

## Section 08 78 00 – Special Function Hardware

### CounterBalance - Counter-A-SYST™ Torsion Spring Hinge System

CounterBalance Corporation has been the leading manufacturer of torsion spring hinges for over 20 years. CounterBalance Corporation's unique, patented product is engineered and manufactured to work with most hinged mechanisms or can act as the hinge itself. Counter-A-SYST™ is a Trademarked modular torsion-spring system designed to neutralize the weight of lifting and supporting lids, covers and electro-mechanical equipment. CounterBalance Corporation's main engineering, manufacturing, product research, service and parts, warehousing, testing and administrative offices are housed in Pennsylvania. Operations in Florida provide additional manufacturing, assembly, clean-room assembly, warehousing and shipping. CounterBalance Corporation provides unique design, construction and operational solutions for the most demanding applications. CounterBalance's customers come from hospitality, vehicle, and food service, medical, military, industrial and commercial markets.

#### PART 1 GENERAL

##### 1.1 Section Includes

- A. Counter-A-SYST™ Torsion Spring Hinge System

##### 1.2 Related Sections

- A. Section 01 30 00 – Administrative Requirements
- B. Section 01 60 00 – Product Requirements
- C. Section 06 20 00 – Finish Carpentry
- D. Section 06 40 00 – Architectural Woodwork

##### 1.3 References

- A. AAMA 611- Voluntary Specification for Anodized Architectural Aluminum.
- B. ASTM 1008- Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
- C. ASTM A108-07- Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished, 2007.
- D. ASTM B209- Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- E. ASTM A240- Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- F. ASTM A370- Standard Test Methods and Definitions for Mechanical Testing of Steel Products.
- G. ASTM A401- Standard Specification for Steel Wire, Chromium-Silicon Alloy
- H. ASTM B221- Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

#### 1.4 Submittals

- A. Submit under provisions of Section 01 30 00.
- B. Basis of Design documents to be provided to manufacturer for product selection and installation.
  - 1. Design drawings adequate to describe the anticipated condition at point of installation. Drawings to include the following:
    - a. Dimensioned Floor Plans of installation area indicating materials.
    - b. Dimensioned Interior Elevations of all faces adjacent to installation area indicating materials and equipment.
    - c. Dimensioned vertical Sections and Details through both bartop/diewall assembly, and hinged side of countertop access door, adequate to define all adjacent construction and finishes.
  - 2. Specifications Requirements Worksheet as provided by manufacturer.
- C. Product Data: For each product used
  - 1. Manufacturer's product data including performance data.
  - 2. Manufacturer's preparation instructions and recommendations.
  - 3. Manufacturer's suggested Installation guidelines
  - 4. Storage and handling requirements and recommendations.
- D. Shop Drawings: For each product used
  - 1. Manufacturer shall submit shop drawings, showing details of attachment to surrounding materials and dimensioned elevations showing scope of installation.

#### 1.5 Quality Assurance

- A. Manufacturer Qualifications
  - 1. Manufacturer shall have a minimum of 20 years' experience manufacturing torsion spring hinge systems.
  - 2. Manufacturer shall have implemented the management of quality objectives, continual improvement, and monitoring of customer satisfaction to assure that customer needs and expectations are met.
- B. Product Qualifications
  - 1. Product shall have been tested to meet, or exceed, minimum 100,000 use cycles without adverse effect on products performance.
  - 2. During the assembly process, all product parts shall have been Cycled, Functionally Tested and Recorded a minimum of 2 times, at a load level equal to or higher than seen in the field, prior to shipping.
  - 3. Product shall be engineered and manufactured in such a manner by which it shall have unlimited shelf life, thereby not reducing the products useful life during storage prior to installation.

4. Product shall be engineered in such a manner that it can act as the hinge, thereby internalizing pivot forces to the installed device.

C. Installer Qualifications

1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

1.6 Delivery, Storage & Handling

- A. General: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- B. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- C. Storage: Store materials in a dry area, protected from damage and in accordance with manufacturer's instructions.
- D. Handling: Protect materials and finishes during handling and installation to prevent damage.

1.7 Project Conditions

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimal results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 Warranty

- A. Manufacturer shall provide standard limited warranty for torsion spring hinge systems for a period of 1 year from date of manufacture. When notified in writing from Owner of a manufacturing defect, manufacturer shall promptly repair or replace defective products or parts, at their manufacturing plant, or may at their option refund the purchase price, provided that notice of defects is given within 60 days of discovery of said defects.

## PART 2 PRODUCTS

2.1 Manufacturers

- A. Acceptable Manufacturer: CounterBalance Corporation, located at: 1025 Louis Drive, Warminster, PA 18974; Tel: 215-957-9260; Fax: 215-957-9263; Email: [sales@cbal.com](mailto:sales@cbal.com); Web: [www.cbal.com](http://www.cbal.com)
- B. Substitutions: Not Permitted
- C. Requests per substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 CounterBalance Assembly:

- A. General: Assembly shall provide neutral balance through 90 degrees of countertop travel, such that the lid will stay in place if released anywhere within this range.
- B. Type: CB 318, single and double tube configurations, with adjustment.

- C. Finish:
- Clear Anodized
  - Black Anodized
- 2.3 Cam Follower Arm:
- A. Material: Stainless Steel
- B. Thickness: 1/8"
- C. Finish:
- Unfinished
  - Epoxy Painted, Black
- 2.4 Cam:
- A. Material: Aluminum, Alloy 6061
- B. Thickness: 5/8"
- C. Finish:
- Clear Anodized
  - Black Anodized
- 2.5 Anchor Brackets:
- A. Material: Aluminum, Alloy 6061
- B. Thickness: Varies
- C. Finish:
- Clear Anodized
  - Black Anodized
- D. Adjustment:
- None
  - +/- 5%, Bolt Drive with 3/4" Hex Head
- 2.6 Assembly Mounting Bracket:
- A. Material: Aluminum, Alloy 6061
- B. Thickness: 1/4"
- C. Finish:
- Clear Anodized
  - Black Anodized
- 2.7 Door Mounting Bracket:
- A. Material: Aluminum, Alloy 6061
- B. Thickness: 1/4"
- C. Finish:
- Clear Anodized
  - Black Anodized

## **PART 3 EXECUTION**

### 3.1 Examination

- A. Inspect areas to receive new Counter-A-SYST™, and verify that all fit allowable tolerances, are plumb and level, provide adequate anchoring surface and substrate strength, and comply with approved shop drawings and manufacturer's suggested installation guidelines.
- B. Notify the Architect and/or manufacturer of conditions that would adversely affect the installation, or subsequent utilization of Counter-A-SYST™ system. Do not proceed with installation until unsatisfactory conditions are corrected.
- C. If opening preparation is the responsibility of another installer, notify General Contractor of unsatisfactory preparation before proceeding.

### 3.2 Preparation

- A. Clean all vertical and horizontal surfaces adjacent to installation area thoroughly prior to installation.
- B. Prepare surfaces using manufacturer's suggested installation guidelines for achieving best result for the substrate under project conditions.

### 3.3 Installation

- A. Install in accordance with approved shop drawings, specifications and manufacturer's suggested installation guidelines.
- B. Install Counter-A-SYST™ plumb, with all connection points to all existing substrates adequately anchored per manufacturers suggested installation guidelines.
- C. Thoroughly test installed Counter-A-SYST™ system to ensure that product is functioning per approved shop drawings, specifications and manufacturer's instructions. Adjust installed system as required to meet manufacturer's guidelines for product operation. Notify manufacturer if installed system cannot be adjusted, per manufacturer's instructions, to function in a satisfactory manner.
- D. Immediately notify Architect and/or manufacturer of any cosmetic or structural damage to installed products and coordinate available remedies with same.

### 3.4 Cleaning

- A. Clean Counter-A-SYST™ and all adjacent surfaces in accordance with manufacturer's instructions
- B. Touch-up, repair or replace adjacent surfaces damaged by the installation before substantial completion.

End of Section