

A.R.T.Wall™

PART 1 - GENERAL

1.1 SUMMARY

This document contains the specifications for an artificial climbing wall with a real rock look and feel.

1.2 REFERENCES

- CWA General Specification for the Design and Engineering of Artificial Climbing Structures
- Uniform Building Code (UBC) 1994 Edition or code of local conformance.
- Manual of Steel Construction, Allowable Stress Design, 9th Edition, AISC

1.3 SYSTEM DESCRIPTION

Artificial GFRC climbing wall designed to look and climb like real rock. Required system is to be a premium climbing wall, no wood, foam based, or fiberglass/resin systems will be accepted. System shall be molded from real rock with hand sculpted grout joints which combined, provide a seamless "rocklike" climbing wall system. No panelized or component systems will be permitted. Climbing wall to be custom designed to the specific needs as required by the Owner for this project.

1.4 SUBMITTALS

Climbing wall Manufacturer will provide submittals and product data as a part of the engineering package. All engineering data, reaction load data, and primary structure reinforcing information shall be included with the engineering package.

Submittals:

- Product data including climbing wall manufacturer's specifications, standard details and installation drawings.
- Submit 2 samples of climbing wall material, minimum 12 inches by 12 inches, showing color and finish.
- Shop drawings indicating layout of climbing wall, dimensions of materials and parts, fastening and anchoring methods, and detailed location of joints where applicable.
- Certificate of Insurance
- Submit examples of modular climbing handhold in both Urethane and Polyester Resin.

1.5 INSURANCE

Climbing Wall Manufacturer must carry both Workers Compensation and General Liability including Professional Liability Insurance.

1.6 QUALITY

Climbing wall manufacturer shall be as specified and shall have a minimum of 10 years experience in the manufacturing of artificial climbing walls. No substitutions will be permitted. Climbing wall manufacturer must be the installer no subcontracted installation accepted.

1.7 WARRANTY

Climbing wall manufacturer shall warrant to the original purchaser for one year from the date of completion that its products are free from defects in materials and workmanship.

1.8 COORDINATION

The Climbing wall manufacturer will coordinate installation with the General Contractor and Owner, to ensure climbing wall achieves the specific requirements.

1.9 SHIPPING

Climbing wall manufacturer will protect products during transit, and handling to prevent damage and deformation of the climbing wall.

PART 2 - PRODUCT

2.1 CLIMBING WALL MANUFACTURER

Nicros, Inc. 845 Phalen Blvd, St Paul, MN. 55106 Phone (651) 778-1975, Fax (651) 778-8080 or others as approved by Owner.

2.2 ARTIFICIAL CLIMBING WALL SURFACE MATERIALS

GFRC castings molded from real rock with hand sculpted grout joints which combined, provide a seamless "rocklike" climbing wall system.

Climbing Surface:

- Climbing wall system shall be attached to the structural support system by the use of bolted or welded connections.
- Climbing wall system must be capable of achieving various configurations including overhangs, vertical faces, below vertical slabs, arêtes, dihedrals, and achieve three-dimensional surface as a finished surface.
- Climbing wall system shall provide natural feature climbing holds as well as modular climbing hold disc attachment locations compatible with 3/8"-16 threaded fasteners for surface mount.
- Projected casting size is approximately 72 inches by 72 inches
- Climbing wall thickness shall be approximately 3/4" -1".

2.3 SUPPORT STRUCTURE

Primary support members shall consist of welded or bolted structural steel components transferring all design loads from the climbing wall to the building support structure (Primary steel may be supplied and installed by Steel Subcontractor).

Primary Support Structure:

- Primary support members will be sized and detailed by engineering calculations supplied by the climbing wall manufacturer. The engineering calculations will outline the reactions generated by the climbing wall.
- Anchorage details for the primary support structure and floor anchors will be provided by climbing wall manufacturer.
- Finish on primary support structure shall be one of the following: (Architect/Engineer to specify finish)
 - a. Plain
 - b. Primed/Paint

2.4 PRIMARY SUPPORT STRUCTURE FABRICATION

General:

-All structural steel and structural steel work shall conform to the specifications for design, fabrication and erection of structural steel for buildings of the American Institute of Steel Construction (AISC) Code of Standard Practice, and to the requirements of local building codes.

Material:

-Steel shall consist of ASTM A36.

2.5 QUALITY

The Steel Subcontractor (if used) shall provide quality control procedures to the extent that he deems necessary to assure that all work is performed in accordance with the drawings provided by the climbing wall manufacturer. In addition material and workmanship at all times may be subject to inspection by the climbing wall manufacturer. Material or workmanship not in reasonable conformance with the specification may be rejected at any time during the project.

2.6 ANCHORAGE AND FASTENERS

CLIMBING SURFACE CONNECTION:

-Climbing wall surface shall be attached to the structural support system by the use of bolted and welded connections. Climbing wall requires one connection point per (9) square feet of climbing surface. All climbing surface connections to be performed in accordance with engineering specifications.

MODULAR HANDHOLDS:

- Polyester resin or Urethane handholds using 3/8" – 16 socket head cap screws or flat head cap screws of appropriate length supplied by the manufacturer.

MODULAR HANDHOLD ATTACHMENT:

-Nickel plated steel coupler nut imbedded during casting of the panel to ensure longevity of the attachment point.

2.7 CLIMBING ANCHORS

Lead Bolts:

-U.I.A.A. approved bolt hangers shall be attached to primary steel support structure and mounting bracket in accordance with engineering specifications. U.I.A.A. approved bolt hangers shall be anchored with a minimum 3/8" diameter, grade 8 bolts.

Belay Anchors:

-Each belay anchor shall consist of two (2) U.I.A.A. approved super shuts attached to two horizontally adjacent mounting brackets as per "Lead Bolts" above. Minimum horizontal distance between super shuts shall be 6 inches.

PART 3 - CONSTRUCTION

3.1 PRE-CONSTRUCTION INSPECTION (optional)

If climbing wall manufacturer needs to verify that all surfaces are ready to receive work and are within specified tolerances, and verify that the layout of the materials or equipment will not interfere with installed climbing wall, this must be done at the manufacturer's expense.

3.2 INSTALLATION

Erection of the primary steel, if installed by steel sub contractor, shall be in accordance with manufacturer's recommendations. Installation of the climbing wall must be preformed by the climbing wall manufacturer.

3.3 MOVE OUT AND CLEAN-UP

The climbing wall manufacturer will remove all their equipment and supplies plus clean area of debris from installation of climbing wall.

3.4 INSPECTION

The completed climbing wall shall be inspection by the Owner or Owners representative and the manufacturer to certify that the finish product has been manufactured to the drawings and the contract documents.

3.5 PROTECTION

Climbing wall manufacturer to provide reasonable protection in a manner acceptable to the Owner or Owners representative that insures the climbing wall will be without damage.

PART 4- TECHNICAL GEAR

4.1. Climbing Ropes: Dynamic ropes, unless otherwise specified:1 per 6 linear feet of wall in sufficient length.

1. Product: Standard with the climbing wall manufacturer.
2. Manufacturer: Sterling or approved equal that meets UIAA standards.

4.2. Climbing Harnesses: As indicated, or if not indicated, 2 harnesses per top anchor.

1. Adjustable with double pass through buckles and gear loops.
2. Manufacturer: Edelweiss, Misty Mountain, or approved equal

4.3. Belay Devices:

1. Tube style, manufactured by DMM, Trango, Petzl or approved equal

4.4. Locking Carabiners:

1. Aluminum, large D ring, 25Kn major axis, 7Kn minor axis, manual locking, as manufactured by Petzl AMD, DMM Boa, or approved equal

4.5. Quick Draws: (Where lead routes are specified)

1. Quicklink: 3/8" Quicklink.
2. Carabiners: Stainless Steel, wire or bent gate, 23Kn major axis, manufactured by Fixe, USA
3. Sling: 4" sling as manufactured by Petzl or equal that meets UIAA

standards

4.6. Modular Handholds

1. Composed of polyester resin or urethane.
 - a. Acceptable Manufacturers: Nicros, PM Climbing or approved equal.
2. Handhold selection shall be made based on strong functionality of the potential user base and shall include:
 - a. 20% Large Holds
 - b. 40% Medium Holds
 - c. 30% Small Holds
 - d. 10% Bolt-on Footholds
3. To include handhold bolt of appropriate length.

4.7. Rental Shoes:

1. All purpose climbing shoes of size range to include most popular size for users, at manufacturer's wholesale price from:
 - a. La Sportiva

4.8. Auto Belay System

1. (If applicable) Autobelay Systems – Air Pneumatic or Equivalent
 - a. (If applicable) Units installed in instructional area of climbing wall
 - b. (If applicable) Unit provided for replacement during scheduled maintenance.