

Certificate of Compliance

Issued to:

Manufacturer Company:

Fire & Hazard Control Equipment Co. Ltd

69th Street

P.O. Box 8401

Damman II Industrial Area

Dammam 31482 SA

Listee Company:

Williams Fire & Hazard Control Inc.

9605 Richard Wycoff Dr.

Port Arthur, TX 77640 US

This certificate confirms that representative samples of:

GFGV-Foam Liquid Concentrates

GFGV7-Foam Liquid Concentrates Certified for Canada

Certificate Number:

EX15594

Report Reference:

EX15594-20260203

Issue Date:

2026-MAR-16

See Addendum for model information

Has been evaluated by UL LLC in accordance with Standard(s) for Safety:

UL 162, Edition 8, Issue Date 2018-02-23, Revision Date 2024-09-24

ULC 564:2024, Edition: 2, Issue Date: 2006-4-1, Revision Date: 2024-9-24

Additional Information:

See UL Product iQ® at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



David Piecuch

UL Mark Certification Program Owner



Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Alcohol Resistant Synthetic Fluorine Free Foam (AR-SFFF)

Model(s): Williams WNF33A Non-Fluorinated 3x3 AR-SFFF

For use with the following foam equipment:

Foam concentrates for use with the following equipment

Minimum Storage and Use Temperature

+35 F (1.7 C)

General

Hydrocarbon Fuels, percent

3

General

Polar Solvent Fuels, percent

3

PROPORTIONERS - PORTABLE IN-LINE INDUCTORS

Manufacturer and Model	Use Concentration, percent	Size, Orifice in. Diameter/Setting	Inlet Pressure, psig	Length and Diameter of hose	Discharge Device Manufacturer and Model
Ansul Inc., Model PL-60	3	1-1/2 0.170	178	100 ft of 1-1/2 in.	Ansul Inc., Model HL-60 nozzle
Ansul Inc., Model PL-95	3	1-1/2 0.250	172	100 ft of 1-1/2 in.	Ansul Inc., Model HL-95 nozzle

Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

PROPORTIONERS - FIXED IN-LINE INDUCTORS

Manufacturer and Model	Use Concentration, percent	Size, in.	Orifice Diameter, in.	Inlet Pressure, psig	Back Pressure, psig
Ansul Inc., Model PL-120	3	1-1/2	0.281	219	106
Ansul Inc., Model PL-210	3	1-1/2	0.420	140	100
Ansul Inc., Model PL-210	3	1-1/2	0.420	186	125
Ansul Inc., Model PL-280	3	1-1/2	0.468	142	92
Ansul Inc., Model PL-280	3	1-1/2	0.468	211	143

PROPORTIONERS-BLADDER TANKS WITH CONTROLLERS

Manufacturer and Model	Use Concentration, percent	Controller Size, in.	Orifice Diameter, in.	Flow Rate, gpm
Ansul, threaded	3	2	0.216	59-230
Ansul, threaded	3	2-1/2	0.257	127-384
Ansul, flanged or wafer	3	3	0.405	203-773
Ansul, flanged or wafer	3	4	0.522	421-1337
Ansul, flanged or wafer	3	4	0.558	367-1003
Ansul, flanged or wafer	3	6	0.809	884-2894
Ansul, flanged or wafer	3	8	1.300	1770-4504

PROPORTIONERS-BALANCED PRESSURE VALVES WITH CONTROLLERS

Manufacturer and Model	Use Concentration, percent	Balanced Pressure Valve Size, in.	Controller Size, in.	Orifice Diameter, in.	Flow Rate, gpm
Ansul, Model IBP-2	3	1	2	0.186	53-216
Ansul, Model IBP-2-1/2	3	1	2-1/2	0.257	185-354
Ansul, Model IBP-3	3	1	3	0.370	306-703
Ansul, Model IBP-4	3	1-1/2	4	0.500	508-1298
Ansul, Model IBP-6	3	1-1/2	6	0.707	837-2867
Ansul, Model IBP-8	3	2	8	0.942	1527-4569

Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

PROPORTIONERS-VARIABLE ORIFICE CONTROLLERS

Manufacturer and Model	Use Concentration, percent	Controller Flow Size, in.	Rate, gpm
Model Skum TPW MK3 6" (A16381LHM1) with Part 70102I	3	6	51-2745
Model Skum PPW MK3 6" (A16381LHM3) with Part Number 70102I	3	6	53-2930

NOZZLES

Manufacturer and Model	Size, in.	Inlet Pressure, psig	Fuel
Ansul, Model HL-60	1-1/2	100	--
Ansul, Model HL-60	1-1/2	50-150	--
Ansul, Model HL-95	1-1/2	100	--

FOAM MONITORS

Manufacturer and Model	Nozzle Model	Nozzle Inlet Pressure, psig	Solution Flow, gpm
Ansul Oscillating Flange	AFN-1	50-150	325-555
Ansul Oscillating Flange	AFN-1	150	673
Ansul Oscillating Flange	AFN-1	50-152	442-772
Chemguard Inc., Model CWPOM	CMNB350	102	-
Chemguard Inc., Model CWPOM	CMNB750	102	-
Chemguard Inc., Model CM-1250B-4S or CM-1250-3	CMNB350	102	-
Chemguard Inc., Model CM-1250B-4S or CM-1250-3	CMNB750	102	-
Chemguard Inc., Model CM-2000B	CMNB350	102	-
Chemguard Inc., Model CM-2000B	CMNB750	102	-
Ansul, Model AOM-HD350	CMNB350	102	-
Ansul, Model AOM-HD350	CMNB750	102	-

Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

FIXED FOAM DISCHARGE OUTLETS

Manufacturer and Model	Fuel	Inlet Pressure, psig	Orifice Diameter, in.	Min Design Application Density, gpm/sq ft
Ansul, Model AFC-90	Hydrocarbons	40-102	0.641	0.10
Ansul, Model AFC-90	Denatured Ethanol	40	0.641	0.10
Ansul, Model AFC-90	Hydrocarbons	40-100	0.914	0.10
Ansul, Model AFC-170	Hydrocarbons	40-100	0.910	0.10
Ansul, Model AFC-170	Denatured Ethanol	40	0.910	0.10
Ansul, Model AFC-170	Hydrocarbons	40-100	1.233	0.10
Ansul, Model AFC-330	Hydrocarbons	40-100	1.222	0.10
Ansul, Model AFC-330	Denatured Ethanol	40	1.222	0.10
Ansul, Model AFC-330	Hydrocarbons	40-100	1.825	0.10
Ansul, Model AFC-550	Hydrocarbons	40-100	1.808	0.10
Ansul, Model AFC-550	Hydrocarbons	40-100	2.330	0.10
Ansul, Model FLR-30	Hydrocarbons, Denatured Ethanol, Esters	50-150	0.251	0.10
Ansul, Model FLR-30	Alcohol	100-150	0.251	0.30
Ansul, Model FLR-30	Ketones	100-150	0.251	0.15
Ansul, Model FLR-30	85% Denatured Ethanol/15% Gasoline	100-150	0.251	0.10
Ansul, Model FLR-90	Hydrocarbons, Denatured Ethanol, 85% Denatured Ethanol/15% Gasoline, Esters	56-151	0.550	0.10
Ansul, Model FLR-90	Alcohol	56	0.550	0.30
Ansul, Model FLR-90	Methyl Alcohol	151	0.550	0.17
Ansul, Model FLR-90	Hydrocarbons	40-150	0.930	0.10
Ansul, Model FLR-90	Denatured Ethanol	150	0.930	0.10

Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

FOAM WATER SPRINKLERS

Manufacturer and Model	Fuel	Style	Minimum Pressure, psig
Tyco Fire Products Model B1	hydrocarbons, denatured ethanol, ketones, and 75% denatured ethanol 25% hydrocarbons	upright and pendent	30
Tyco Fire Products Model B1	Alcohol	upright	36
Tyco Fire Products Model B1	Alcohol	pendent	30

SPRINKLERS

Manufacturer and Model	Fuel	Style	Min Design Application Density, gpm/sq ft	Minimum Inlet Pressure, psig
Tyco Fire Products, SIN TY323, K-Factor 5.6 (1/2)	Denatured Ethanol	Pendent	0.23	15
Tyco Fire Products, SIN TY323, K-Factor 5.6 (1/2)	Ketones	Pendent	0.28	22
Tyco Fire Products, SIN TY323, K-Factor 5.6 (1/2)	Alcohol	Pendent	0.40	45
Tyco Fire Products, SIN TY323, K-Factor 5.6 (1/2)	Hydrocarbons	Pendent	0.16	7
Tyco Fire Products, SIN TY313, K-Factor 5.6 (1/2)	Denatured Ethanol	Upright	0.18	9
Tyco Fire Products, SIN TY313, K-Factor 5.6 (1/2)	Ketones	Upright	0.23	15
Tyco Fire Products, SIN TY313, K-Factor 5.6 (1/2)	Alcohol	Upright	0.32	29
Tyco Fire Products, SIN TY313, K-Factor 5.6 (1/2)	Hydrocarbons	Upright	0.16	7
Reliable Automatic Sprinkler Co. Inc., SIN R1017, K-Factor 8.0 (17/32)	Denatured Ethanol	Pendent	0.22	7
Reliable Automatic Sprinkler Co. Inc., SIN R1017, K-Factor 8.0 (17/32)	Ketones	Pendent	0.24	8
Reliable Automatic Sprinkler Co. Inc., SIN R1027, K-Factor 8.0 (17/32)	Alcohol	Upright	0.36	18
Reliable Automatic Sprinkler Co. Inc., SIN R1027, K-Factor 8.0 (17/32)	Hydrocarbons	Upright	0.22	7
Reliable Automatic Sprinkler Co. Inc., SIN R1015, K-Factor 5.6 (1/2)	Denatured Ethanol	Pendent	0.18	9

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact UL Solutions Customer Service at <https://www.ul.com/contact-us>.



Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

Reliable Automatic Sprinkler Co. Inc., SIN R1015, K-Factor 5.6 (1/2)	Ketones	Pendent	0.23	15
Reliable Automatic Sprinkler Co. Inc., SIN R1015, K-Factor 5.6 (1/2)	Alcohol	Pendent	0.32	29
Reliable Automatic Sprinkler Co. Inc., SIN R1015, K-Factor 5.6 (1/2)	Hydrocarbons	Pendent	0.16	7
Reliable Automatic Sprinkler Co. Inc., SIN R1025, K-Factor 5.6 (1/2)	Denatured Ethanol	Upright	0.18	9
Reliable Automatic Sprinkler Co. Inc., SIN R1025, K-Factor 5.6 (1/2)	Ketones	Upright	0.23	15
Reliable Automatic Sprinkler Co. Inc., SIN R1025, K-Factor 5.6 (1/2)	Alcohol	Upright	0.32	29
Reliable Automatic Sprinkler Co. Inc., SIN R1025, K-Factor 5.6 (1/2)	Hydrocarbons	Upright	0.16	7
Viking Corp, SIN VK536, K-Factor 11.2 (5/8)	Denatured Ethanol	Pendent	0.32	7
Viking Corp, SIN VK536, K-Factor 11.2 (5/8)	Ketones	Pendent	0.32	7
Viking Corp, SIN VK536, K-Factor 11.2 (5/8)	Alcohol	Pendent	0.47	16
Viking Corp, SIN VK536, K-Factor 11.2 (5/8)	Hydrocarbons	Pendent	0.32	7
Viking Corp, SIN VK530, K-Factor 11.2 (5/8)	Denatured Ethanol	Upright	0.39	11
Viking Corp, SIN VK530, K-Factor 11.2 (5/8)	Ketones	Upright	0.39	11
Viking Corp, SIN VK530, K-Factor 11.2 (5/8)	Alcohol	Upright	0.56	22
Viking Corp, SIN VK530, K-Factor 11.2 (5/8)	Hydrocarbons	Upright	0.32	7
Viking Corp, SIN VK200, K-Factor 8.0 (17/32)	Denatured Ethanol	Pendent	0.29	12
Viking Corp, SIN VK200, K-Factor 8.0 (17/32)	Ketones	Pendent	0.34	16
Viking Corp, SIN VK200, K-Factor 8.0 (17/32)	Alcohol	Pendent	0.47	30
Viking Corp, SIN VK202, K-Factor 8.0 (17/32)	Hydrocarbons	Pendent	0.22	7
Viking Corp, SIN VK200, K-Factor 8.0 (17/32)	Denatured Ethanol	Upright	0.24	8
Viking Corp, SIN VK200, K-Factor 8.0 (17/32)	Ketones	Upright	0.26	9

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact UL Solutions Customer Service at <https://www.ul.com/contact-us>.



Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

Viking Corp, SIN VK200, K-Factor 8.0 Alcohol (17/32)	Upright	0.38	20
Viking Corp, SIN VK200, K-Factor 8.0 Hydrocarbons (17/32)	Upright	0.22	7
Viking Corp, SIN VK102, K-Factor 5.6 Denatured Ethanol (1/2)	Pendent	0.23	15
Viking Corp, SIN VK102, K-Factor 5.6 Ketones (1/2)	Pendent	0.28	22
Viking Corp, SIN VK102, K-Factor 5.6 Alcohol (1/2)	Pendent	0.40	45
Viking Corp, SIN VK102, K-Factor 5.6 Hydrocarbons (1/2)	Pendent	0.16	7
Viking Corp, SIN VK100, K-Factor 5.6 Denatured Ethanol (1/2)	Upright	0.19	10
Viking Corp, SIN VK100, K-Factor 5.6 Ketones (1/2)	Upright	0.23	15
Viking Corp, SIN VK100, K-Factor 5.6 Alcohol (1/2)	Upright	0.32	29
Viking Corp, SIN VK100, K-Factor 5.6 Hydrocarbons (1/2)	Upright	0.16	7
Reliable Automatic Sprinkler Co. Inc., Hydrocarbons Model G, K-Factor 4.2 (7/16)	Pendent	0.16	13
Tyco Fire Products, SIN TY3131, Hydrocarbons TY3151, K-Factor 5.6 (1/2)	Upright	0.16	7
Tyco Fire Products, SIN TY3131, Alcohol TY3151, K-Factor 5.6 (1/2)	Upright	0.32	29
Tyco Fire Products, SIN TY3131, Denatured Ethanol TY3151, K-Factor 5.6 (1/2)	Upright	0.18	9
Tyco Fire Products, SIN TY3131, 75% Denatured TY3151, K-Factor 5.6 (1/2) Ethanol 25% Hydrocarbon	Upright	0.22	14
Tyco Fire Products, SIN TY3131, Ketones TY3151, K-Factor 5.6 (1/2)	Upright	0.23	15
Tyco Fire Products, SIN TY3231, Hydrocarbons TY3251, K-Factor 5.6 (1/2)	Pendent	0.16	7
Tyco Fire Products, SIN TY3231, Alcohol TY3251, K-Factor 5.6 (1/2)	Pendent	0.32	29

Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

Tyco Fire Products, SIN TY3231, TY3251, K-Factor 5.6 (1/2)	Denatured Ethanol	Pendent	0.18	9
Tyco Fire Products, SIN TY3231, TY3251, K-Factor 5.6 (1/2)	75% Denatured Ethanol 25% Hydrocarbon	Pendent	0.22	14
Tyco Fire Products, SIN TY3231, TY3251, K-Factor 5.6 (1/2)	Ketones	Pendent	0.23	14
Tyco Fire Products, SIN TY4131, TY4151, K-Factor 8.0 (17/32)	Hydrocarbons	Upright	0.22	7
Tyco Fire Products, SIN TY4131, TY4151, K-Factor 8.0 (17/32)	Alcohol	Upright	0.36	18
Tyco Fire Products, SIN TY4131, TY4151, K-Factor 8.0 (17/32)	Denatured Ethanol	Upright	0.22	7
Tyco Fire Products, SIN TY4131, TY4151, K-Factor 8.0 (17/32)	75% Denatured Ethanol 25% Hydrocarbon	Upright	0.24	8
Tyco Fire Products, SIN TY4131, TY4151, K-Factor 8.0 (17/32)	Ketones	Upright	0.24	8
Tyco Fire Products, SIN TY4231, TY4251, K-Factor 8.0 (17/32)	Hydrocarbons	Pendent	0.22	7
Tyco Fire Products, SIN TY4231, TY4251, K-Factor 8.0 (17/32)	Alcohol	Pendent	0.36	18
Tyco Fire Products, SIN TY4231, TY4251, K-Factor 8.0 (17/32)	Denatured Ethanol	Pendent	0.22	7
Tyco Fire Products, SIN TY4231, TY4251, K-Factor 8.0 (17/32)	75% Denatured Ethanol 25% Hydrocarbon	Pendent	0.22	7
Tyco Fire Products, SIN TY4231, TY4251, K-Factor 8.0 (17/32)	Ketones	Pendent	0.23	7
Tyco Fire Products, SIN TY5111, TY5130, TY5131, TY5150, TY5151, K-Factor 11.2 (5/8)	Hydrocarbons	Upright	0.32	7
Tyco Fire Products, SIN TY5111, TY5130, TY5131, TY5150, TY5151, K-Factor 11.2 (5/8)	Alcohol	Upright	0.47	15
Tyco Fire Products, SIN TY5111, TY5130, TY5131, TY5150, TY5151, K-Factor 11.2 (5/8)	Denatured Ethanol	Upright	0.32	7
Tyco Fire Products, SIN TY5111, TY5130, TY5131, TY5150, TY5151, K-Factor 11.2 (5/8)	75% Denatured Ethanol 25% Hydrocarbon	Upright	0.32	7

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact UL Solutions Customer Service at <https://www.ul.com/contact-us>.



Certificate of Compliance

Certificate Number: EX15594
Report Reference: EX15594-20260203
Issue Date: 2026-MAR-16

Tyco Fire Products, SIN TY5111, TY5130, TY5131, TY5150, TY5151, K-Factor 11.2 (5/8)	Ketones	Upright	0.32	7
Tyco Fire Products, SIN TY5211, SIN TY5231, TY5251, K-Factor 11.2 (5/8)	Hydrocarbons	Pendent	0.32	7
Tyco Fire Products, SIN TY5211, SIN TY5231, TY5251, K-Factor 11.2 (5/8)	Alcohol	Pendent	0.47	15
Tyco Fire Products, SIN TY5211, SIN TY5231, TY5251, K-Factor 11.2 (5/8)	Denatured Ethanol	Pendent	0.32	7
Tyco Fire Products, SIN TY5211, SIN TY5231, TY5251, K-Factor 11.2 (5/8)	75% Denatured Ethanol 25% Hydrocarbon	Pendent	0.32	7
Tyco Fire Products, SIN TY5211, SIN TY5231, TY5251, K-Factor 11.2 (5/8)	Ketones	Pendent	0.34	8