

C&I ESS Offshore Installation Instructions

For sites whose corrosivity category is C4 or lower and the offshore distance is 500 m to 2000 m, C&I ESSs can be deployed. It is recommended that standard warranty (basic warranty + advanced warranty) and extended warranty be provided.

1. Definition of Corrosivity Category

The corrosivity category is subject to the appraisal on the ICCET estimation tool and is calculated based on the geographical coordinates of the site. For details, see the operation manual. ICCET: <https://www.wbdg.org/additional-resources/tools/corrosion-toolbox/iccet>

2. Definition of Offshore Distance

Straight line distance between the target deployment site and the sea coastline (excluding river mouths and wharfs)

3. Appendix: ICCET Tool Usage

Appendix: ICCET Tool Usage

ISO Corrosivity Category Estimation Tool (ICCET) is an online tool for predicting corrosion levels around the world based on ISO corrosivity category.

Based on the database of the National Oceanic and Atmospheric Administration (NOAA) of the United States, the system calculates the corrosion level of the target point based on the prediction model and the meteorological data of the nearby observation points in recent years (the time period is configurable).

Procedure

Step 1 Go to the ICCET tool page at the following link.

<https://www.wbdg.org/additional-resources/tools/corrosion-toolbox/iccet>

Step 2 Enter the coordinates or location name on the right of the tool.

ADDITIONAL RESOURCES / TOOLS / CORROSION TOOLBOX / ISO CORROSIVITY CATEGORY ESTIMATION TOOL (ICCET)

ISO Corrosivity Category Estimation Tool (ICCET)

Estimates ISO Corrosivity Categories for metals and alloys.

USER GUIDE

Site

Coordinates: Click on map to select location

Start year / month: 2010 / 1

Range: 5 years

Site is within 6 miles of saltwater: no

If yes, provide distance to saltwater: miles

measure distance in map

Data Completeness 90 %

Log

data parsed
parsing data...
2905 kB of data downloaded
downloading list of NOAA Stations...

Map



OK, find station and get values

Weather Station

Result

Disclaimer Characterization of environmental severity is a technical characteristic which can provide the basis for the selection of materials and protective measures in atmospheric environments subject to the demands of the specific application with regard to service life. It is important to note that, while environmental severity classification is a useful tool for these purposes, it is not indicative of absolute corrosion potential or total environmental severity. No method can accurately cover all situations that occur in natural environments and service conditions.

Data Sources This tool uses the Integrated Surface Database (ISD) of the National Centers for Environmental Information (NCEI) of the National Oceanic and Atmospheric Administration (NOAA). For more information see www.ncdc.noaa.gov/isd. The Google Maps API is used for searching locations and displaying a map.

Step 3 Enter the time range for the estimation, for example, 2018–2023.

ISO Corrosivity Category Estimation Tool (ICCET)

Estimates ISO Corrosivity Categories for metals and alloys.

[USER GUIDE](#)

Site

Coordinates: 40.4168, -3.7038

Start year / month:
2018 / 1

Range: 5 years

Site is within 6 miles of saltwater: no

If yes, provide distance to saltwater: miles

measure distance in map

Data Completeness
90 %

Log

data parsed
parsing data...
2905 kB of data downloaded
downloading list of NOAA
Stations...

Map



OK, find station and get values

Weather Station

Result

Step 4 Click **OK, find station and get values**. The system performs calculation based on the meteorological data of the target point.

OK, find station and get values

Weather Station

The system compares the meteorological data of multiple observation points (blue points) near the target point (green point) and comprehensively evaluates the corrosion level of the target point.

ISO Corrosivity Category Estimation Tool (ICCET)

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[USER GUIDE](#)

Site

Coordinates: 40.4168, -3.7038
Start year / month: 2018 / 1
Range: 5 years
Site is within 6 miles of saltwater: ☐ no
If yes, provide distance to saltwater: miles

Data Completeness: 90 %

Weather Station

Station: MADRID RETIRO
Quality: 7%
distance: 1.8 km

Log

downloading 2019 Weather Data...
data parsed
parsing data...
405 kB of data downloaded
downloading 2018 Weather Data...
distance: 1.8 km
Station: MADRID RETIRO
finding nearest station...
13227 stations found

data parsed
parsing data...
2905 kB of data downloaded
downloading list of NOAA Stations...

Map



Result

Step 5 Check the estimated steel mass loss and corrosivity category at the target point.

ISO Corrosivity Category Estimation Tool (ICCET)

Estimates ISO Corrosivity Categories for metals and alloys.

[USER GUIDE](#)

Site

Coordinates: 40.4168, -3.7038

Start year / month: 2018 / 1

Range: 5 years

Site is within 6 miles of saltwater: ☐

If yes, provide distance to saltwater:

measure distance in map

Data Completeness 90 %

Log

data parsed
parsing data...
540 kB of data downloaded
downloading 2022 Weather Data...
data parsed
parsing data...
535 kB of data downloaded
downloading 2021 Weather Data...
data parsed
parsing data...
543 kB of data downloaded
downloading 2020 Weather Data...
data parsed
parsing data...
542 kB of data downloaded
downloading 2019 Weather Data...
data parsed
parsing data...
540 kB of data downloaded
downloading 2018 Weather Data...
distance: 14.4 km
Station: BARAJAS
finding nearest station...
13227 stations found
Bad Weather Data data (59%)
data parsed
parsing data...

Map



OK, find station and get values

Weather Station

Station: BARAJAS

Quality: 99.4%

distance: 14.4 km

Result

Initial Model No 1

Final Model No 1

Estimated Steel Mass Loss: 15817 $\mu\text{g}/\text{cm}^2/\text{a}$

Estimated ISO Corrosivity Category: C2

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