

Date: 7 October 2026 (Wed)

Time: 9.00 am to 5.30 pm

Mode of Delivery: In-person

Venue: JTC Defu Industrial City, Level 2 Training Suite
Singapore 533755

Fee: \$30 nett per person for ACES Member

\$50 nett per person for RE/RTO

\$80 nett per person for Non-Member

CPD: PDU tbc; 7 STU (M&E)

Registration Link & QR

<https://forms.gle/26LuNHGGRewjswjE9>



SYNOPSIS

A full-day technical workshop for M&E consultants and Professional Engineers, delivered in two sessions.

MECHANICAL GROOVED PIPING SYSTEMS, covers the anatomy and performance of mechanical grooved joints, off-site prefabrication technologies, and the integration of grooved solutions into data centre liquid cooling systems.

FIRE PROTECTION SYSTEMS, covers flexible sprinkler hose technology, FM/UL-listed fire protection control valves, pre-action system design and nitrogen-generator anti-corrosion solutions. Every module incorporates a project case study and applied benefits, and participants take part in hands-on demonstrations of pipe grooving, coupling installation and joint inspection during the session breaks.

MECHANICAL GROOVED PIPING SYSTEMS (AM): 9.00 am to 1.00 pm

MODULE 1: History & Anatomy of Mechanical Grooved Piping Systems

MODULE 2: Prefabrication Technologies — Piping Integration into a Sub-Assembly Off Site

MODULE 3: Data Centres and Integrating Liquid Cooling Systems

- Identify the various designs of mechanical grooved couplings, and comprehend the important differences in how they perform
- Recognize and inspect properly installed mechanical grooved coupling joints
- Comprehend why mechanical grooved piping systems are an important component in prefabrication and job-site productivity improvement
- Understand how grooved piping solutions integrate into data centre and liquid cooling system delivery
- Benefits of Victaulic certified training, inspection quality assurance and quality-check services

FIRE PROTECTION SYSTEMS (PM): 2.00 pm to 5.30 pm

MODULE 1: Flexible Sprinkler Hose Technology

MODULE 2: Fire Protection Control Valves, Pre-Action Systems & Sprinkler Pipe Anti Corrosion Solution

- Identify the various designs of flexible sprinkler hoses and brackets, and comprehend the important differences in how they perform
- Comprehend the hydraulic performance of flexible hoses and locate technical support information
- Understand FM/UL-listed fire protection control valves and select the correct valve for wet, dry, pre-action and deluge applications
- Comprehend pre-action system design and the role of nitrogen-generator anti-corrosion technology in extending sprinkler system service life
- Comprehend why these technologies are important components in fire safe

PROGRAMMES

Time	Program Details	Action By:	Duration
		Speaker / Organization	
08:45 - 09:00	Registration		
09:00 - 10:00	MECHANICAL GROOVED PIPING SYSTEMS: MODULE 1: History & Anatomy of Mechanical Grooved Piping Systems	Mr. Kevin Li Asia Application Engineering Manager & Ms. Cathy Zhang Application Engineer	60 mins
10:00 - 10:15	AM Tea Break		
10:15 - 11:15	MECHANICAL GROOVED PIPING SYSTEMS: MODULE 2: Prefabrication Technologies — Piping Integration into a Sub-Assembly Off Site	Mr. Kevin Li Asia Application Engineering Manager & Ms. Cathy Zhang Application Engineer	60 mins
11:15 – 13:00	MECHANICAL GROOVED PIPING SYSTEMS: MODULE 3: Data Centers and Integrating Liquid Cooling Systems	Mr. Kevin Li Asia Application Engineering Manager & Ms. Cathy Zhang Application Engineer	105 mins
13:00 – 14:00	Lunch Break		
14:00 – 15:30	FIRE PROTECTION SYSTEMS: MODULE 1: Flexible Sprinkler Hose Technology	Mr. Taurus Zhao Senior Application Engineer	90 mins
15:30- 15:45	PM Tea break		
15:45- 17:30	FIRE PROTECTION SYSTEMS: MODULE 2: Fire Protection Control Valves, Pre-Action Systems & Sprinkler Pipe Anti Corrosion Solution	Mr. Taurus Zhao Senior Application Engineer	105 mins
17:30	End of Seminar		
		Total Duration	420 mins - 7 hrs

SPEAKERS



Kevin Li
Asia Application Engineering Manager

Kevin Li is the Asia Application Engineering Manager at Victaulic. He leads technical support and application engineering activities across the Asia Pacific region, specializing in mechanical grooved piping systems, fire protection, industrial applications, and large-scale infrastructure projects and piping prefabrication technologies. Kevin works closely with customers, consultants, contractors, and authorities to develop practical engineering solutions for complex projects.



Taurus Zhao
Senior Application Engineer

Taurus Zhao is a Senior Application Engineer with Victaulic, bringing more than 18 years of engineering experience, including 8 years in the maritime industry and 10 years with Victaulic. Specializing in fire protection system applications, code compliance, and field support, Taurus works closely with customers, consultants, contractors, and authorities to develop practical, code-compliant fire protection solutions for complex projects worldwide.



Cathy Zhang
Application Engineer

Cathy Zhang is an Application Engineer at Victaulic Asia Pacific Research and Development Center (ARDC). She holds a Master's degree in Material Engineering and focuses on technical support for non-fire products across the Asia Pacific region. Cathy works closely with sales engineering and customer teams to provide application guidance and technical solutions for industrial and infrastructure projects.

MECHANICAL GROOVED PIPING SYSTEMS WORKSHOP MODULE DETAILS:

INTRODUCTION	
Purpose	• Communicate module details
Topics	• Welcome • Introduction & overview • Workshop modules • Learning objectives

MODULE 1: History & Anatomy of Mechanical Grooved Piping Systems	
Purpose	• Define the components of mechanical grooved joint designs • Provide perspective on the evolution of the grooved joint, and how and why it has become an alternative to traditional threaded, welded and flanged joints
Topics	• History of mechanical grooved joint technology • Four basic components — the groove, the gasket, the housing and the bolts/nuts • Pipe materials and standards • Pipe preparation ◦ Grooving tools — cut grooving and roll grooving ◦ Explanation of the critical groove dimensions • OGS and AGS • Project case study and applied benefits

MODULE 2: Prefabrication Technologies — Piping Integration into a Sub-Assembly Off Site	
Purpose	• Position where piping prefabrication fits in the project delivery process • Provide perspective on estimating, pre-planning and fabrication management, installation training, software solutions, construction drawings and Bag & Tag service
Topics	• Prefabrication packaged solutions • Victaulic Tool for Revit • Drawings package • Prefabrication of all pipework within scope • Victaulic materials • Headers • Pump drops • Traceability of system & additional benefits of prefabrication • Project case study and applied benefits

MODULE 3: Data Centres and Integrating Liquid Cooling Systems	
Purpose	• Discuss Technical Cooling System (TCS) equipment modules and how grooved solutions integrate into data centre delivery
Topics	• Data centre shift in global AI infrastructure — servers in racks to DC in cabinets • Modular TCS in liquid cooling systems • Headers and branches • Groove for stainless steel and RX Groove • Stainless-steel couplings & fittings • Stainless-steel valves and accessories • Data centre project delivery lifecycle • Project case study and applied benefits

HANDS-ON DEMONSTRATION (DURING SESSION BREAKS)	
Purpose	• Provide practical, hands-on demonstration of grooved piping installation and inspection so participants can directly experience installation methods and inspect a joint
Topics	• Pipe preparation — roll grooving and groove verification • Coupling installation — rigid vs. flexible couplings and behavior under movement • Installation-Ready couplings — ease, speed and visual verification of correct installation • Joint inspection — recognizing a properly installed joint vs. common deficiencies • Viewing of demonstration units

REVIEW SESSION / Q&A	
Purpose	• Answer all participant questions • Ask participants questions to check for understanding
Topics	• Based on all learning objectives

FIRE PROTECTION SYSTEMS WORKSHOP MODULE DETAILS:

INTRODUCTION	
Purpose	• Communicate module details
Topics	• Welcome • Introduction & overview • Workshop modules • Learning objectives

MODULE 1: Flexible Sprinkler Hose Technology	
Purpose	• Define the flexible sprinkler hose and provide perspective on its evolution as an alternative to traditional arm-over methodology • Equip consultants to specify flexible hose correctly and locate the supporting technical and approval data
Topics	• Introduction — what is a flexible sprinkler hose and its importance to fire protection and response time • Anatomy of a flexible hose and the manufacturing process ◦ Hose design — corrugated vs. braided; helical vs. annular construction ◦ End fittings and end-fitting-to-hose connection • Equivalent length characteristics and hydraulic performance • Interactive sprinkler selection chart — guided specification walkthrough • Bracket types and ceiling-system compatibility • Installation parameters — number of bends, bend radius, kinking, bending stress, residual torque • Corrosion resistance of hose materials • Applicable codes and standards, specification clauses and submittal compilation • Project case study and applied benefits

MODULE 2: Fire Protection Control Valves, Pre-Action Systems & Sprinkler Pipe Anti-Corrosion Solution	
Purpose	• Discuss FM/UL-listed fire protection control valves across wet, dry, pre-action and deluge systems, with focus on pre-action system design and sprinkler pipe N2 anti-corrosion solutions • Provide consultants with the design and specification considerations to protect against corrosion and extend system service life
Topics	• Introduction — types of fire protection control valves and system context • Alarm check, pre-action / deluge check and butterfly valve overview • Pre-action system design — single-interlock, double-interlock and non-interlock arrangements

	• Typical protected occupancies — data centres, archives, freezers, critical assets • The corrosion problem in sprinkler piping — oxygen-driven corrosion and microbiologically influenced corrosion (MIC) • Nitrogen-generator anti-corrosion technology — supervisory nitrogen inerting, generation and purge / fill methodology • Integration with dry and pre-action valve trim • Benefits — service-life extension, leak reduction, lower lifecycle cost • Design and specification considerations — specification clauses and submittal compilation • Project case study and applied benefits
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HANDS-ON DEMONSTRATION (DURING SESSION BREAKS)	
Purpose	• Provide practical, hands-on demonstration of coupling installation and system configuration comparison
Topics	• Installation-Ready rigid coupling vs. conventional coupling models — installation try-out and comparison • Pump-skid mock-up — flanged system vs. grooved system comparison (footprint, joint count, labour, maintainability) • Viewing of demonstration units

REVIEW SESSION / Q&A	
Purpose	• Answer all participant questions • Ask participants questions to check for understanding
Topics	• Based on all learning objectives

WORKSHOP CLOSE	
Purpose	• Verify that all questions have been answered • Verify that registration information has been collected • Communicate resources for workshop topics • Allow participants to provide feedback
Topics	• Resources • Course evaluation • Attendance / registration