training & Support | CorrCompass

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## **Overview of HF-Compass**

HF-Compass is the only device and OS independent predictive software on the market for the modeling and prediction of corrosion by aqueous hydrofluoric acid and anhydrous HF. Designers, engineers, consultants, maintenance and inspection personnel can quickly assess and quantify the impact of process variables on the corrosion rate and the remaining life of piping, vessels, and other equipment handling aqueous hydrofluoric acid or anhydrous HF.

Figures below demonstrate the operation of HF-Compass. With HF-Compass, corrosion prediction and materials selection for HF services are as easy as 1-2-3.

- (1) Select the material from the dropdown list,
- (2) Enter the temperature and the concentration of hydrofluoric acid
- (3) Review the prediction results

HF-Compass predicts the boiling point of the hydrofluoric acid (HF), the corrosion rate of the selected alloy at the specified temperature and concentration, the remaining life of the component, and the resistance of coatings/linings under the prevailing operating conditions. In addition to that, HF-Compass also plots the isocorrosion diagram for the selected alloy so as to give users a complete picture of the corrosion behavior of the selected alloy across the entire ranges of the HF acid concentration and the service temperature.

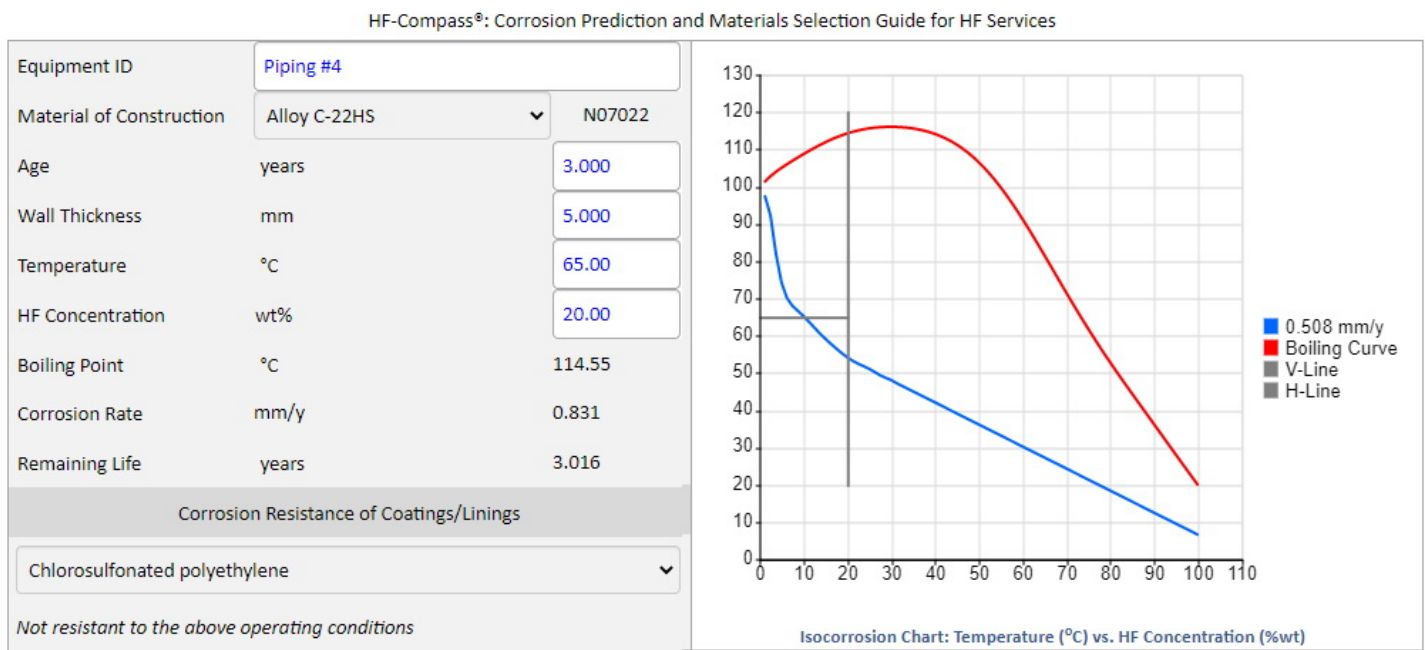


Figure 1 HF-Compass Predicts the corrosion rate of alloys in hydrofluoric acid services

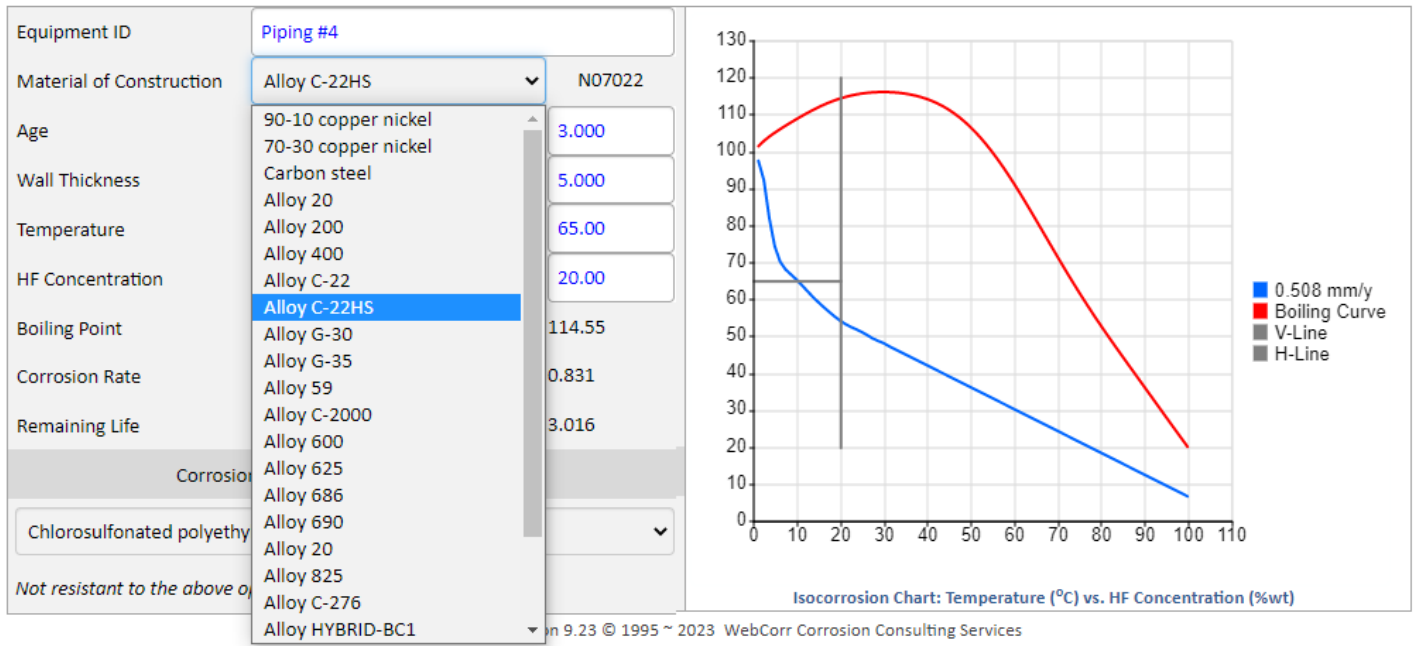


Figure 2 HF-Compass is a cost-effective software tool for materials selection for hydrofluoric acid services

HF-Compass predicts corrosion rates for the following steels and alloys in aqueous hydrofluoric acid at any temperatures and concentrations:

90-10 copper nickel

70-30 copper nickel

Carbon steel

Alloy 200

Alloy 400

Alloy C-22

Alloy G-30

Alloy 59

Alloy C-2000

Alloy 600

Alloy 625

Alloy 686

Alloy 690

Alloy C-22HS

Alloy 20

Alloy 825

Alloy C-276

Alloy HYBRID-BC1

Alloy B-2

Alloy B-3

Type 316 SS

Type 316L SS

More alloys will be added to the software database as and when corrosion data are available. If you cannot find the alloy of your interest in HF-Compass software, do let us know and we will conduct the necessary research work to have your alloys included in the software.

For alloys not resistant to corrosion under the prevailing operating conditions, coatings/linings can be used to provide the required corrosion resistance. HF-Compass allows users to evaluate the suitability of coatings/linings for corrosion protection (Figure 3 below).

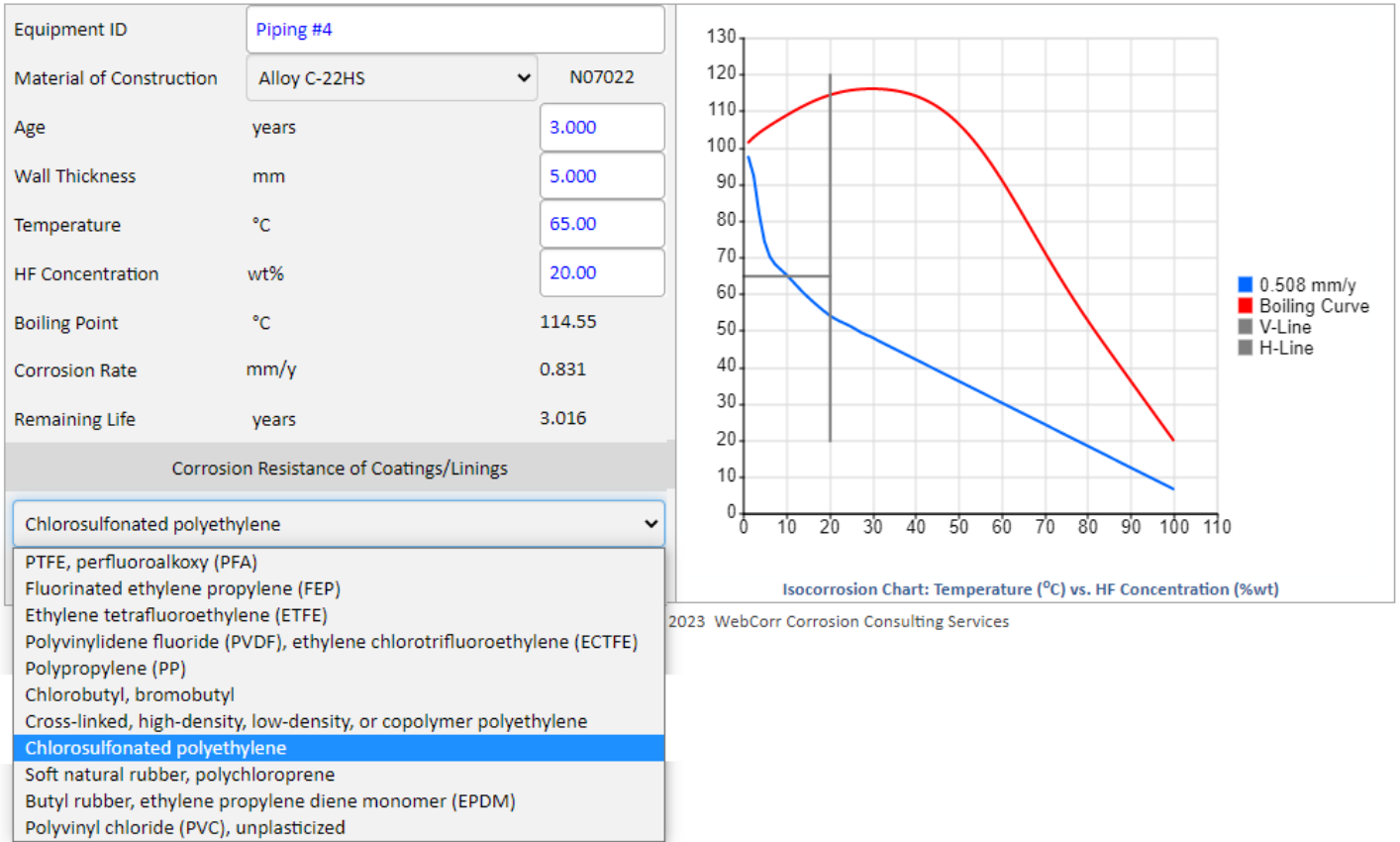


Figure 3 HF-Compass allows users to select suitable coatings/linings for corrosion protection in hydrofluoric acid services

HF-Compass also predicts corrosion by anhydrous hydrofluoric acid for metals and alloys (Figures 4 and 5).

Aqueous HF

Anhydrous HF

HF-Compass® for Anhydrous HF Services

Equipment ID	Piping #4	
Material	Carbon Steel ▼	
Age	years	3.000
Nominal Wall Thickness ▼	mm	2.000
Temperature	°C	58.000
Corrosion Rate	mm/y	0.443
Remaining Life	years	1.518

Figure 4 Prediction of Corrosion by Anhydrous HF

Aqueous HF    Anhydrous HF

HF-Compass® for Anhydrous HF Services

Equipment ID    Piping #4

Material    Carbon Steel

Age

Nominal Wall Thickness

Temperature

Corrosion Rate

Remaining Life

- AISI 304
- AISI 316
- AISI 347
- AISI 309Cb
- AISI 310
- AISI 430
- Alloy 400
- Alloy 600**
- Aluminum
- Carbon Steel
- Low Alloy Steel
- Copper
- 70Cu30Ni
- Nickel 200
- Nickel 201

Figure 5 Materials Selection for Corrosion Resistant Alloys for Anhydrous HF Services

The following corrosion resistant alloys for anhydrous hydrofluoric acid services are included in the corrosion prediction software:

- AISI 304
- AISI 316
- AISI 347
- AISI 309Cb
- AISI 310
- AISI 430
- Alloy 400
- Alloy 600

Aluminum

Carbon Steel

Low Alloy Steel

Copper

70Cu30Ni

Nickel 200

Nickel 201

The powerful applications of HF-Compass are truly unlimited in engineering design, corrosion life prediction, and materials selection for hydrofluoric acid services.

[Click here to contact us for licensing details and experience the power of HF-Compass.](#)

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*HF-Compass, giving you the right directions in HF corrosion prediction and materials selection.*

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