



# Certificate of Compliance

This certificate is issued for the following:

## Seismic Sway Brace Components For Automatic Sprinkler Systems Piping Attached Products

Model	Part Description	Orientation	Run Pipe Nominal Size, in.	Run Pipe Reference	Horizontal Load Ratings lb (N)				Remarks
					Installation Angle (a)				
					30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBBRP	Pipe Clamp	Lateral	1, 1.25	LW, 10, 40	120 (535)	170 (755)	210 (935)	230 (1025)	c, d, e, g
CSBBRP	Pipe Clamp	Lateral	1, 1.25	LW, 10, 40	140 (625)	190 (845)	240 (1070)	270 (1200)	c, d, e, h
CSBBRP	Pipe Clamp	Lateral	1-1/2, 2	LW, 10, 40	140 (625)	190 (845)	240 (1070)	270 (1200)	c, d, e, g
CSBBRP	Pipe Clamp	Lateral	1-1/2, 2	LW, 10, 40	110 (490)	150 (665)	190 (845)	210 (935)	c, d, e, h
CSBEZU	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW, 10, 40	860 (3825)	1220 (5425)	1500 (6670)	1670 (7430)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	1, 1-1/4, 1-1/2	LW, 10, 40	390 (1735)	550 (2445)	670 (2980)	750 (3335)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	2, 2-1/2, 3	LW, 10, 40	1530 (6805)	2160 (9610)	2650 (11790)	2960 (13165)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	2, 2-1/2, 3	LW, 10, 40	520 (2315)	690 (3070)	830 (3690)	930 (4136)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	4, 5	LW, 10, 40	1570 (6985)	2220 (9875)	2720 (12100)	3030 (13480)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	4, 5	LW, 10, 40	630 (2800)	900 (4005)	1100 (4895)	1230 (5470)	a, c, d, e
CSBEZU	Pipe Clamp	Lateral	6	LW, 10, 40	1980 (8805)	2810 (12500)	3440 (15300)	3840 (17080)	a, c, d, e
CSBEZU	Pipe Clamp	Longitudinal	6	LW, 10, 40	730 (3245)	1000 (4450)	1230 (5470)	1370 (6095)	a, c, d, e
CSBQG	Pipe Clamp	Lateral	2.5	LW, 10, 40	1410 (6270)	2000 (8895)	2450 (10900)	2740 (12190)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	3, 4	LW, 10, 40	1190 (5295)	1680 (7475)	2060 (9163)	2300 (10230)	b, c, d, e



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CSBQG	Pipe Clamp	Lateral	5, 6	LW, 10	870 (3870)	1230 (5470)	1510 (6715)	1690 (7515)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	5, 6	40	970 (4315)	1370 (6095)	1680 (7475)	1870 (8320)	b, c, d, e
CSBQG	Pipe Clamp	Lateral	8	0.188, 40	790 (3515)	1110 (4940)	1360 (6050)	1520 (6760)	b, c, f
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW	290 (1290)	410 (1830)	495 (2200)	550 (2445)	b, e
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	10	150 (665)	210 (935)	280 (1245)	315 (1400)	b, d
CSBQIKCL	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	40	475 (2115)	665 (2960)	825 (3670)	925 (4115)	b, c
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	LW	390 (1735)	550 (2445)	670 (2980)	750 (3335)	b, e
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	10	350 (1555)	500 (2225)	620 (2760)	690 (3070)	b, d
CSBQIKCL	Pipe Clamp	Lateral	2, 2-1/2, 3, 3-1/2	40	490 (2180)	690 (3070)	850 (3780)	950 (4225)	b, c
CSBQIKCL	Pipe Clamp	Lateral	4	LW	470 (2090)	660 (2935)	810 (3605)	910 (4050)	b, e
CSBQIKCL	Pipe Clamp	Lateral	4	10	510 (2270)	730 (3245)	890 (3960)	990 (4405)	b, d
CSBQIKCL	Pipe Clamp	Lateral	4	40	500 (2225)	710 (3160)	870 (3870)	970 (4315)	b, c
CSBQIKCSE	Pipe Clamp	Lateral	4	LW	1370 (6095)	1940 (8630)	2380 (10590)	2260 (10055)	b, e
CSBQIKCSE	Pipe Clamp	Lateral	4	10	1280 (5695)	1810 (8050)	2220 (9875)	2480 (11030)	b, d
CSBQIKCSE	Pipe Clamp	Lateral	4	40	1290 (5740)	1820 (8095)	2230 (9920)	2490 (11075)	b, c
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	LW	840 (3735)	1190 (5295)	1460 (6495)	1630 (7250)	b, e
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	10	850 (3780)	1200 (5340)	1480 (6585)	1650 (7340)	b, d
CSBQIKCSE	Pipe Clamp	Lateral	5, 6	40	1060 (4715)	1510 (6715)	1840 (8185)	2060 (9165)	b, c
CSBQIKCSE	Pipe Clamp	Lateral	8	0.188	880 (3915)	1250 (5560)	1530 (6805)	1710 (7605)	b, f



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CSBQIKCSE	Pipe Clamp	Lateral	8	40	950 (4225)	1350 (6005)	1650 (7340)	1840 (8185)	b, c
CSBSTU	Pipe Clamp	Lateral	1, 1-1/4, 1-1/2	LW, 10, 40	860 (3825)	1220 (5425)	1500 (6670)	1670 (7430)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	1, 1-1/4, 1-1/2	LW, 10, 40	970 (4315)	720 (3200)	860 (3825)	960 (4270)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	2, 2-1/2, 3	LW, 10, 40	1530 (6805)	2160 (9610)	2650 (11790)	2960 (13165)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	2, 2-1/2, 3	LW, 10, 40	870 (3870)	690 (3070)	830 (3690)	930 (4136)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	4, 5	LW, 10, 40	1570 (6985)	2220 (9875)	2720 (12100)	3030 (13480)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	4, 5	LW, 10, 40	1550 (6895)	1390 (6185)	1680 (7475)	1870 (8320)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	6	LW, 10, 40	1980 (8805)	2810 (12500)	3440 (15300)	3840 (17080)	a, c, d, e
CSBSTU	Pipe Clamp	Longitudinal	6	LW, 10, 40	1470 (6540)	1170 (5205)	1410 (6270)	1570 (6985)	a, c, d, e
CSBSTU	Pipe Clamp	Lateral	8, 10	0.188, 40	2040 (9075)	2890 (12855)	3540 (15745)	3950 (17570)	a, c, f
CSBSTU	Pipe Clamp	Longitudinal	8, 10	0.188, 40	1200 (5340)	1700 (7560)	2090 (9295)	2330 (10365)	a, c, f

## Seismic Sway Brace Components For Automatic Sprinkler Systems Structure Attached Products

Model	Part Description	Joist or Beam Thickness, in (mm)	Orientation	Horizontal Load Ratings lb (N)				Remarks
				Installation Angle (α)				
				30° - 44°	45° - 59°	60° - 74°	75° - 90°	
CSBBARJ	Beam Clamp	1/4 - 1/2 (6.3 - 12.7)	Lateral	1740 (7740)	1710 (7605)	2060 (9165)	2300 (10230)	a
CSBBARJ	Beam Clamp	1/4 - 1/2 (6.3 - 12.7)	Longitudinal	1410 (6270)	2110 (9385)	2540 (11300)	2830 (12590)	a
CSBBRS1	Structure Attached	Steel - 12 Ga. 0.1094 - 0.50 inch (2.78 - 12.7 mm)	N/A	220 (980)	310 (1380)	210 (935)	210 (935)	g
CSBBRS1	Structure Attached	Steel - 12 Ga. 0.1094 - 0.50 inch	N/A	210	290	200	220	h



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		(2.78 – 12.7 mm)		(935)	(1290)	(890)	(980)	
CSBBRS2	Structure Attached	N/A	N/A	210 (935)	290 (1290)	200 (890)	210 (935)	g, h
CSBBRS3	Structure Attached	N/A	N/A	320 (1425)	310 (1380)	190 (845)	210 (935)	k
CSBBRS3	Structure Attached	Steel – 16 Ga (0.0598 inch (1.5 mm)) Minimum	N/A	320 (1425)	310 (1380)	190 (845)	210 (935)	j
CSBBRS3	Structure Attached	0.25 – 0.75 (6 – 19mm)	Lateral	120 (535)	170 (755)	210 (935)	230 (1025)	g, h, i
CSBBRS3	Structure Attached	0.25 – 0.75 (6 – 19mm)	Longitudinal	140 (625)	200 (890)	230 (1025)	260 (1155)	g, h, i
CSBBC	Beam Clamp	0.25 – 0.75 (6 – 19mm)	Lateral	1190 (5295)	1680 (7475)	1160 (5160)	1280 (5695)	a
CSBBC	Beam Clamp	0.25 – 0.75 (6 – 19mm)	Longitudinal	1620 (7205)	1710 (7605)	1010 (4495)	1110 (4940)	a
CSBIB	Beam Clamp	0.25 – 1-1/4 Thick (6.3 – 31 mm) Thick 4 – 18 inch wide (100 – 455 mm wide)	Lateral	1620 (7205)	2300 (10230)	2820 (12545)	3140 (13965)	a
CSBIB	Beam Clamp	0.25 – 1-1/4 Thick (6.3 – 31 mm) Thick 4 – 18 inch wide (100 – 455 mm wide)	Longitudinal	1620 (7205)	1710 (7605)	1010 (4495)	1110 (4940)	a
CSBUNIV	Structure Attached	N/A	N/A	1620 (7205)	2300 (10230)	2820 (12545)	3140 (13965)	a

**Remarks:**

- a. FM Approved when used with 1", 1-1/4", 1-1/2", or 2" (DN25, DN32, DN40, DN50) NPS Schedule 40, GB/T 3091, EN 10255 (Heavy), AS 1074 Heavy or JIS G3454 brace pipe.
- b. FM Approved when used with 1" and 1-1/4" (DN 25 and DN32) NPS Schedule 40, AS 1074 Heavy, GB/T 3091, EN 10255 (Heavy), or JIS G3454 brace pipe.
- c. Load ratings for Schd 40 above may also be applied to AS 1074 Heavy, GB/T 3091, EN 10255 (Heavy), and JIS G3454 pipe.
- d. Load ratings for Schd 10 above may also be applied to AS 1074 Medium, GB/T 3091, EN 10255 (Medium or Heavy), JIS G3452, FM Approved Thinwall, and Schd 40 pipes unless otherwise indicated.
- e. Load ratings for LW above refers to FM Approved Lightwall Pipe, commonly referred to as "Schedule 7". These ratings may also be applied to AS 1074 Lightwall, EN 10255 L, EN 10220, and GB/T 8163 pipe unless otherwise specified.
- f. Load ratings for "0.188 wall" above may be applied to any thicker walled pipe unless otherwise specified.
- g. Load ratings based on the use of a 3/8"-16 UNC (M10 x 1.5) threaded rod as the brace member.
- h. Load ratings based on the use of 1/2"-13UNC (M12 x 1.75) threaded rod as the brace member.



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i. Load ratings based on the use of a Model 300 Beam Clamp (3/8"-16UNC / M10 x 1.5 Bolt) as means for attachment to structural member.

j. Load ratings based on the use of 3/8"-16 UNC (M10 x 1.5) threaded fastener as the attachment fastener to the structural member.

k. Load ratings based on the use of 3/8"-16 UNC (M10 x 1.5) threaded fastener as the attachment fastener to a concrete insert

## Prepared for:

ERICO International Corp  
34600 Solon Rd  
Solon, OH 44139  
United States

FM Approvals Class: 1951

Approval Identification:	0003034090	Approval Granted: June 10, 2009
	0003042360	Approval Granted: December 12, 2011
	0003044398	Approval Granted: December 15, 2011

Supersedes previously issued Certificates of Compliance for the above Project IDs

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

A handwritten signature in black ink, appearing to read 'Richard B. Dunne', is written over a white rectangular background.

July 9, 2014

Date

Richard B. Dunne  
Manager -Fire Protection  
FM Approvals  
1151 Boston-Providence Turnpike  
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## Pipe Hangers

Pipe hangers are used to support a sprinkler piping system from the building structure. Two or more listed components may be required to form a complete hanger. The specific components required depend upon the type of building construction and the pipe size.

### Pipe Hangers

<b>Product Designation</b>	<b>Hanger Rod Size, in. (mm)</b>	<b>Component Description</b>	<b>For Nominal Pipe Sizes, in. (mm)</b>	<b>Remarks</b>
1	3/8 (10)	Loop Hanger	3/4 through 4	-
37	3/8 (10)	Eye Socket	3/4 through 4	-
37	1/2 (12)	"	2 1/2 through 6	-
38	3/8 (10)	Offset Eye Socket	3/4 through 4	-
100	3/8 (10)	Adjustable Swivel Hanger	3/4 through 2	-
100	1/2 (12)	"	2 1/2, 3 1/2	-
100	5/8 (16)	"	4, 5	-
100	3/4 (19)	"	6	-
100	7/8 (22)	"	8	-
115	3/8 (10)	Pipe Hanger	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4	EG, HD, FL
115	1/2 (12)	Pipe Hanger	5, 6, 8	EG, HD, FL
130	3/8 (10)	"	3/4 through 4	-
130	1/2 (12)	"	5 through 8	-
135	-	"Yook" Loop	3/4 through 4	d
135CT	-	"	3/4 through 2	e
137	-	"	3/4 through 2	f
280	3/8 (10)	Beam Clamp	3/4 through 4	PL, EG
280	1/2 (12)	Beam Clamp	5 through 8	PL, EG
290	3/8 (10)	Beam Clamp	3/4 through 4	PL, EG
290	1/2 (12)	Beam Clamp	5 through 8	PL, EG

300	3/8 (10)	"	3/4 through 4	PL, EG
300	1/2 (12)	"	3/4 through 8	PL, EG
TK 300-M10 P1	(10)	"	(20) through (100)	EG
TK 300-11MM P1	(10)	"	(20) through (100)	EG
TK 300M-11MM P1	(10)	"	(20) through (100)	EG
TK 300-M12 P1	(12)	"	(20) through (200)	EG
TK 300-13MM P1	(12)	"	(20) through (200)	EG
TK 300M-13MM P1	(12)	"	(20) through (100)	EG
300D	3/8 (10)	"	3/4 through 4	PL, HD, EG
300D	1/2 (12)	"	3/4 through 8	PL, HD, EG
310	3/8 (10)	"	3/4 through 4	PL, EG
310	1/2 (12)	"	3/4 through 8	PL, EG
310D	3/8 (10)	"	3/4 through 4	PL, HD, EG
310D	1/2 (12)	"	3/4 through 8	PL, HD, EG
BTK 310-M10 P1	(10)	"	(20) through (100)	EG
BTK 310-11MM P1	(10)	"	(20) through (100)	EG
BTK 310M-11MM P1	(10)	"	(20) through (100)	EG
BTK 310-M12 P1	(12)	"	(20) through (200)	EG
BTK 310-13MM P1	(12)	"	(20) through (200)	EG
BTK 310M-13MM P1	(12)	"	(20) through (100)	EG
315	3/8 (10)	Purlin Klif Klamp	3/4 through 4	PL, EG, HD, CG
329	3/8 (10)	Side Beam Attachment	3/4 through 4	EG
400	3/8 (10)	Clevis Hanger	2 1/2 through 4	PL, RO, FL
400	1/2 (12)	"	5, 6, 8	PL, RO, FL
401	3/8 (10)	Clevis Hanger	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4	EG
401	1/2 (12)	Clevis Hanger	5, 6, 8	EG
406	1/2 (12)	Clevis Hanger	2 1/2 through 4	S4, S6

406	5/8 (16)	"	5, 6, 8	S4, S6
420	3/8 (10)	Clevis Hanger	3/4, 1, 1 1/4, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4	EP
420	1/2 (12)	Clevis Hanger	5, 6, 8	EP
427	3/8 (10)	Clevis Hanger	3/4 through 2	-
427	1/2 (12)	"	2 1/2 and 3	-
427	5/8 (16)	"	4 and 5	-
427	3/4 (20)	"	6 and 8	-
Fig. 1	3/8 (10)	Swivel Pipe Loop	3/4 through 2	c
Fig. 1	3/8 (10)	"	2 1/2 through 4	c
Fig. 1	1/2 (12)	"	5 through 8	c
35	3/8 (10)	Standard C-Clamp	3/4 through 4	b, c
36	1/2 (12)	"	5 through 8	b, c
37	3/8 (10)	Wide Throat C-Clamp	3/4 through 4	c
37	1/2 (12)	"	5 through 8	c
58	3/8 (10)	Steel Side Beam Bracket	4	-
128BTS	3/8 (10)	Ceiling Plate	3/4 through 2	-
547	3/8 (10)	Steel Clamp	4	-
548	1/2 (12)	"	8	-
FCS	3/8 (10)	Loop Hanger	3/4 through 4	-
FCS	1/2 (12)	Loop Hanger	5, 6	-
FCS	5/8 (16)	Loop Hanger	8	-
EPB Plus	3/8 (10)	Loop Hanger	3/4 - 4	-
EPB Plus	1/2 (12)	Loop Hanger	5, 6	-



EPB Plus	58 (16)	Loop Hanger	8	-
112	38 (10)	Loop Hanger	3/4 through 4	-
112	1/2 (12)	Loop Hanger	5, 6 and 8	-
116	38 (10)	Loop Hanger	3/4 through 4	-
116	1/2 (12)	Loop Hanger	5, 6 and 8	-
112M/FCN	38 (10)	Loop Hanger	3/4 through 4	
112M/FCN	1/2 (12)	Loop Hanger	5, 6 and 8	
EPB	38 (10)	Loop Hanger	3/4 - 4 (21 mm - 89 mm)	-
EPB	1/2 (12)	Loop Hanger	5, 6 (114 mm - 139 mm)	-
EPB	58 (16)	Loop Hanger	8 (168 mm - 219 mm)	-
HDN	M10	Heavy Duty Pipe Clamp	3/4, 1, 1 1/4, 1 1/2, 2	-
HDN	M12/M10	Heavy Duty Pipe Clamp	2 1/2, 3, 4	-
HDN	M16/M12	Heavy Duty Pipe Clamp	5, 6	-
HDN-HD	M10	Heavy Duty Pipe Clamp	3/4, 1, 1 1/4, 1 1/2, 2	-
HDN-HD	M12/M10	Heavy Duty Pipe Clamp	2 1/2, 3, 4	-
HDN-HD	M16/M12	Heavy Duty Pipe Clamp	5, 6	-
MACROFIX PLUS NI 429	38 (10)	Clamp Hanger	3/4 - 2	-
SBC Beam Clamp	38 (10)	Beam Clamp	3/4 - 4	a, c
CRLB CADDY® ROD LOCK Beam Clamp	38 (10)	Beam Clamp	3/4 - 4	b, c
CRLB CADDY® ROD LOCK Beam Clamp	1/2 (12)	Beam Clamp	5 - 8	a, c
CADDY® ROD LOCK L-Bracket	38 (10)	Right Angle Bracket	3/4 - 4	-
MTVB	M10	Toggle	3/4, 1, 1 1/4, 1 1/2, 2	g
TBHK	38 (10)	Trapeze Hanger	3/4, 1, 1 1/4, 1 1/2, 2	g, h

**Remarks:**

a.) Approved in the bottom mount orientation only.

b.) FM Approved for use in the top and inverted bottom beam positions.

c.) These hanger components are also FM Approved when threaded for use with the nearest equivalent standard metric size hanger rod.

d.) Model 135 "Yook" Loop Hanger using two MCO 43-16 wood screw fasteners in each arm is FM Approved to support 3/4 through 4 in. NPS sprinkler system piping.

e.) Model 135CT "Yook" Loop Hanger using two MCO 43-16 wood screw fastener in each arm is FM Approved to support 3/4 through 2 in. NPS sprinkler system copper tubing.

f.) Model 137 "Yook" Loop Hanger using one MCO 43-16 wood screw fastener in each arm is FM Approved to support 3/4 through 2 in. NPS sprinkler system piping.

g.) These products are FM Approved when used with roof decking a minimum of 0.7 mm thick.

h.) The TBHK is also FM Approved as a TBHKM10 with a welded hex nut and a TBHKAM10 with an insert nut.

These hanger components are also FM Approved when threaded for use with the nearest equivalent standard metric size hanger rod. The suffix -M appears after the model number.

**PL** = Plain; **EG** = Electro-Galvanized; **HD** = Hot Dip Galvanized; **CG** = Zinc Chromate; **RO** = Red Oxide Paint; **EP** = Epoxy over Electric Galvanized; **FL** = Felt Lined; **S4** = Grade 304 Stainless Steel; **S6** - Grade 316 Stainless Steel

<b>Company Name:</b>	ERICO International Corporation
<b>Company Address:</b>	34600 Solon Rd, Solon, Ohio 44139, USA
<b>Company Website:</b>	<a href="http://www.erico.com">http://www.erico.com</a>
<b>New/Updated Product Listing:</b>	Yes
<b>Listing Country:</b>	United States of America
<b>Certification Type:</b>	FM Approved



# Certificate of Compliance

This certificate is issued for the following:

<i>Product Designation</i>	<i>Hanger Rod Size, mm</i>	<i>Component Description</i>	<i>For Nominal Pipe Sizes, in.</i>
Caddy TKN M10 P1	10	Beam Clamp	3/4 through 4
†Caddy TKN10 P1	10	"	3/4 through 4
Caddy TKN-M12 P1	12	"	5 through 8
†Caddy TKN12 P1	12	"	5 through 8

†For European jurisdictions that prefer to use clearance holes for the threaded rod and hex jam nuts to secure the rods to the beam clamps.

**Prepared for:**

Erico, Inc.  
34600 Solon Road  
Solon, OH 44139

FM Approvals Class: 1951

Approval Identification: 3012257

Approval Granted: April 9, 2002

Said Approval is subject to satisfactory field performance, continuing follow-up Facilities and Procedures Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

*For more than 160 years FM Approvals has partnered with business and industry to reduce property losses.*

A handwritten signature in dark ink, appearing to read 'Richard B. Dunne', is written over a horizontal line.

Richard B. Dunne  
Group Manager – Fire Protection  
FM Approvals  
1151 Boston-Providence Turnpike  
Norwood, MA 02062



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# Certificate of Compliance

## Pipe Hanger Components for Automatic Sprinkler Systems

This certificate is issued for the following equipment:

<i>Product Designation</i>	<i>Hanger Rod Size, in. (mm)</i>	<i>Component Description</i>	<i>For Nominal Pipe Sizes, in. (mm)</i>
TK16 M10	10	Beam Clamp	3/4 through 4
TK16 Ø 11	10	"	3/4 through 4
TK16 3/8"	3/8 in.	"	3/4 through 4
TK16 M12	12	"	3/4 through 8
TK16Ø 13	12	"	3/4 through 8
TK16 1/2"	1/2 in.	"	3/4 through 8
TK16 M16	16	"	3/4 through 8
TK16Ø 17	16	"	3/4 through 8
TK16 5/8"	5/8 in.	"	3/4 through 8

Approved for: Erico, BV  
Jules Verneweg 75 NL – 5015 BG  
Tilburg, Netherlands

FM Approvals confirms that the items have been found to comply with the following standard:

FM Approvals Standard 1951

Project Identifier: 3023909 Date of Approval: September 15, 2005



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A handwritten signature in black ink, appearing to read 'Richard B. Dunne'.

Richard B. Dunne, Manager, Hydraulics Group

August 3, 2009  
Date



# Certificate of Compliance

**This certificate is issued for the following equipment:**

Product Designation	Hanger Rod Size, in. (mm)	Component Description	For Nominal Pipe Sizes, in.
CRLA37EG	3/8	Threaded Head Screw for use in concrete	3/4 through 4
CRLAM10EG	M10	Threaded Head Screw for use in concrete	3/4 through 4
390010	M10	Threaded Head Screw for use in concrete	3/4 through 4

Approved For:

Erico International Corporation  
34600 Solon Road  
Solon, Ohio 44139

FM Approvals Standard 1951:

Pipe Hanger Components for Automatic Sprinkler Systems, dated Sept., 2003

Approval Identification: PI 3035985

Approval Granted: January 5, 2010

Said Approval is subject to satisfactory field performance, continuing follow-up Facilities and Procedures Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

*For more than 160 years FM Approvals has partnered with business and industry to reduce property losses.*



Member of the FM Global Group

A handwritten signature in black ink, appearing to read 'Richard B. Dunne', written over a horizontal line.

Richard B. Dunne  
Manager Hydraulics Group  
FM Approvals  
1151 Boston-Providence Turnpike  
Norwood, MA 02062

January 5, 2010

## Fasteners

Anchors, expansion shields, concrete inserts, explosive-driven fasteners and threaded head screws provide anchorage to building structural members for supporting pipe hangers. See PIPE HANGER listing for other components and minimum rod sizes. Unless specifically noted in the listing, the following fasteners are FM Approved for vertical installation only.

### Concrete Inserts

Concrete inserts provide anchorage to concrete building structures for supporting pipe hangers. Concrete inserts must be installed when the building is constructed.

#### Concrete Inserts

<b>Product Designation</b>	<b>Hanger Rod Size, in. (mm)</b>	<b>Component Description</b>	<b>For Nominal Pipe Sizes, in.</b>	<b>Remarks</b>
Model 355	3/8 (10)	Concrete Insert with Model 355N nut	3/4 - 4	
Model 355	1/2 (12)	Concrete Insert with Model 355N nut	5 - 8	
Model 355	5/8 (16)	Concrete Insert with Model 355N nut	10,12	
Model 355	3/4 (19)	Concrete Insert with Model 355N nut	10, 12	
CRLW CADDY® ROD LOCK Plywood Pre-Set Anchor	3/8 (10)	Concrete Insert	3/4 - 4	
CRLW CADDY® ROD LOCK Plywood Pre-Set Anchor	1/2 (12)	Concrete Insert	5 - 8	
CRLM CADDY® ROD LOCK Metal Decking Pre-Set Anchor	3/8 (10)	Concrete Insert	3/4 - 4	
CRLM CADDY® ROD LOCK Metal Decking Pre-Set Anchor	1/2 (12)	Concrete Insert	5 - 8	

<b>Company Name:</b>	ERICO International Corporation
<b>Company Address:</b>	34600 Solon Rd, Solon, Ohio 44139, USA
<b>Company Website:</b>	<a href="http://www.erico.com">http://www.erico.com</a>
<b>New/Updated Product Listing:</b>	No
<b>Listing Country:</b>	United States of America
<b>Certification Type:</b>	FM Approved