



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0600

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [X] New [] Renewal

Manufacturer Information

Manufacturer: Tyco Fire & Building Products
Manufacturer's Technical Representative: Lauren Richard
Mailing Address: 1467 Elmwood Avenue, Cranston, RI 02910
Telephone: (401) 781-8220 Email: Lauren.richard@jci.com

Product Information

Product Name: TYCO DV-5A RED-E Cabinets
Product Type: Integrated Fire Protection System
Product Model Number: See Certified Product Table attached
General Description: Integrated fire protection system, with air compressor, valves, and switches. Modifications made to test units to address anomalies observed during testing shall be incorporated into production units.
Mounting Description: Base Mounted - Rigid

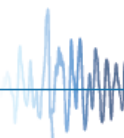
Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.
Contact Person: Galen Reid
Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138
Telephone: 844-878-0200 Email: greid@structint.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 4/15/2019
Title: Program Manager Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Name: Andrew M. Coughlin California License Number: S6082

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: 844-878-0200 Email: acoughlin@structint.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

BY: Mohammad Aliaari

DATE: 06/10/2020

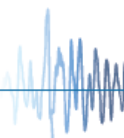
Testing Laboratory

Company Name: Clark Dynamic Test Laboratory Inc.

Contact Name: Devon Lohr

Mailing Address: 1801 Route 51

Telephone: (412) 387-1026 Email: dlohr@clarktesting.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.50 (SDS = 2.0g); 1.13 (SDS = 2.5g)

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1), 2.50 (z/h=0)

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = 6.0

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 (SDS =2.0g), 0 (SDS=2.5g)

Equipment or Component Natural Frequencies (Hz) = See Attachment

Overall dimensions and weight (or range thereof) = See Attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

Design Basis of Equipment or Components (V/W) =

SDS (Design spectral response acceleration at short period, g) =

SD1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: [] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): Product Matrices

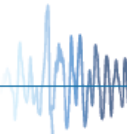
OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2025

Signature: M. Aliari Date: June 10, 2020

Print Name: Mohammad Aliari Title: SSE

Special Seismic Certification Valid Up to : SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable):



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	TABLE 1
Model Line: Tyco DV-5A Red E Cabinet	

Certified Product Construction Summary:
14 ga. carbon steel cabinets

Certified Options Summary:

Mounting Configuration:
Base mounted - rigid
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5g$ $z/h = 0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Deluge - Wet pilot ¹	53X101XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X201XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X301XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X401XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X601XXXX	29-7/8	48-1/8	73-3/16	805		Extrap.
	53X801XXXX	29-7/8	48-1/8	73-3/16	805		Extrap.
Deluge - Dry pilot ¹	53X102XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X202XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X302XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X402XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X602XXXX	29-7/8	48-1/8	73-3/16	804		Extrap.
	53X802XXXX	29-7/8	48-1/8	73-3/16	804		Extrap.
Deluge - Electric ¹	53X103XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X203XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X303XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X403XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X603XXXX	29-7/8	48-1/8	73-3/16	805		Extrap.
	53X803XXXX	29-7/8	48-1/8	73-3/16	805		Extrap.

Notes:
¹ Model is depopulated version of Double Interlock Electric Pneumatic model, the most highly configured model.
² Model is depopulated version of Deluge Remote Resetting - Pressure Reducing
³ Model is a depopulated version of Double Interlock Pneumatic Electric, with the exception of the pilot valve and servo assisted diaphragm valve.
⁴ Most highly configured model

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800274-CR-001 R1



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 $S_{DS} = 2.5g$ $z/h=0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Deluge - Remote Reset ²	53X104XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X204XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X3004XXX	23-3/4	38-3/8	73	442		Extrap.
	53X404XXXX	23-3/4	38-3/8	73	442		Extrap.
	53X604XXXX	29-7/8	48-1/8	73-3/16	804		Extrap.
	53X804XXXX	29-7/8	48-1/8	73-3/16	804		Extrap.
Deluge - Remote Resetting - Pressure Reducing ³	53X105XXXX	23-3/4	38-3/8	73	443		Extrap.
	53X205XXXX	23-3/4	38-3/8	73	443		Extrap.
	53X305XXXX	23-3/4	38-3/8	73	443		Extrap.
	53X405XXX	23-3/4	38-3/8	73	772		Extrap.
	5314050100	23-3/4	38-3/8	73	772		1
	53X605XXXX	29-7/8	48-1/8	73-3/16	805		Interp.
	53X805XXX	29-7/8	48-1/8	73-3/16	805		Interp.
Single Interlock - Wet Pilot ¹	53X1011XXXX	23-3/4	38-3/8	73	499		Interp.
	53X2011XXXX	23-3/4	38-3/8	73	499		Interp.
	53X3011XXXX	23-3/4	38-3/8	73	499		Interp.
	53X4011XXXX	23-3/4	38-3/8	73	499		Interp.
	53X6011XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
	53X8011XXXX	29-7/8	48-1/8	73-3/16	872		Interp.

Notes:
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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	TABLE 1
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14 ga. carbon steel cabinets

Certified Options Summary:

Mounting Configuration:
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Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5g$ $z/h = 0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Single Interlock - Dry Pilot ¹	53X1012XXXX	23-3/4	38-3/8	73	499		Interp.
	53X2012XXXX	23-3/4	38-3/8	73	499		Interp.
	53X3012XXXX	23-3/4	38-3/8	73	499		Interp.
	53X4012XXXX	23-3/4	38-3/8	73	499		Interp.
	53X6012XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
	53X8012XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
Single Interlock Electric ¹	53X1013XXXX	23-3/4	38-3/8	73	449		Interp.
	53X2013XXXX	23-3/4	38-3/8	73	499		Interp.
	53X3013XXXX	23-3/4	38-3/8	73	499		Interp.
	53X4013XXXX	23-3/4	38-3/8	73	499		Interp.
	53X6013XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
	53X8013XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
Double Interlock Electric ¹	53X1015XXXX	23-3/4	38-3/8	73	499		Interp.
	53X2015XXXX	23-3/4	38-3/8	73	499		Interp.
	53X3015XXXX	23-3/4	38-3/8	73	499		Interp.
	53X4015XXXX	23-3/4	38-3/8	73	499		Interp.
	53X6015XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
	53X8015XXXX	29-7/8	48-1/8	73-3/16	872		Interp.

Notes:
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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1800274-CR-001 R1



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14 ga. carbon steel cabinets

Certified Options Summary:

Mounting Configuration:
Base mounted - rigid
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0 g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5 g$ $z/h = 0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Double Interlock Electric Pneumatic ⁴	53X1014XXXX	23-3/4	38-3/8	73	499		Interp.
	53X2014XXXX	23-3/4	38-3/8	73	499		Interp.
	53X3014XXXX	23-3/4	38-3/8	73	499		Interp.
	53X414XXXX	23-3/4	38-3/8	73	828		Interp.
	53141411A8	23-3/4	38-3/8	73	828		3
	53X6014XXXX	29-7/8	48-1/8	73-3/16	872		Interp.
	53X814XXXX	29-7/8	48-1/8	73-3/16	1540		Interp.
	53081421A7	29-7/8	48-1/8	73-3/16	1540		4

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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

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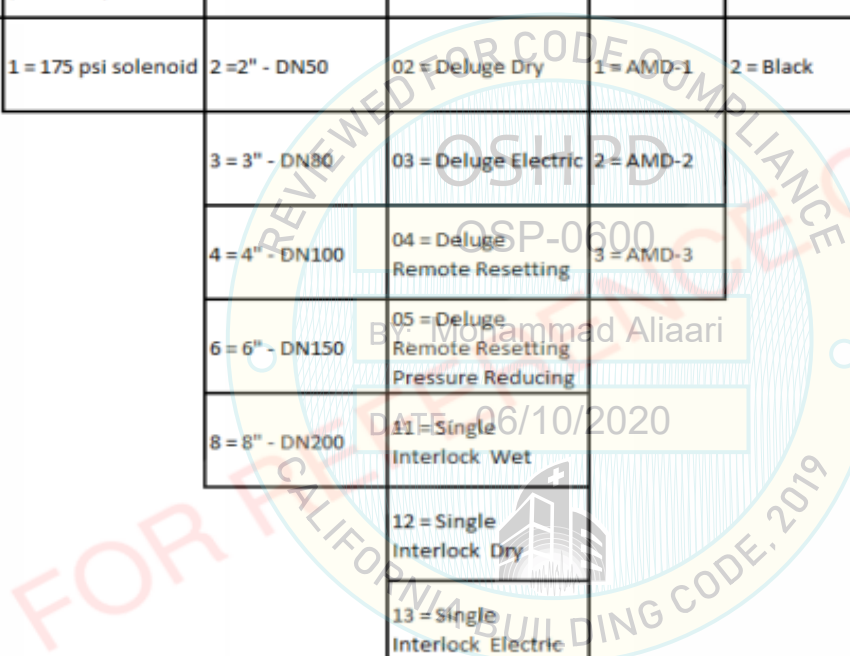


Manufacturer: Tyco Fire & Building Products
Model Line: Tyco DV-5A Red E Cabinet

TABLE 1.1

For Reference Only

Fixed	Fixed	Fixed	Size	Trim	AMD-1	Trim Type	Control Panel	Compressor
5	3	0	X	XX	X	X	X	X
Fixed	Fixed	0 = 300psi solenoid (standard)	1 = 1-1/2" - DN40	01 = Deluge Wet	0 = None	1 = Galvanized	0 = None	0 = None
		1 = 175 psi solenoid	2 = 2" - DN50	02 = Deluge Dry	1 = AMD-1	2 = Black	A = Included	1 = 1/6 Hp 125 Gal
			3 = 3" - DN80	03 = Deluge Electric	2 = AMD-2			2 = 1/3 Hp 250 Gal
			4 = 4" - DN100	04 = Deluge Remote Resetting	3 = AMD-3			3 = 1/2 Hp 365 Gal
			6 = 6" - DN150	05 = Deluge Remote Resetting Pressure Reducing				4 = 3/4 Hp 430 Gal
			8 = 8" - DN200	11 = Single Interlock Wet				5 = 1 Hp 615 Gal
				12 = Single Interlock Dry				6 = 1-1/2 Hp 915 Gal
				13 = Single Interlock Electric				7 = 2 Hp 1225 Gal
				14 = Double Interlock Electric / Pneumatic				8 = S/I Compressor
				15 = Double Interlock Electric / Electric				



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products Model Line: Tyco DV-5A Red E Cabinet		Table Description: Pressure Gauges & Switches			TABLE 2	
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
				$I_p = 1.5$		
Component Type	Manufacturer	Model	Description	Notes	UUT	
Air Pressure Gauge	Ashcroft	35 W1005PH02L XUL 250	80PSI/550kPa retarded to 250PSI/1750kPa, Socket: Brass, Case: ABS, 5.36 oz.	1 per unit	3,4	
Water Pressure Gauge	Ashcroft	35 W1005PH 02L XUL 300	300 PSI/ 2000kPA, Socket: Brass, Case: ABS, 5.36 oz.	2 per unit	1,3,4	
Waterflow Pressure Alarm Switch	Potter	PS10-1	1/2" NPT, Nylon/Brass Pressure Connection, die cast steel, 1.1 lbs.	1 per unit	1,3	
		PS10-2			4	
Low Air Pressure Alarm Switch	Potter	PS40-1	1/2" NPT, Nylon Pressure Connection, die case steel, 1.1 lbs.	1 per unit	3	
		PS40-2			4	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products		Table Description: Coupling Assembly			TABLE 3
Model Line: Tyco DV-5A Red E Cabinet					
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
				$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Coupling Assembly	JCI	57715ACP	1-1/2", Body: ductile iron, Gasket: EPDM, 1.5 lbs.		Extrap.
		57720ACP	2", Body: ductile iron, Gasket: EPDM, 1.8 lbs.		Extrap.
		57730ACP	3", Body: ductile iron, Gasket: EPDM, 2.7 lbs.		Extrap.
		57740ACP	4", Body: ductile iron, Gasket: EPDM, 3.5 lbs.		1,3
		57760ACP	6", Body: ductile iron, Gasket: EPDM, 5.9 lbs.		Interp.
		57780ACP	8", Body: ductile iron, Gasket: EPDM, 11.7 lbs.		4
		57920AP	2", Body: ductile iron, Gasket: EPDM, 1.8 lbs.		Interp.
		57930AP	3", Body: ductile iron, Gasket: EPDM, 2.7 lbs.		Interp.
		57940AP	4", Body: ductile iron, Gasket: EPDM, 3.5 lbs.		Interp.
		57960AP	6", Body: ductile iron, Gasket: EPDM, 5.9 lbs.		Interp.
		57980AP	8", Body: ductile iron, Gasket: EPDM, 11.7 lbs.		4

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

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Manufacturer: Tyco Fire & Building Products Model Line: Tyco DV-5A Red E Cabinet		Table Description: Valves			TABLE 4	
Building Code: CBC 2019		Seismic Certification Limits:			$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Deluge (Groove)	JCI	530010015	1-1/2", Body: ductile iron, Diaphragm: EPDM, 25 lbs.		Extrap.	
		530010020	2", Body: ductile iron, Diaphragm: EPDM, 25 lbs.		Extrap.	
		530010030	3", Body: ductile iron, Diaphragm: EPDM, 60 lbs.		Extrap.	
		530010040	4", Body: ductile iron, Diaphragm: EPDM, 95 lbs.		1,3	
		530010060	6", Body: ductile iron, Diaphragm: EPDM, 177 lbs.		Interp.	
		530010080	8", Body: ductile iron, Diaphragm: EPDM, 327 lbs.		4	
Powerball 300, LPBD Series	Lansdale International	51024A	1-1/2", Body: bronze ASTM 584 C83600, Seat: ASTM D2000 Viton 4.1 lbs.		1	
		51021A	2", Body: bronze ASTM 584 C83600, Seat: ASTM D2000 Viton 4.8 lbs.		3	
Butterfly	JCI	59300G030WS	3", ductile iron, 13.9 lbs.		Extrap.	
		59300G040WS	4", ductile iron, 17.64 lbs.		1,3	
		59300G060WS	6", ductile iron, 30.42 lbs.		Interp.	
		59300G080WS	8", ductile iron, 47.18 lbs.		4	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products Model Line: Tyco DV-5A Red E Cabinet		Table Description: Valves		TABLE 4	
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Pressure Relief	JCI	92-343-1-019	1/4", Body: brass, Disc: Silicon, Disc Holder: brass, Spring: music wire zinc plated, Pull Ring: nickel plated steel, 1.48 oz., 25 psi		4
		92-343-1-020	1/4", Body: brass, Washer: copper, Spring: stainless steel, Disc: Buna-N, 1.40 oz.		3
Solenoid	Parker Hannifin Corporation	73218BN4UNLVN0C111C2	20-175 psi, 24 VDC, 10 W, Body: brass, Seat: NBR, 2.2 lbs. ☒		3
		73212BN4TNLVN0C322C2	20-300 psi, 24 VDC, 22 W, Body: brass, Seat: NBR, 2.3 lbs. ☒		4
Pilot Valve	JCI	1001208	Body: brass, Spring: stainless, 5 lbs.		1
Servo Assisted Diaphragm Valve	Burkert	5282-220291	Housing material: stainless steel, seal: FKM, 2 lbs.		1

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

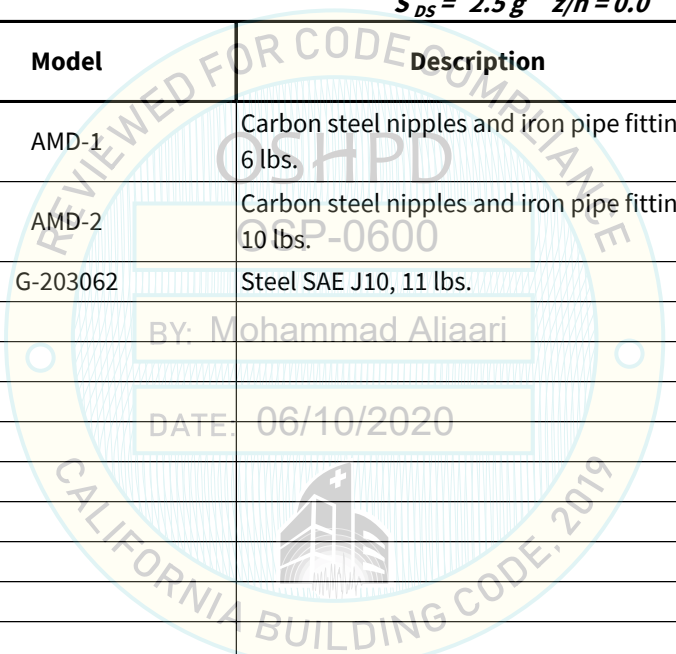
1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	Table Description: Air Maintenance Devices and Tanks	TABLE 5
Model Line: Tyco DV-5A Red E Cabinet		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0 g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5 g$ $z/h = 0.0$

Component Type	Manufacturer	Model	Description	Notes	UUT
Air Maintenance Device	Tyco/JCI	AMD-1	Carbon steel nipples and iron pipe fittings, 6 lbs.		3
		AMD-2	Carbon steel nipples and iron pipe fittings, 10 lbs.		4
Air Tank	General Air Products	G-203062	Steel SAE J10, 11 lbs.		1,3,4



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products Model Line: Tyco DV-5A Red E Cabinet		Table Description: Compressors					TABLE 6			
Building Code: CBC 2019		Seismic Certification Limits:					$S_{DS} = 2.0g \quad z/h = 1.0$ $S_{DS} = 2.5g \quad z/h = 0.0$		$I_p = 1.5$	
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT		
		Depth	Width	Height						
Air Compressors (Tyco/JCI)	G16AC812-P	8	8	13	25	Motor: Steel shaft, Body: cast steel	1/6 Hp, 115/208-230V, Single Phase	1		
Air Compressors (General Air Products)	OL12516AC	14.25	11.5	11.25	30	Motor: Steel shaft, Body: cast steel	1/6 Hp, 115/208-230V, Single Phase	Extrap.		
	OL25033AC	14.25	11.5	11.25	31	Motor: Steel shaft, Body: cast steel	1/3 Hp, 115/208-230V, Single Phase	Extrap.		
	OL365550AC	15.25	14.25	9.5	38	Motor: Steel shaft, Body: cast steel	1/2 Hp, 115/208-230V, Single Phase	Extrap.		
	OL43075AC	16.5	14.25	9.5	48	Motor: Steel shaft, Body: cast steel	3/4 Hp, 115/208-230V, Single Phase	Extrap.		
	OL615100AC	16.25	14.25	9.5	48	Motor: Steel shaft, Body: cast steel	1 Hp, 115/208-230V, Single Phase	3		
	OL915150AC	22	14.25	9.5	60	Motor: Steel shaft, Body: cast steel	1 1/2 Hp, 115/208-230V, Single Phase	Interp.		
	OL1225200AC	23.5	14.25	10.75	70	Motor: Steel shaft, Body: cast steel	2 Hp, 208-230V, Single Phase	4		

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products		Table Description: Control Panel		TABLE 7
Model Line: Tyco DV-5A Red E Cabinet				

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0 g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5 g$ $z/h = 0.0$

Model Line (Manufacturer)	Model ¹	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Potter	PFC-4410RC	4.75	14.5	18.75	25.25	18 ga. carbon steel		3,4

Notes:
¹ Same panel used on all configurations, program settings are change depending on system requirements.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

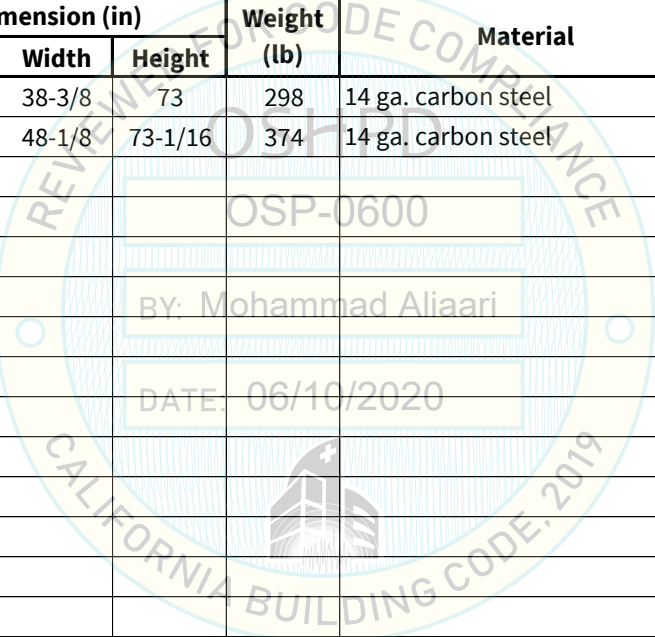
1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	Table Description: Cabinet	TABLE 8
Model Line: Tyco DV-5A Red E Cabinet		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 2.0 g$ $z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 2.5 g$ $z/h = 0.0$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Cabinet (Tyco/JCI)	1001868	23-3/4	38-3/8	73	298	14 ga. carbon steel		1,3
	1001876	29-7/8	48-1/8	73-1/16	374	14 ga. carbon steel		4



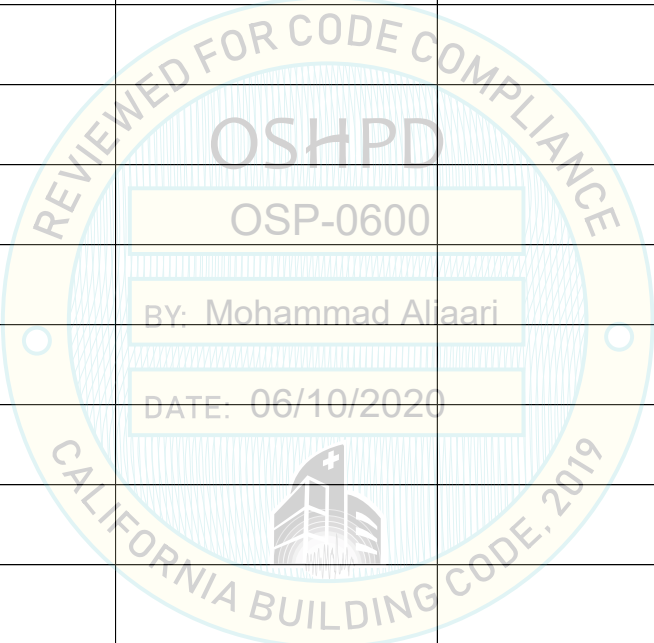
UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products
Model Line: Tyco DV-5A Red E Cabinet

UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	4" Deluge -Pressure Reducing - Remote Reset	JID18-01274 (UUT1)	Clark Testing	2.0 2.5	1 0	1.5
3	4" Double Interlock Electric Pneumatic	JID18-00886 (UUT3)	Clark Testing	2.0 2.5	1 0	1.5
4	8" Double Interlock Electric Pneumatic	JID18-01274 (UUT4)	Clark Testing	2.0 2.5	1 0	1.5



Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET



1800274-CR-001 R1

Manufacturer: Tyco Fire & Building Products	UUT 1
Model Line: Tyco DV-5A Red E Cabinet	
Model Number: 5314050100 Serial Number: 903267	

Product Construction Summary:
Cabinet (JCI MN: MAJCA00-4) 14 ga. carbon steel cabinets

Options/Subcomponent Summary:
Deluge Pressure Reducing Remote Reset (JCI MN: 5314050100), Water Pressure Gauge (Ashcroft MN: 35 W1005PH 02L XUL 300), Waterflow Pressure Alarm (Potter MN PS10-01), Coupling Assembly (JCI MN: 57740ACP), Deluge (Groove) Valve (JCI MN: 530010040), Powerball 300 Valve (Lansdale International MN: 51024A), Butterfly Valve (JCI MN: 59300G040WS), Pilot Valve (JCI MN: 1001208), Sevo Assisted Diaphragm Valve (Burket MN: 5282-220291), Air Tank (General Air Products MN: G-203062), Air Compressor (JCI MN: G16AC812-P)

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
772	23-3/4	38-3/8	73	9.77	21.0	>33.3

<i>UUT Highest Passed Seismic Run Information</i>									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.2	2.4	1.67	0.67	
		2.5	0.0	1.5					

Test Mounting Details:



UUT 1 was base mounted-rigid to the shake table. Two (2) L2x2x1/4" seismic mounting angles (44W grade steel) were attached to each side of the cabinet's base. Each angle was mounted to the table with five (5) 1/2"-13 grade 8 bolts and nyloc washers. The seismic mounting angles were provided by the manufacturer. The unit was tested with door closure modifications (see next page). The test unit was mounted through angles to the shake table with four (4) 1/2"-13 grade 8 bolts with flat washers and lock washers. Each bolt was torqued to 55 ft./lbs.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

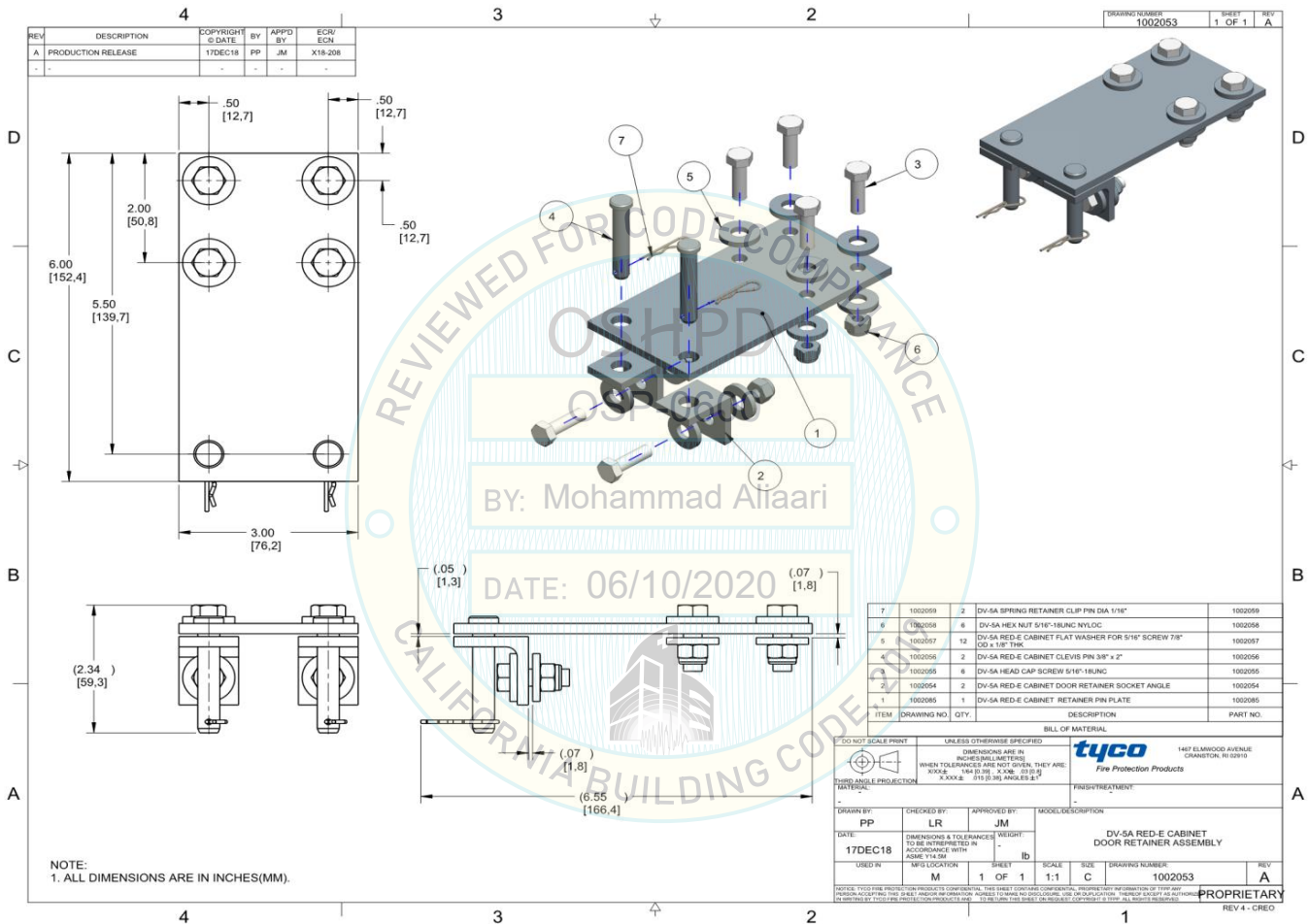
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 5314050100

Serial Number: 903267

UUT 1

Tyco Drawing 10025053: Door Retainer Assembly



Material Grades	
DESCRIPTION	MATERIAL
1 DV-5A RED-E CABINET RETAINER PLATE	A-36, 283 Grade D, & ABS Hull Quality
2 DV-5A RED-E CABINET DOOR RETAINER SOCKET ANGLE	A-36, 283 Grade D, & ABS Hull Quality
3 DV-5A HEAD CAP SCREW 5/16"-18UNC	GRADE 5 CADMIUM FINISH STEEL)
4 DV-5A RED-E CABINET CLEVIS PIN 3/8" x 2"	STEEL 1010 & 1018, SST 18-8
5 DV-5A RED-E CABINET FLAT WASHER FOR 5/16" SCREW 7/8" OD	SST 18-8
6 DV-5A HEX NUT 5/16" - 18UNC NYLOC	SST 316
7 DV-5A SPRING RETAINER CLIP PIN DIA 1/16"	STEEL 1010 & 1018, SST 18-8, GRADE 300 PLAIN STEEL

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

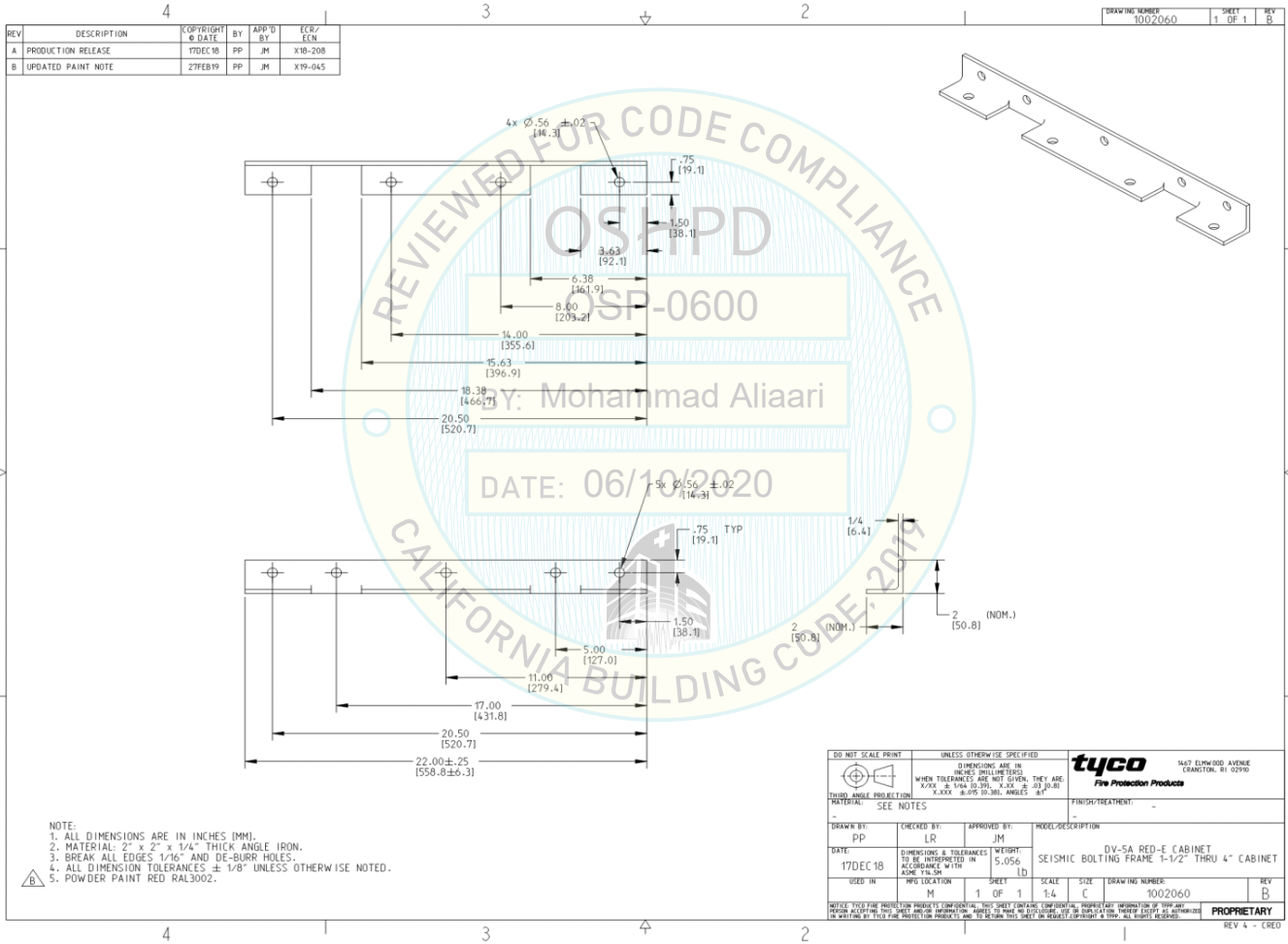
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 5314050100

Serial Number: 903267

UUT 1

Tyco Drawing 1002060: Seismic Bolting Frame 1-1/2" Thru 4" Cabinet



UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

Model Line: Tyco DV-5A Red E Cabinet

Model Number: 5314050100

Serial Number: 903267

UUT 1

MLH : Control Panel Mount Assembly

FRONT VIEW
SCALE: 1/25"=1"

BACK VIEW
SCALE: 1/25"=1"

EXPLODED VIEW

U CHANNEL DOUBLE PROFILE WITH 2" CUT

RISER 8 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	18"	1-5/8"
U CHANNEL DOUBLE PROFILE WITHOUT CUT	20"	7/8"

RISER 6 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	18"	1-5/8"
U CHANNEL DOUBLE PROFILE WITHOUT CUT	20"	7/8"

RISER 4 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	16"	1-5/8"
U CHANNEL DOUBLE PROFILE WITH 2" CUT	14"	7/8"

RISER 3 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	18"	1-5/8"
U CHANNEL DOUBLE PROFILE WITH 2" CUT	14"	7/8"

RISER 2 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	18"	1-5/8"
U CHANNEL DOUBLE PROFILE WITH 2" CUT	14"	7/8"

RISER 1.5 INCH		
DESCRIPTION	LENGTH	SIZE
U CHANNEL HOLED	18"	1-5/8"
U CHANNEL DOUBLE PROFILE WITH 2" CUT	14"	7/8"

S/N	DESCRIPTION	QTY
1	U CHANNEL HOLED	1
2	L FITTING	2
3	7/8 U CHANNEL DOUBLE PROFILE	1
4	CHANNEL NUT ASSY	10

REV	Description	DATE
0	FOR FABRICATION	28/01/2019

MLH Protection Control Panel Mounting Fire Protection Ltd.

CONTROL PANEL MOUNT ASSEMBLY

AS SHOWN 28/01/2019

V.S. M.S. M.H. 1 OF 1

B DWS 0

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	UUT 3
Model Line: Tyco DV-5A Red E Cabinet	
Model Number: 53141411A8 Serial Number: 903210	

Product Construction Summary:
Cabinet (JCI MN: MAJCA00-4)14 ga. carbon steel cabinets

Options/Subcomponent Summary:
Double Interlock Pneumatic Electric (JCI MN: 53141411A8), Air Pressure Gauge (Ashcroft MN: 35 W1005PH02L XUL 250), Water Pressure Gauge (Ashcroft MN: 35 W1005PH 02L XUL 300), Waterflow Pressure Alarm Switch (Potter MN: PS10-1), Low Air Pressure Alarm Switch (Potter MN: PS40-1), Coupling Assembly (JCI MN: 57740ACP), Deluge (Groove) Valve (JCI MN: 530010040), Powerball 300 Valve (Lansdale International MN: 51021A), Butterfly Valve (JCI MN: 59300G040WS), Pressure Relief Valve (JCI MN: 92-343-1-020), Solenoid Valve (Parker Hannifin Corp. MN: 73218BN4UNLVN0C111C2), Air Maintenance Device (JCI MN: AMD-1), Air Tank (General Air Products MN: G-203062), Air Compressor (General Air Products MN: OL615100AC), Control Panel (Potter MN: PFC-4410RC)

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
828	23-3/4	38-3/8	73	5.66	>33.3	>33.3

<i>UUT Highest Passed Seismic Run Information</i>									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.2	2.4	1.67	0.67	
		2.5	0.0	1.5					

Test Mounting Details:



UUT 3 was base mounted-rigid to the shake table. Two (2) L2x2x1/4" seismic mounting angles (44W grade steel) were attached to each side of the cabinet's base. Each angle was mounted to the table with five (5) 1/2"-13 grade 8 bolts and nyloc washers. The seismic mounting angles were provided by the manufacturer. The unit also was tested with door closure modifications (see next page). The test unit was mounted through angles to the shake table with four (4) 1/2" -13 grade 8 bolts with flat washers and lock washers. Each bolt was torqued to 75 ft./lbs.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

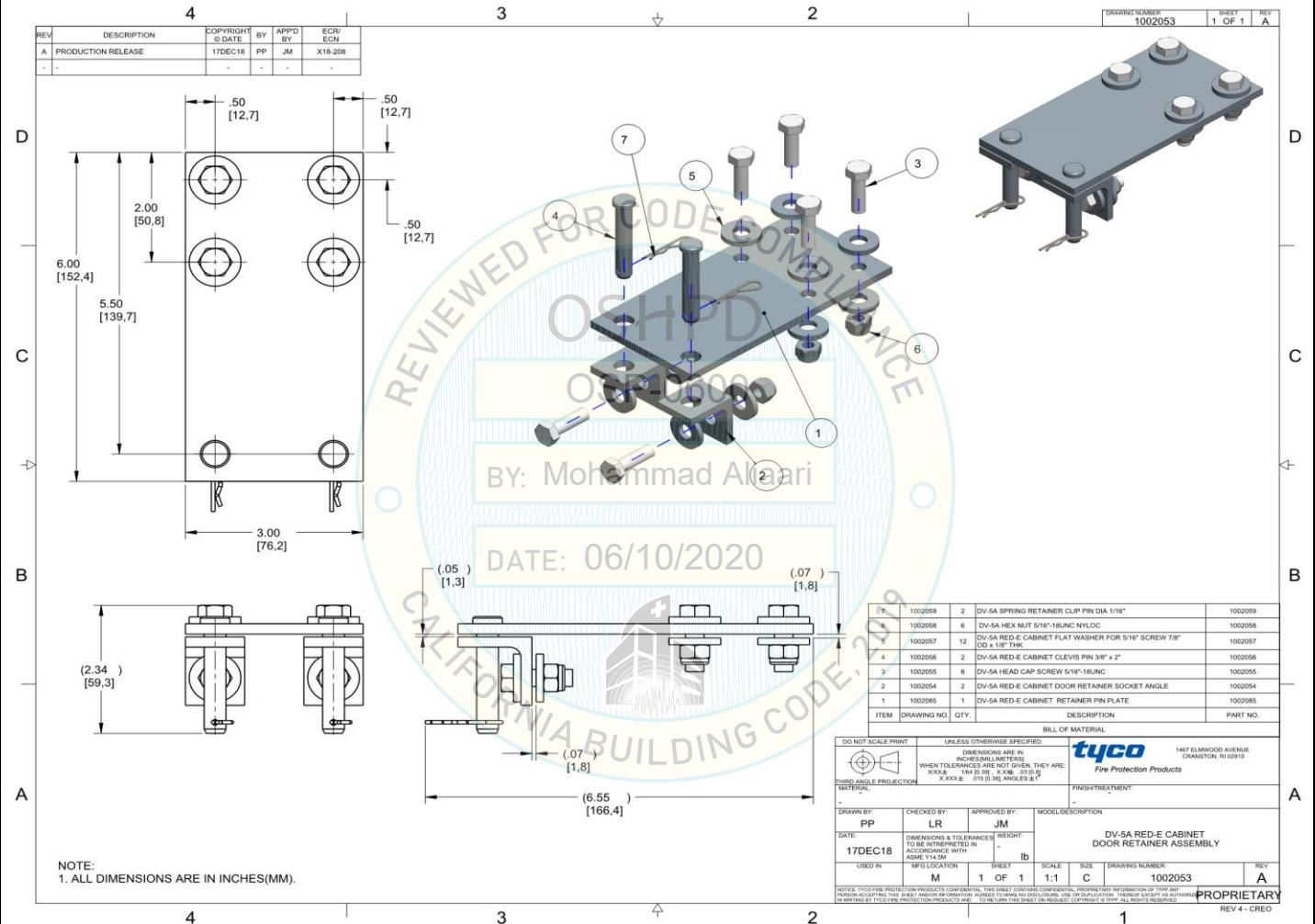
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53141411A8

Serial Number: 903210

UUT 3

Tyco Drawing 10025053: Door Retainer Assembly



Material Grades	
DESCRIPTION	MATERIAL
1 DV-5A RED-E CABINET RETAINER PLATE	A-36, 283 Grade D, & ABS Hull Quality
2 DV-5A RED-E CABINET DOOR RETAINER SOCKET ANGLE	A-36, 283 Grade D, & ABS Hull Quality
3 DV-5A HEAD CAP SCREW 5/16"-18UNC	GRADE 5 CADMIUM FINISH STEEL)
4 DV-5A RED-E CABINET CLEVIS PIN 3/8" x 2"	STEEL 1010 & 1018, SST 18-8
5 DV-5A RED-E CABINET FLAT WASHER FOR 5/16" SCREW 7/8" OD	SST 18-8
6 DV-5A HEX NUT 5/16" - 18UNC NYLOC	SST 316
7 DV-5A SPRING RETAINER CLIP PIN DIA 1/16"	STEEL 1010 & 1018, SST 18-8, GRADE 300 PLAIN STEEL

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

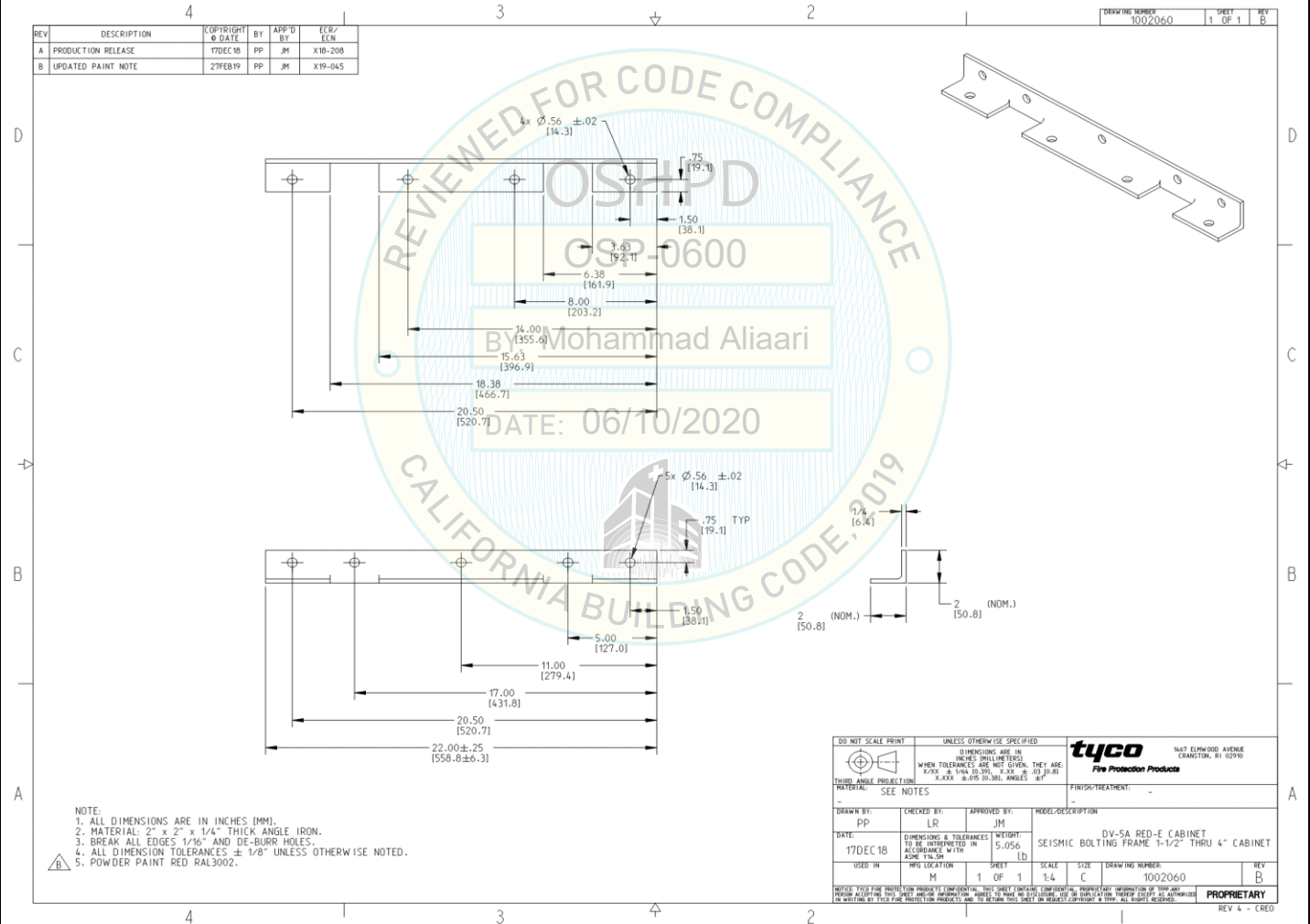
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53141411A8

Serial Number: 903210

UUT 3

Tyco Drawing 1002060: Seismic Bolting Frame 1-1/2" Thru 4" Cabinet



UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products	UUT 4
Model Line: Tyco DV-5A Red E Cabinet	
Model Number: 53081421A7	
Serial Number: 903268	

Product Construction Summary:
Cabinet (JCI MN: MAJCA00-8)14 ga. carbon steel cabinets

Options/Subcomponent Summary:
Double Interlock Electric Pneumatic (JCI MN: 53081421A7), Air Pressure Gauge (Ashcroft MN: 35 W1005PH02L XUL 250), Water Pressure Gauge (Ashcroft MN: 35 W1005PH02L XUL 300), Waterflow Pressure Alarm Switch (Potter MN: PS10-2), Low Air Pressure Alarm Switch (Potter MN: PS40-2), Coupling Assembly (JCI MN: 57780ACP), Coupling Assembly (JCI MN: 57980AP), Deluge (Groove) Valve (JCI MN: 530010080), Butterfly Valve (JCI MN: 59300G080WS), Pressure Relief Valve (JCI MN: 92-343-1-019), Solenoid (Parker Hannifin Copr. MN:73212BN4TNLVN0C322C2), Air Maintenance Device (JCI MN: AMD-2), Air Tank (General Air Products MN: G-203062), Air Compressor (General Air Products MN: 0L1225200AC), Control Panel (Potter MN: PFC-4410RC)

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1540	29-7/8	48-1/8	73-3/16	9.07	8.46	>33.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156 (2015)	2.0	1.0	1.5	3.2	2.4	1.67	0.67
		2.5	0.0	1.5				

Test Mounting Details:



UUT 4 was base mounted-rigid to the shake table. Two (2) L2x2x1/4" seismic mounting angles (44W grade steel) were attached to each side of the cabinet's base. Each angle was mounted to the table with five (5) 1/2"-13 grade 8 bolts and nyloc washers. The seismic mounting angles were provided by the manufacturer. The unit was tested with door closure modifications (see next page). The test unit was mounted through angles to the shake table with four (4) 1/2" -13 grade 8 bolts with flat washers and lock washers. Each bolt was torqued to 55 ft./lbs.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

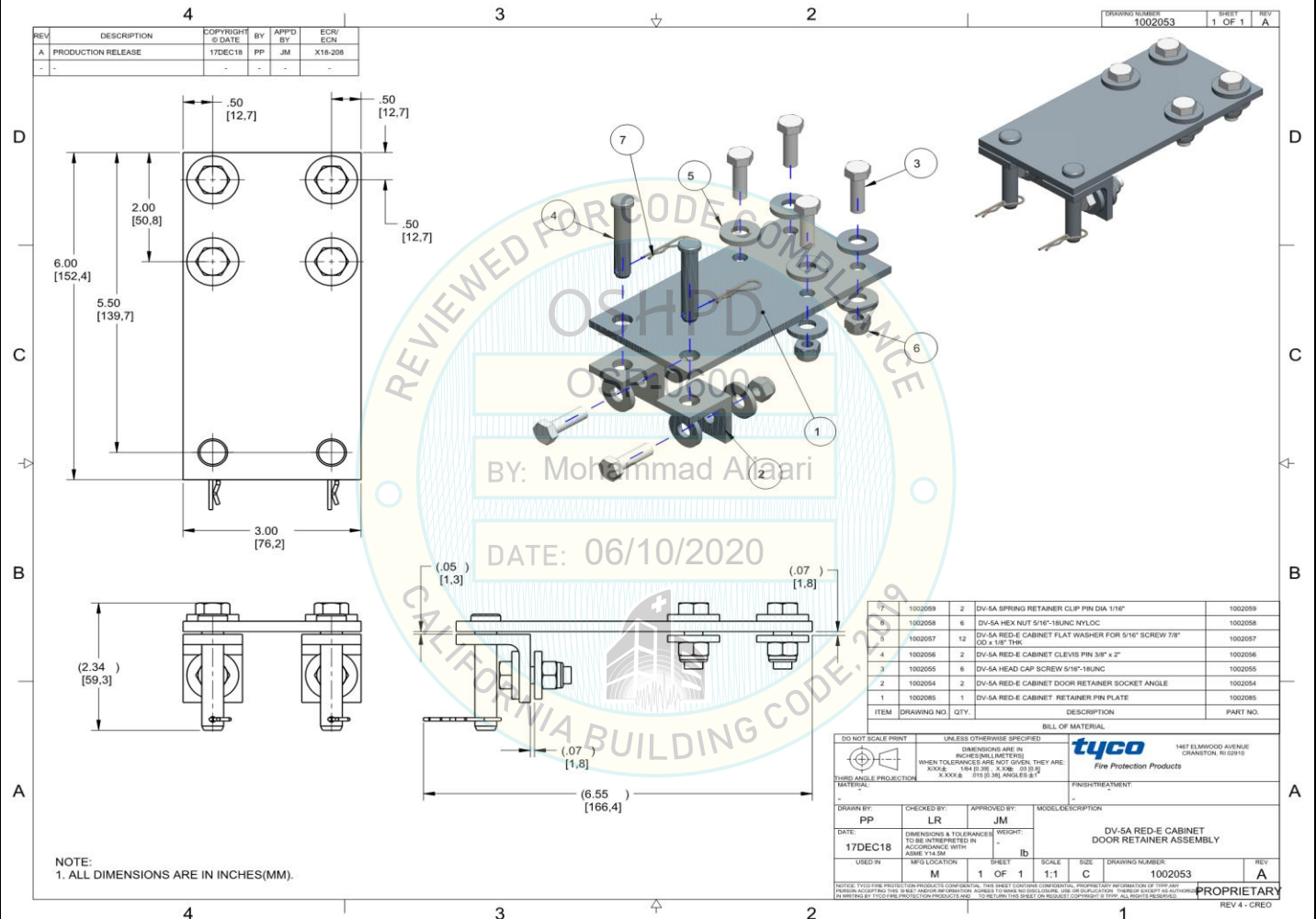
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53081421A7

Serial Number: 903268

UUT 4

Tyco Drawing 10025053: Door Retainer Assembly



Material Grades	
DESCRIPTION	MATERIAL
1 DV-5A RED-E CABINET RETAINER PLATE	A-36, 283 Grade D, & ABS Hull Quality
2 DV-5A RED-E CABINET DOOR RETAINER SOCKET ANGLE	A-36, 283 Grade D, & ABS Hull Quality
3 DV-5A HEAD CAP SCREW 5/16"-18UNC	GRADE 5 CADMIUM FINISH STEEL)
4 DV-5A RED-E CABINET CLEVIS PIN 3/8" x 2"	STEEL 1010 & 1018, SST 18-8
5 DV-5A RED-E CABINET FLAT WASHER FOR 5/16" SCREW 7/8" OD	SST 18-8
6 DV-5A HEX NUT 5/16" - 18UNC NYLOC	SST 316
7 DV-5A SPRING RETAINER CLIP PIN DIA 1/16"	STEEL 1010 & 1018, SST 18-8, GRADE 300 PLAIN STEEL

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

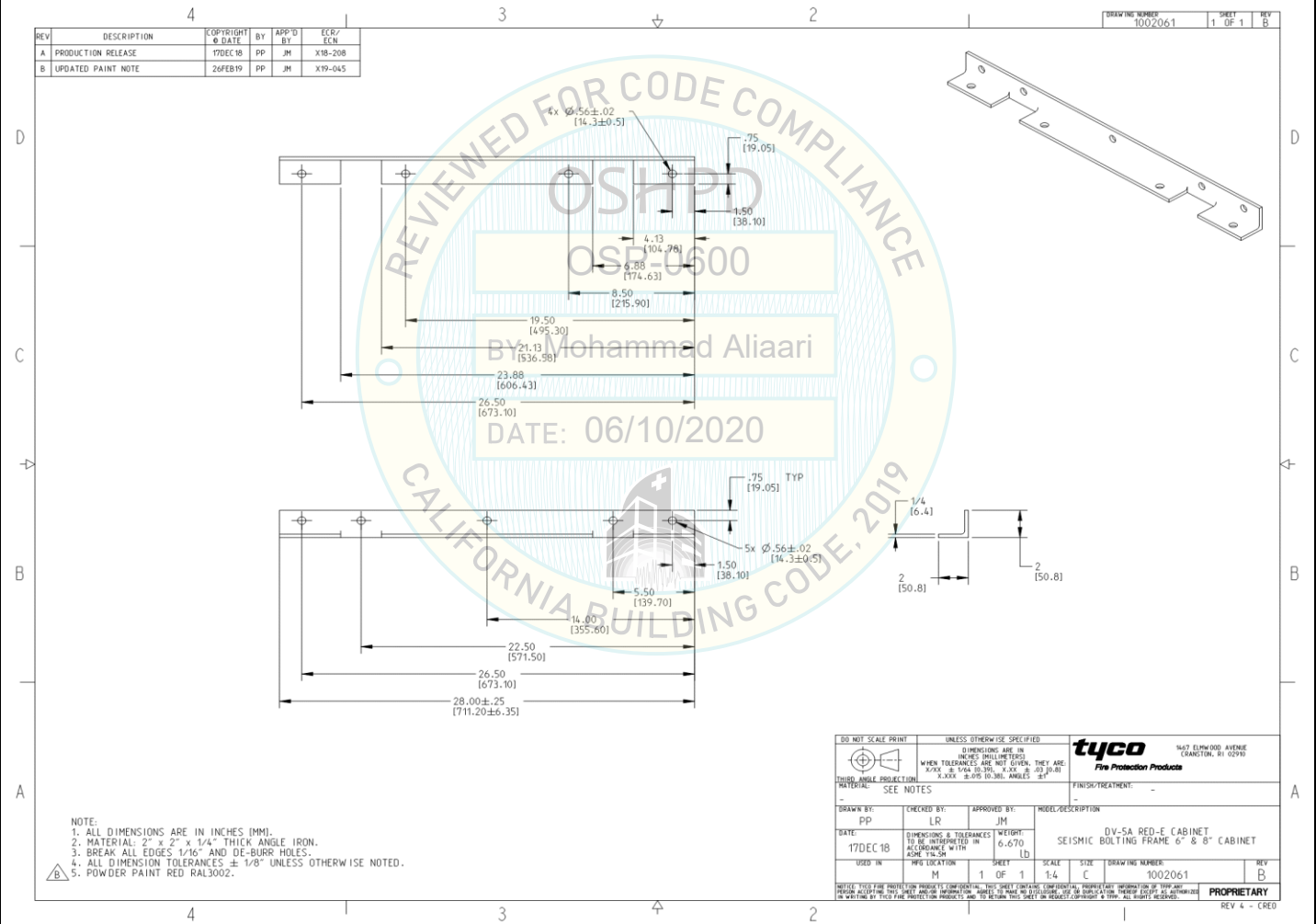
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53081421A7

Serial Number: 903268

UUT 4

Tyco Drawing 1002061: Seismic Bolting Frame 6" & 8" Cabinet



UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53081421A7

Serial Number: 903268

UUT 4

MLH Drawing: Battery Strapping

S/N	DESCRIPTION	P/N	Qty
1	STRAP NYLON WEBBING BLACK 3/4" SIZE	STRAPWORKS	1
2	VELCRO ROLL 3/4" SIZE	VELCRO	1
3	PLASTIC LOOP BLACK 1" SIZE	STRAPWORKS	2
4	STEEL PLATE		4

REVIEWED FOR CODE COMPLIANCE

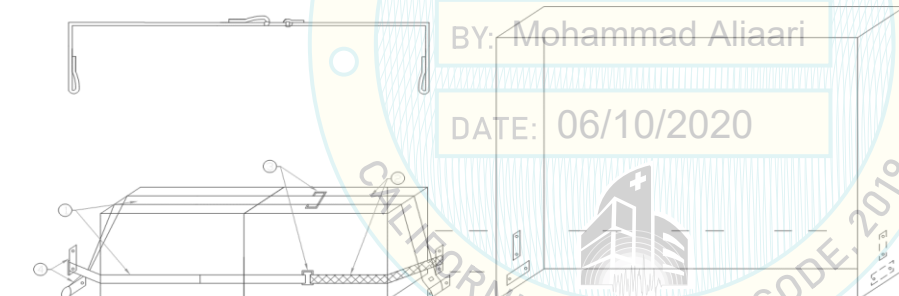
OSH PD

OSP-0600


BY: Mohammad Aliaari

DATE: 06/10/2020

CALIFORNIA BUILDING CODE, 2019



ISOMETRIC VIEW (N.T.S)

FOR APPROVAL	<input checked="" type="checkbox"/> FOR CONSTRUCTION	FOR CONTRACT	FOR BIDDING
 <p>Protection contre l'incendie life.</p> <p>Fire Protection Ltd.</p> <p>200 St. James Street Oshawa, Ontario, Canada O7A 1G7</p> <p>TEL: 416-451-4740/202 FAX: 416-451-4741/1 Email: info@mlhgroup.com</p>			
BATTERY STRAPPING			
SCALE	AS SHOWN	DATE	06/10/2020
DESIGNER	REVISOR	APPROVED	MLH
1			1

UNIT UNDER TEST (UUT) SUMMARY SHEET

1800274-CR-001 R1



Manufacturer: Tyco Fire & Building Products

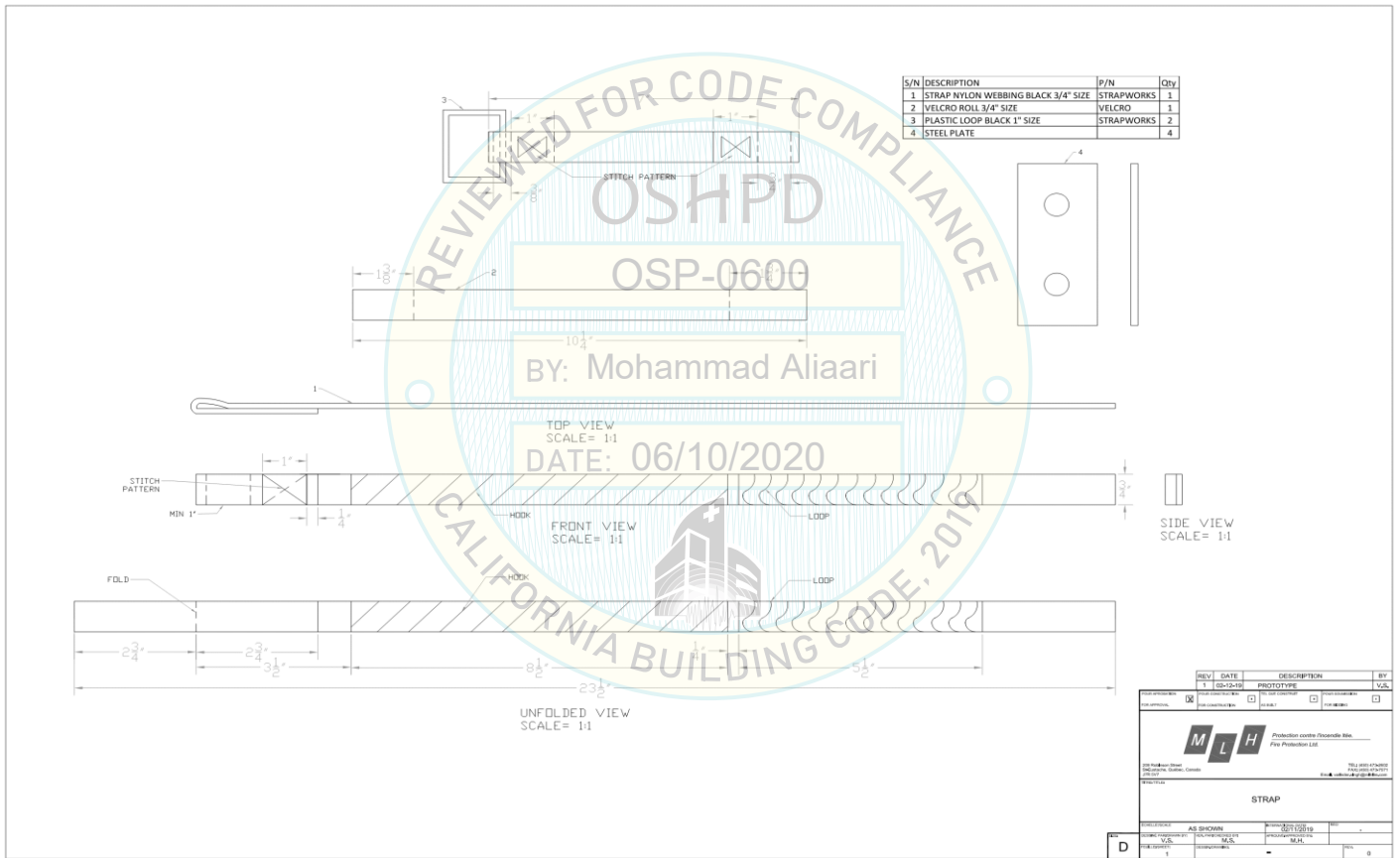
Model Line: Tyco DV-5A Red E Cabinet

Model Number: 53081421A7

Serial Number: 903268

UUT 4

MLH Drawing: Battery Strap



REV	DATE	DESCRIPTION	BY
1	06-10-20	PROTOTYPE	V.S.

MLH Production control (Rosario) M.L.H. Fire Protection Ltd.

STRAP

AS SHOWN	BY	DATE
V.S.	MLH	06/10/20