Product Description

Bedford Stair Tower

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Product Description
Bedford Fiberglass Stair Tower

Scope

This product specification covers the details about the design criteria, material description, fabrication and shipping of Bedford's standard fiberglass stair towers.

Design Criteria

Bedford fiberglass stair tower has been designed to meet IBC 2012 and ASCE 7-05 codes and equipped to provide comfortable and safe access to locations at various levels requiring routine inspection and maintenance. Bedford fiberglass stair towers are designed for a 100 psf live load, 90 mph wind exposure C and seismic design category D with occupancy/risk category III. Handrails installed on the stair towers are to meet OSHA 1910.23 regulations.

Fiberglass Stair Tower

Bedford fiberglass stair tower can be built up to a maximum height of 60' from the ground with a typical footprint of 12' x 7'. This stair tower shall be tied back to the end wall of the structure at heights dependent on overall height of the stair tower. Fiberglass structural shapes such as square tubes and channels are being used as columns, stringers and other structural members respectively. Stairs are 30" wide at comfortable 44 degree inclinations with 9" rise and 9.5" run. The landings for the stairs occur at every 6' elevation and Bedford PROGrid® non-skid molded stair treads and square grid grating products shall be used for treads and landings respectively. The handrails provided are fiberglass standard square tubes connected to the column members. All the fasteners used in this design shall be 300 series stainless steel.

Material Description

All the fiberglass components used for Bedford fiberglass stair tower are made through the pultrusion process using fiberglass reinforcement and resin systems necessary to meet the design requirements, as well as minimum properties given in Table 1 and other properties published in the Bedford Design Manual.

Glass Reinforcements: Pultruded structural shapes used for Bedford fiberglass stair towers shall have the fiber reinforcement in the form of continuous rovings and continuous strand mat for adequate mechanical and physical properties and surface veil for UV protection and corrosion resistance.

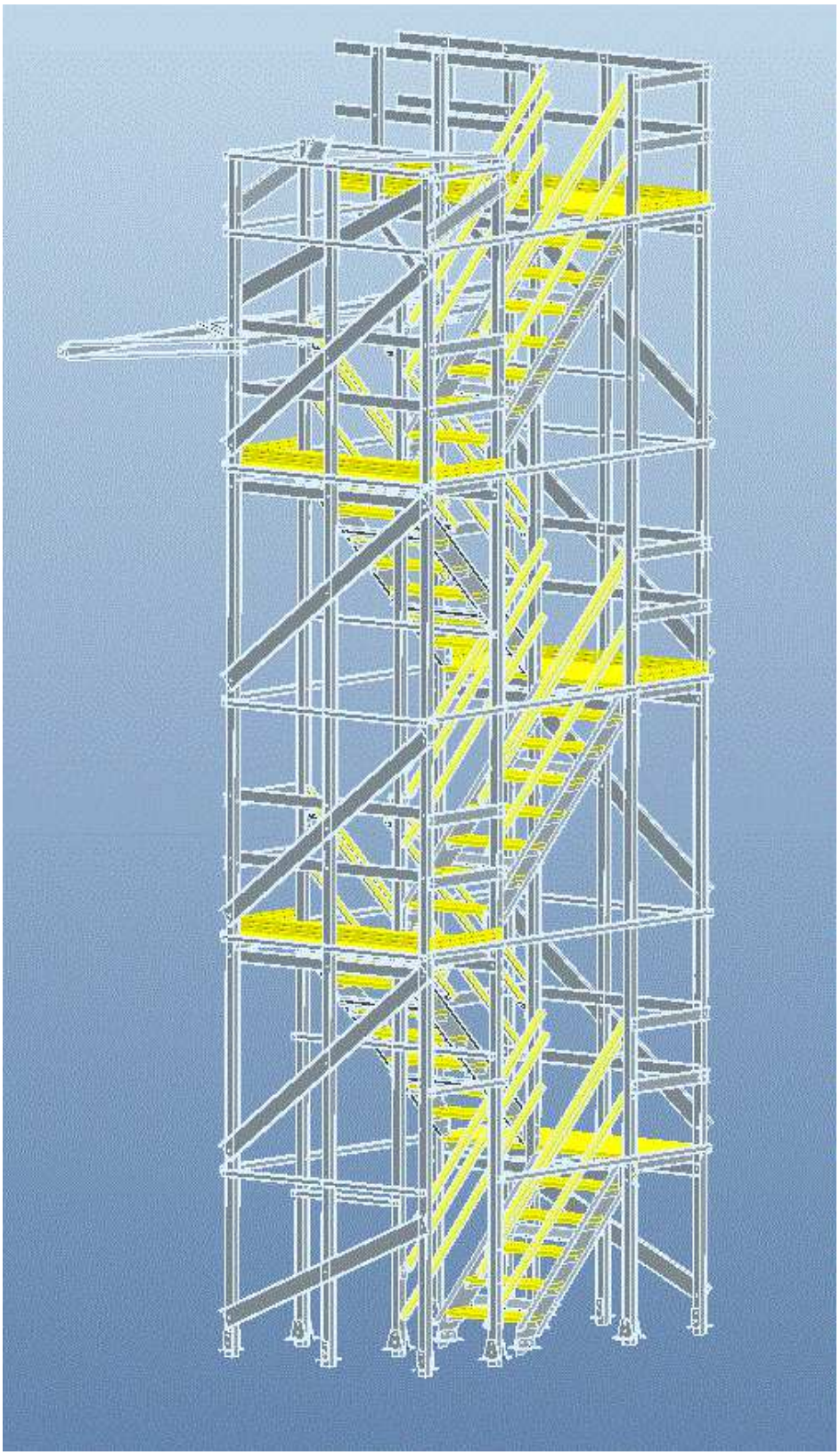
Resin Systems: Resin systems used in Bedford fiberglass stair tower provide superior corrosion resistance and are available in Standard and FR Iso-Polyester and Vinylester resin systems with additives for superior fire resistance, UV protection and pigments.

Table 1. Minimum Properties

Property	ASTM	Value
Tensile Strength, psi	D 638	30000
Tensile Modulus, psi	D 638	2.5×10^6
Flexural Strength, psi	D 790	30000
Flexural Modulus, psi	D 790	1.8×10^6
Short Beam Shear, psi	D 2344	4500
Full Section Modulus, psi	N/A	2.8×10^6
Density, lb/in^3	D 792	0.062-0.07
Flame Spread	E 84	25 or less

Fabrication, Shipping and Handling

Bedford offers design, fabrication and delivery of assembled stair tower to the project site for the erection of the stair tower over a concrete foundation.



Typical BRP Standard Fiberglass Stair Tower