

# CASE STUDY

## Utilities & Power

### Project Specs

**Location:** Québec, Canada

**Application:** Non-Conductive Staircases, Platforms, and Wall Barriers

**Product:** Fibergrate® Molded Grating, Dynarail® Handrail, Fibertred® Molded Treads

### Overview

There are two main phases to aluminum production; the bauxite is ground to extract the alumina and the alumina is then turned into aluminum by electrolytic reduction. Aluminerie Alouette's new Aluminum Smelter Facility uses the electrolyte technology that has the lowest impact on the environment. The production process is subdivided into three phases; anode manufacturing, electrolysis and the casting of sows and ingots. The electrolysis phase is where potrooms, consisting of two halls each 875m long, produce temperatures of 1,100°C.

### Problem

The Aluminum Smelter Facility needed to use materials that were thermally and electrically non-conductive. The potrooms in the Aluminum Smelter Facility produced high temperatures and had nominal electric currents of 350kA at 1320VDC. We were required to supply over 40 units of non-conductive staircases, platforms and wall barriers in between the claustra wall to have access to the basement.

### Solution

Fibergrate was able to offer the following benefits with its products:

- Non-conductive products protect workers against potential burn and electrocution hazards
- Corrosion resistant
- Lightweight
- Easy to install; no heavy equipment required for installation
- Maintenance free
- Cost effective

Fibergrate worked in partnership with the engineering firm to design a structure that fulfilled the customer's requirements. FRP structural products were selected to build staircases, platforms and wall barriers. The barrier used 1" thick FRP molded grating for the walls and 1.5" thick FRP Corvex molded grating for the floor. Dynarail handrail and molded stair treads grating were also used. The structures were prefabricated and sent to the site where an onsite contractor, using our materials for the first time, installed them without any problems.



Phone: 800-527-4043 | Fax: 972-250-1530 | [www.fibergrate.com](http://www.fibergrate.com)

Fibergrate Composite Structures Inc. believes the information contained here to be true and accurate. Fibergrate makes no warranty, expressed or implied based on this literature and assumes no responsibility for the consequential or incidental damages in the use of these products and systems described, including any warranty of merchantability or fitness.

Information contained here can be for evaluation only. The marks and trade names appearing herein, whether registered or unregistered, are the property of Fibergrate Composite Structures Inc. ©Fibergrate Inc. 2021