# Code Compliance Research Report
# CCRR-0260

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**Renewal Date: 03-07-2018**
**Revision Date: 03-22-2017**

**DIVISION: 09 50 00 – Ceilings**
**Section: 09 51 00 – Acoustical Ceilings**
**Section: 09 51 33.13 Acoustical Snap in Metal Pan Ceiling**

**Roxul USA, Inc. dba Rockfon**
**4849 S. Austin Ave.**
**Chicago IL 60638**
**www.rockfon.com**

**REPORT SUBJECT:**

**SpanAir™ Torsion Spring Plus Concealed Metal Ceiling System**

## 1.0 SCOPE OF EVALUATION

This research report addresses compliance with the following Codes:

2015 International Building Code (IBC)

SpanAir™ Torsion Spring Plus has been evaluated for the following properties:

- Seismic
- Structural

See Table 1 for applicable Code sections related to these properties.

## 2.0 USES

**2.1.** Suspended large panel metal ceiling system primarily installed in large open areas such as corridors, passenger terminals and lobby areas.

**2.2.** The SpanAir ceiling system is an aluminum panel ceiling system attached to a suspended modular grid framing system by concealed torsion springs allowing for downward accessibility.

**2.3.** The torsion spring panels integrate with and conceal the suspension system by utilizing slots evenly spaced along flanges of the grid system.

## 3.0 DESCRIPTION

### 3.1. Materials

**3.1.1.** SpanAir Torsion Spring Plus Panels are manufactured from .040 inch thick aluminum.

**3.1.2.** The suspended grid system components consist of main runners and cross runners formed from cold rolled hot dipped G30 minimum galvanized steel.

**3.1.3.** Main runner is manufactured from steel with a minimum yield strength of 44 ksi.

**3.1.4.** Cross Runners are manufactured from steel with a minimum yield strength of 52 ksi.

### 3.2. Dimensions

**3.2.1.** The panels are available in widths from 24 to 48 inches and 24 to 120 inches in length.

**3.2.2.** The suspended grid components consist of cross tees available in lengths of 24, 36, and 48 inches, and a main runner 144 inches in length.

## 4.0 PERFORMANCE CHARACTERISTICS

The SpanAir Torsion Spring Plus ceiling system has been evaluated to the requirements of ICC ES AC156 Acceptance Criteria for Seismic Certification by Shake-Table Testing of Nonstructural Components for use in seismic design category C in areas of moderate seismic activity and Seismic categories D, E, and F for areas of severe seismic activity.

## 5.0 INSTALLATION

The SpanAir Torsion Spring Plus Ceiling System must be installed in accordance with the manufacturer's published installation instructions, the applicable Code and this Research Report. The manufacturer's published installation instructions and this Research Report must be strictly adhered to, and a copy of the instructions must be available on the jobsite during installation.

**5.1.** The Grid system shall be installed to the requirements of ASTM C636. For seismic design categories C, D, E, and F additional installation requirements detailed in ASTM E580 shall be followed.

## 6.0 SUPPORTING EVIDENCE

**6.1.** Data of seismic performance in accordance to AC156 ICC-ES Acceptance Criteria for Seismic Certification by Shake-Table Testing of Nonstructural Components revised May 2015.

**6.2.** Data in accordance with AC368 ICC-ES Acceptance Criteria for Suspended Ceiling Framing Systems Dated July 2015.

**6.3.** Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

## 7.0 CONDITION OF USE

**7.1.** The SpanAir™ Torsion Spring Plus Concealed Metal Ceiling described in this Research Report complies with, or is a suitable alternative to, what is specified in those Codes listed in Sections 1.0 and 2.0 of this report, subject to the following conditions:

**7.2.** SpanAir panels shall not support any additional weight. Light fixtures, HVAC vents or any other items must be independently supported.

**7.3.** Installation must comply with this Research Report, the manufacturer's published installation instructions and the applicable Code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.

**7.4.** The SpanAir ceiling system shall not be used to provide lateral support for wall or partitions.

**7.5.** Suspended ceilings installed in seismic categories C, D, E, and F are subject to periodic special inspection as required by ASCE 7, section 11A.1.3.9 item 2. Special inspector shall verify ceiling installation is in compliance with section 7.3 of this report.

**7.6.** A statement of special inspection shall be provided for use in Seismic Design Categories C, D, E, and F where seismically qualified through testing as required by 2015 IBC Sections 1705.1.1, 1704.5 and 1705.13.2.

**7.7.** SpanAir Torsion Spring Plus ceiling components are manufactured in Chicago Illinois in accordance with an approved quality control system with inspections by Intertek.

## 8.0 IDENTIFICATION

The SpanAir™ Torsion Spring Plus suspended ceiling system described in this Research Report are identified by a marking bearing the report holder's name (Rockfon), the Intertek Mark, and the Code Compliance Research Report number (CCRR-0260) and the following statement: "See CCRR-0xxx at https://whdirectory.intertek.com for uses and performance levels."

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## 9.0 OTHER CODES

This section is not applicable.

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## 10.0 CODE COMPLIANCE RESEARCH REPORT USE

**10.1.** Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

**10.2.** Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek-ATI.

**10.3.** Reference to the Intertek **Listed Product and Code Compliance Directory** (www.whdirectory.intertek.com) is recommended to ascertain the current version and status of this report.

### TABLE 1 – PROPERTIES EVALUATED

| PROPERTY | IBC SECTION |
|---|---|
| Seismic | 1705.13.2 & 1705.13.3 |
| Structural | 1613.1, 2506.2.1, 104.11 |

### TABLE 2 – SUSPENSION GRID SYSTEM COMPONENTS

| | Item Number | Length (in) | Material Thickness (in) | Simple Span Uniform | |
|---|---|---|---|---|---|
| | | | | Span (in.) | lbs./LF |
| Main Runner | 10.00.421.000 | 144 | 0.020 | 48 | 16.12 |
| Cross Tee | 10.00.424.000 | 48 | 0.0195 | 48 | 18.3 |
| Cross Tee[1] | 10.00.423.000 | 36 | 0.0195 | 36 | 39.8 |
| Wall Channel | 60.00.006.001 | 120 | .024 Aluminum | | |
| Spacer Bar | 828 | 48 | 0.0185 | | |
| Brace Attachment | 989 | N/A | 0.042 | | |
| Hold-down channel | 600.00.037 | 48 | 0.03 | | |
| Hold-down channel | 60.00.038 | 15 | 0.03 | | |

[1]Cross Tees shorter than 36in. are permitted the same uniform load as those for 36in.

**TABLE 3 - BASIC SPANAIR TORSION PANEL PLUS DIMENSIONS[1]**

| Item number | Width (in.) | Length (in.) | Total Springs Per Full Panel |
|---|---|---|---|
| ATS24120X.xxx | 24 | 120 | 6 |
| ATS24096X.xxx | 24 | 96 | 6 |
| ATS24072X.xxx | 24 | 72 | 4 |
| ATS36120.xxx | 36 | 120 | 10 |
| ATS36108.xxx | 36 | 108 | 10 |
| ATS36096.xxx | 36 | 96 | 8 |
| ATS36072.xxx | 36 | 72 | 6 |
| ATS36036.xxx | 36 | 36 | 4 |
| ATS48120X.xxx | 48 | 120 | 10 |
| ATS48096X.xxx | 48 | 96 | 8 |
| ATS48072X.xxx | 48 | 72 | 6 |
| ATS48048X.xxx | 48 | 48 | 4 |

[1]Basic panel sizes shown. Intermediate sizes are available. Allowable sizes range from 24-48in wide and 24-120 in. long

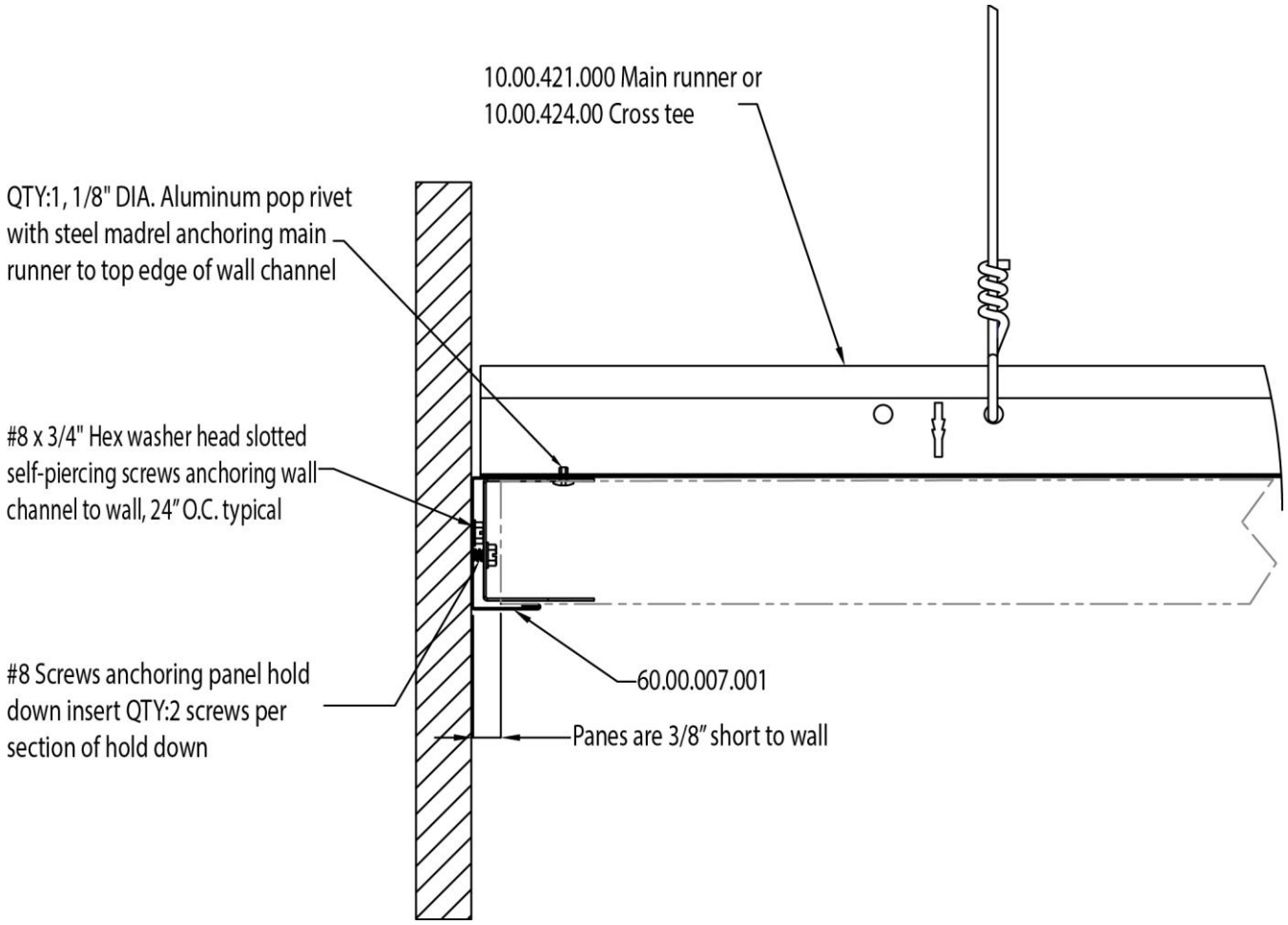


**FIGURE 1 –Fixed Wall Seismic Installation Detail**

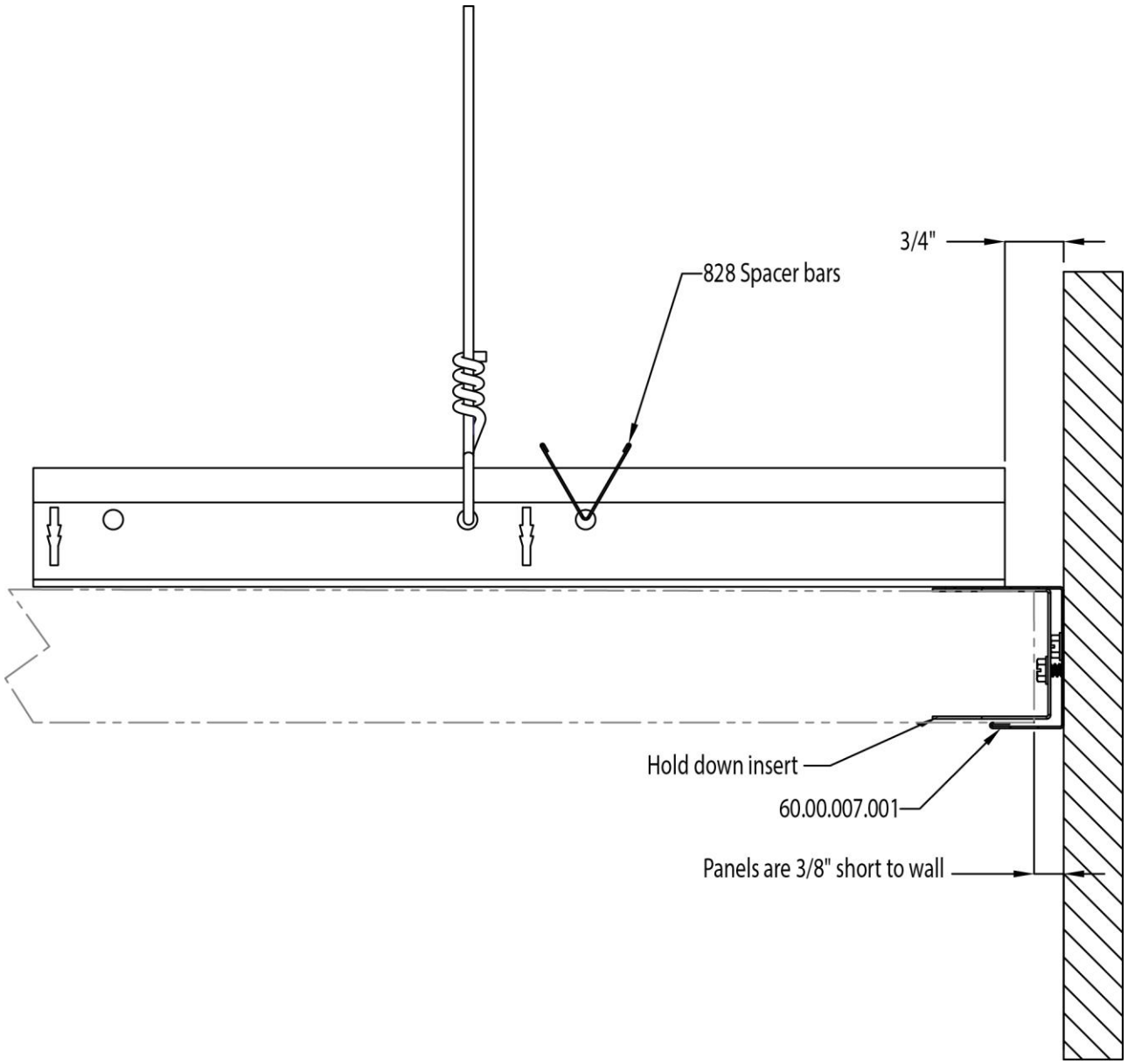


**FIGURE 2 – Free Wall Seismic Installation Detail**

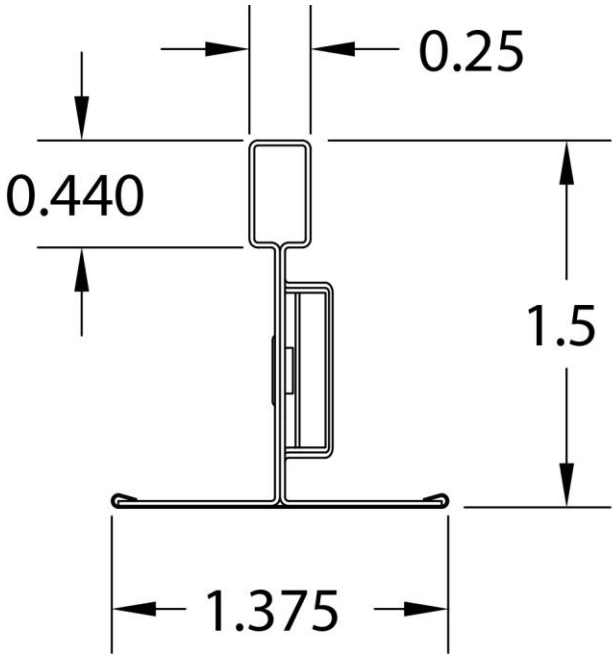


Figure 3 – Main Runner Profile

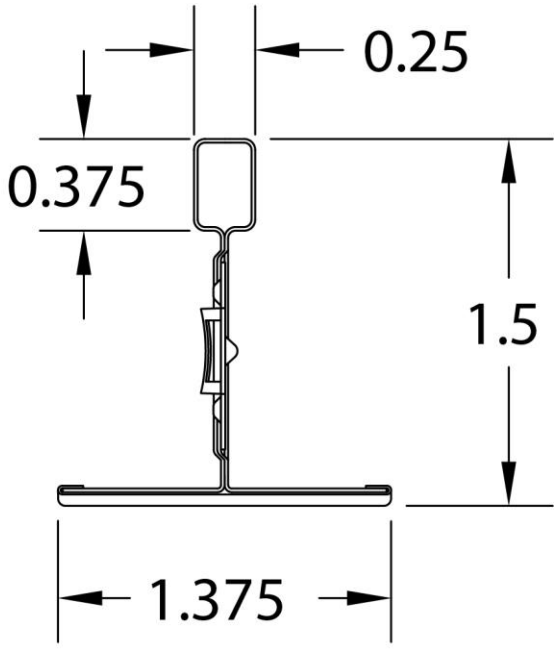


Figure 4 – Cross Runner Profile

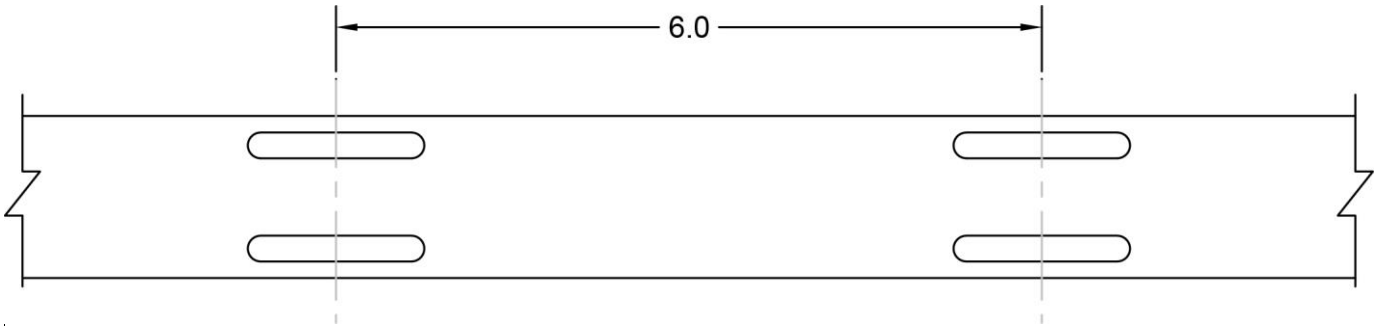


Figure 5 - Torsion Spring Slots

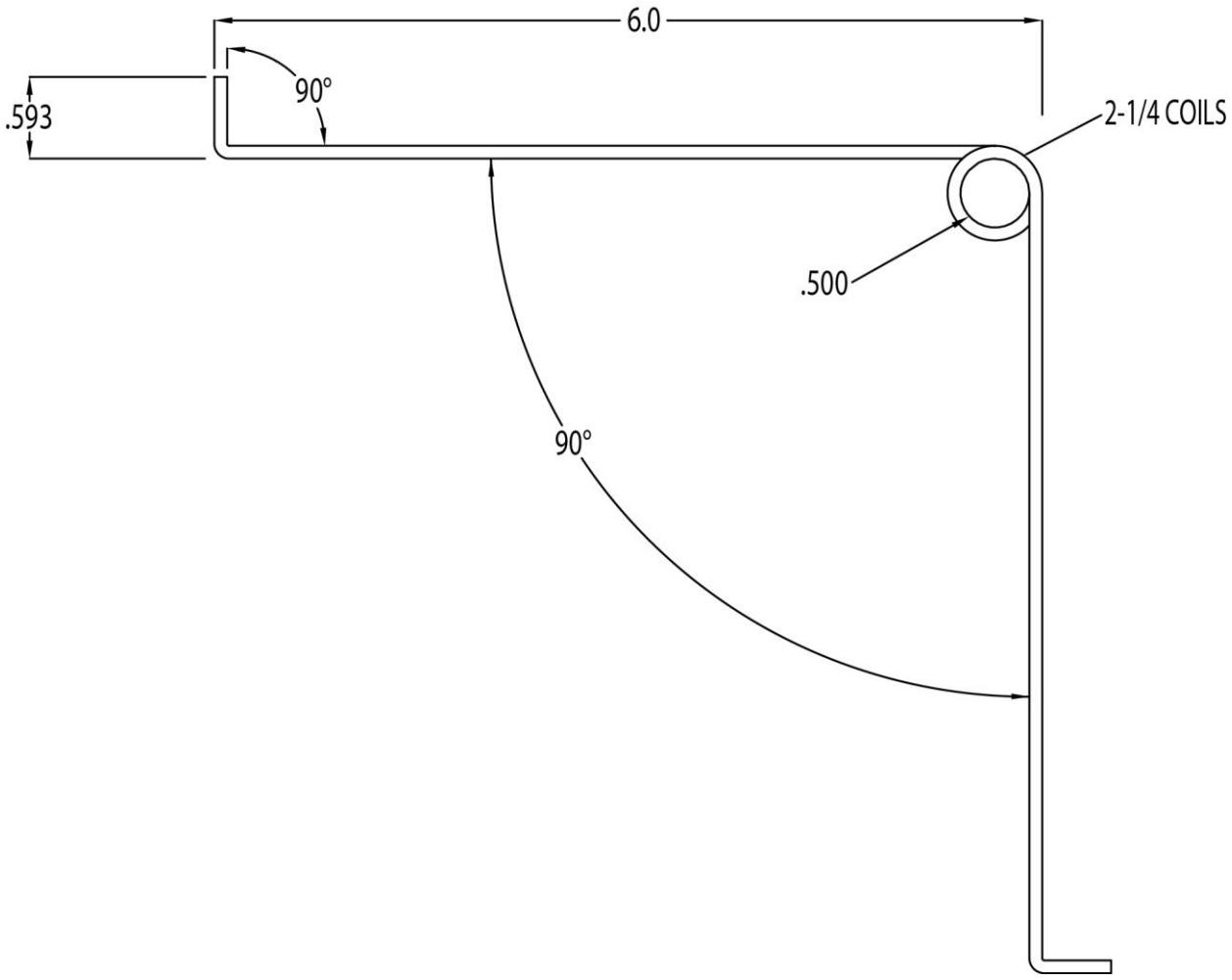


**Figure 6 - Torsion Spring**