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# APPROVAL REPORT

**Project No:** 0003053725  
**Class:** 1952  
**Product Name:** Pipe Hanger Components for Automatic Sprinkler Systems  
Expansion Shields  
Model TruBolt+, Sizes 3/8, 1/2, 5/8 and 3/4 inch  
**Product Type:** Expansion Shields  
**Name of Listing Company:** ITW Commercial Construction North America  
**Address of Listing Company:** 700 High Grove Blvd  
Glendale Heights, IL 60143  
**Customer ID:** 1000002231-1  
**Customer website** www.itw-redhead.com

**Prepared by**



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Bruce D. Wood  
Senior Engineer

**Reviewed by**



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Technical Team Manager



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David B. Fuller  
AVP, Manager - Fire Protection

**February 16, 2016**

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**Date of Approval**

## 1 INTRODUCTION

1.1 ITW Commercial Construction North America (ITW) requested Approval of their TruBolt+ series of expansion shields as listed in Section 1.4 for compliance with the standards listed in Section 1.3.

1.2 This report may be freely reproduced only in its entirety and without modification.

### 1.3 Standards

Title	Class Number	Date
Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems	1951	September 2003

### 1.4 Listing

The product will be updated in the Approval Guide, an on-line resource of FM Approvals, as follows with all changes highlighted, deletions shown with strikethroughs and additions in red text:

[Automatic Sprinkler Systems](#) [Fasteners](#) [Expansion Shields](#)

<i>Product Designation</i>	<i>Hanger Rod Size, mm</i>	<i>Max Nominal Pipe Size, in.</i>	<i>Remarks</i>
Redi-Drive Anchor			
PD8-134	3/8	3/4 through 4	
Shallow Embedment Anchor.			
RX-38	3/8	4	
Red Head Stud Anchor			
JS-38	3/8	4	
JS-12	1/2	8	
JS-58	5/8	8	
JS-34	3/4	12	
Red Head Sleeve Anchor			
HN-1222, -1230, -1240, -3817, -3830	3/8	3/4-4	
HN-5822, -5830, -5842, -5860	1/2	5-8	
HN-3424, -3440, -3462	5/8	12	
SHN-3817, -3830	3/8	3/4-4	303 stainless steel
SHN-1222, -1240	1/2	5-8	303 stainless steel
SHN-5830, -5842	5/8	10-12	303 stainless steel
Red Head Wedge Anchor.			
WS-3822, -3826, -3830, -3836, -3850	3/8	3/4-4	
WS-1226, -1236, -1242, -1254, -1270	1/2	5-8	
WS-5834, -5842, -5850, -5860, -5870, -5884	5/8	10, 12	
WS-3446, -3454, -3470, -3484, -34100, -3442, -3462	3/4	10, 12	
WS-1226G, -1242G, -1254G, -1270G	1/2	5-8	

<b>Product Designation</b>	<b>Hanger Rod Size, mm</b>	<b>Max Nominal Pipe Size, in.</b>	<b>Remarks</b>
WS-5834G, -5860G	5/8	10, 12	
WS-3446G, -3454G, -3484G	3/4	10, 12	
WW-3822, -3826, -3830, -3836, -3850	3/8	3/4-4	
WW-1226, -1236, -1242, -1254, -1270	1/2	5-8	
WW-5834	5/8	10, 12	
WW-5850, -5860, -5870	5/8	10, 12	Min 3 5/8 in. (92 mm) Embedment
WW-3446, -3454, -3470, -3484, -34100	3/4	10, 12	303 stainless steel
SWW-3826, -3836	3/8	3/4-4	316 stainless steel
SWW-1226, -1242	1/2	5-8	316 stainless steel
SWW-5850	5/8	10, 12	316 stainless steel Min 3 5/8 in. (92 mm) Embedment
SWW-3446, -3454	3/4	10, 12	316 stainless steel
<b>Red Head Multi-Set II Flange Anchor</b>			
RM-38	3/8	3/4-4	
RM-12	1/2	5-8	
RM-58	5/8	12	
RM-34	3/4	12	
SRM-38	3/8	3/4-4	303 stainless steel
SRM-12	1/2	5-8	303 stainless steel
SRM-58	5/8	10, 12	303 stainless steel

<b>Product Designation</b>	<b>Hanger Rod Size, inch</b>	<b>Max Nominal Pipe Size, in.</b>	<b>Remarks</b>
TruBolt+	3/8	4	also FM Approved when made from stainless steel
TruBolt+	1/2	8	also FM Approved when made from stainless steel
TruBolt+	5/8	12	also FM Approved when made from stainless steel
TruBolt+	3/4	12	also FM Approved when made from stainless steel

## 2 DESCRIPTION

The products examined under this project are wedge anchors designed to be installed in predrilled holes in concrete. The body of the anchor is a threaded rod with a wedge. That wedge is surrounded by a sleeve. When the anchor is installed in the predrilled hole and a nut tightened against the surface of the concrete the wedge is driven up into the sleeve, resulting in a clamping force against the wall of the hole. This force resists the anchor pull out.

A rod coupling or other pipe hanger component can be attached to the anchor to support sprinkler piping.

The TruBolt+ anchors in 3/8, 1/2 and 5/8 were previously Approved and are discussed in the Approval Report for PI 3050735. The design was changed and the new design examined in this project. The 3/4 inch size was also added under this project. The TruBolt+ anchors are FM Approved in 3/8, 1/2, 5/8 and 3/4 inch rod sizes in carbon steel and stainless steel.

The new design is detailed in the drawings listed on lines 6-9 and 33 to 40 on the attached Blueprint Report. The old design will remain FM Approved until it goes out of production and ITW requests those drawings be archived.

### 3 EXAMINATIONS AND TESTS

Samples were submitted for examination and testing. The samples were considered to be representative of the product line and were examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

All testing and analysis considered appropriate was conducted and verified to be in compliance with the Standards defined in Section 1.3.

### 4 MARKING

The following information appears on the products (or the product packaging in the case of small items) described in Section II and meets Standard requirements:

- Manufacturer's logo
- Nominal pipe size
- Model reference
- The FM Approvals mark of Approval

### 5 REMARKS

5.1 Installations shall comply with the relevant requirements of the applicable FM Global *Property Loss Prevention Data Sheets*.

5.2 Installations shall comply with the latest edition of the manufacturer's installation instructions.

### 6 SURVEILLANCE AUDIT

The design and manufacturing facilities at the following locations shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture product identical to that tested and Approved. An FM Approved Product Revision Request Form shall be submitted to FM Approvals for requesting to manufacture product at any additional or alternate manufacturing facilities which are not listed below.

Design	Manufacturing (Clip and Final Assembly)	Manufacturing (Body)
ITW Buildex Corp. 1349 W Bryn Mawr Ave Itasca, IL 60143	ITW Buildex Corp. 1349 W Bryn Mawr Ave Itasca, IL 60143	ITW Commercial Const. NA 86 Chancellor Drive Roselle, IL 60172

## **7 MANUFACTURER'S RESPONSIBILITIES**

- 7.1** Documentation that is applicable to this approval is on file at FM Approvals and listed in the Documentation File, Section 8, of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The Approved Product Revision Report Form shall be forwarded to FM Approvals as notice of proposed changes.
- 7.2** The Manufacturer is responsible for control of the product marking and installation instructions for the System.

## **8 DOCUMENTATION**

See attached blueprint report.

## **9 CONCLUSION**

The TruBolt+ expansion shields described in Section 1.4 meet FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, FM Approval is effective the date of this report.

**PROJECT DATA RECORD:** 0003053725

**ATTACHMENTS:** Blueprint Report

# Blueprint Report

**ITW Buildex Corp (1000002231)**

**Class No 1952**

**Original Project I.D. 3020925**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
12XX-TB3C	0	1/2"TB+ ANCHOR BODY	3053725	Yes (pdf)
34XX-TB3C	0	3/4"TB+ ANCHOR BODY	3053725	Yes (pdf)
38XX-TB3C	0	3/8"TB+ ANCHOR BODY	3053725	Yes (pdf)
58XX-TB3C	0	5/8"TB+ ANCHOR BODY	3053725	Yes (pdf)
8037957	3	DSTR-1 1/2	5/20/2010	No
8038957	3	DSTR-1	5/20/2010	No
8039957	3	DSTR 516	5/20/2010	No
8045957	3	DST 516	5/20/2010	No
8046957	3	TEK 50	5/20/2010	No
8054957	0	SWDR 1-1/2	3020925	No
8055957	1	SWDR1	3020925	No
8056597	1	SWDR 516	3020925	No
8059957	0	Sammy Concrete Screw	3020925	No
8061957	0	SWC20	3020925	No
8137957	0	SH DSTR1	3020925	No
8139957	0	SH-GST20 & SH-GST30	3020925	No
8192200	3	SAMMY SWIVEL X-PRESS CAP	3031269	No
8193900	1	SXP, SWIVEL X-PRESS ANCHOR	3031269	No
8269	1	SH-GST/CST 20	3049284	Yes (pdf)
8294922	0	SXP 20 SWIVEL X-PRESS	3031269	No
8295922	0	SXP 35 SWIVEL X-PRESS	3031269	No
8306957	0	CCST 516 Sammys 5/16"-14 x 2-1/2" TAPCON ATFT	3049284	Yes (pdf)
8307957	0	SWCC 516 Sammys 5/16"-14 x 2-1/2" TAPCON ATFT	3049284	Yes (pdf)
8308957	0	SH-CCST 516 Sammys 5/16"-14 x 2-1/2" TAPCON ATFT	3049284	Yes (pdf)
AVK4427	A	SPECIAL 'AR' SERIES INSERT SALES DRAWING	3031269	No
ENG-B120	1	SXP-120	3020925	No
ENG-B135	1	SXP-135	3020925	No
TB3C-12C	0	1/2"TB+ ANCHOR CLIP	3053725	Yes (pdf)
TB3C-12XX	0	1/2" TRUBOLT+	3053725	Yes (pdf)
TB3C-34C	0	3/4"TB+ ANCHOR CLIP	3053725	Yes (pdf)
TB3C-34XX	0	3/4" TRUBOLT+	3053725	Yes (pdf)
TB3C-38C	0	3/8"TB+ ANCHOR CLIP	3053725	Yes (pdf)
TB3C-38XX	0	3/8" TRUBOLT+	3053725	Yes (pdf)
TB3C-58C	0	5/8"TB+ ANCHOR CLIP	3053725	Yes (pdf)
TB3C-58XX	0	5/8" TRUBOLT+	3053725	Yes (pdf)