



CERTIFICATE OF ACCREDITATION

This is to attest that

NSF INTERNATIONAL
251 AIRPORT INDUSTRIAL DRIVE
YPSILANTI, MICHIGAN 48198, U.S.A.

Testing Laboratory TL-824

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date May 24, 2024



A handwritten signature in black ink, reading "Raj Nathan".

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

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NSF INTERNATIONAL

www.nsf.org

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Accredited to ISO/IEC 17025:2017

Effective Date May 24, 2024

Plastics	
ANSI/CAN/UL/ULC 1285	Standard for Safety Pipe and Couplings, Polyvinyl Chloride (PVC), and Oriented Polyvinyl Chloride (PVCO) for Underground Fire Service
ANSI/CAN/UL/ULC 1821	Standard for Safety Thermoplastic Sprinkler Pipe and Fittings for Fire Protection Service (excluding Sections 13, 14, 15, 17, 20, 25, 27 & 29.5 and 30)
ASME A112.4.4	Plastic Push-Fit Drain, Waste, and Vent (DWV) Fittings
ASTM D543	Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
ASTM D570	Standard Test Method for Water Absorption of Plastics
ASTM D638/D638M	Standard Test Method for Tensile Properties of Plastics (Metric)
ASTM D1084	Standard Test Methods for Viscosity of Adhesives
ASTM D1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D1598	Standard Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
ASTM D1599	Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings
ASTM D1785	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2122	Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
ASTM D2152	Standard Test Method for Adequacy of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2235	Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
ASTM D2239	Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter

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ASTM D2241	Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
ASTM D2412	Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
ASTM D2444	Standard Practice for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
ASTM D2464	Standard Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2466	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D2467	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2513	Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings
ASTM D2564	Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems
ASTM D2609	Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
ASTM D2661	Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D2665	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D2672	Standard Specification for Joints for IPS PVC Pipe Using Solvent Cement
ASTM D2683	Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
ASTM D2729	Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D2737	Standard Specification for Polyethylene (PE) Plastic Tubing
ASTM D2765	Standard Test Methods for Determination of Gel Content and Swell Ratio of Crosslinked Ethylene Plastics
ASTM D2837	Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
ASTM D2846/2846M	Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
ASTM D2949	Standard Specification for 3.25-in. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

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ASTM D2992	Standard Practice for Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting- Resin) Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3035	Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
ASTM D3122	Standard Specification for Solvent Cements for Styrene-Rubber (SR) Plastic Pipe and Fittings
ASTM D3138	Standard Specification for Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Non-Pressure Piping Components
ASTM D3139	Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3261	Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3311	Standard Specification for Drain, Waste, and Vent (DWV) Plastic Fittings Patterns
ASTM F409	Standard Specification for Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
ASTM F437	Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
ASTM F438	Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
ASTM F439	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
ASTM F441/F441M	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80
ASTM F442/F442M	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)
ASTM F480	Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80
ASTM F493	Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings
ASTM F610/F610M	Standard Practice for Evaluating the Quality of Molded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings by the Heat Reversion Technique

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ASTM F628	Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core
ASTM F656	Standard Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM F679	Standard Specification for Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter
ASTM F876	Standard Specification for Crosslinked Polyethylene (PEX) Tubing
ASTM F877	Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems
ASTM F891	Standard Specification for Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drainpipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F1055	Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
ASTM F1216	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
ASTM F1281	Standard Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe
ASTM F1282	Standard Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe
ASTM F1336	Standard Specification for Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings
ASTM F1412	Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
ASTM F1483	Standard Specification for Oriented Poly (Vinyl Chloride), PVCO, Pressure Pipe
ASTM F1488	Standard Specification for Coextruded Composite Pipe
ASTM F1498	Standard Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings

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ASTM F1673	Standard Specification for Polyvinylidene Fluoride (PVDF) Corrosive Waste Drainage Systems
ASTM F1760	Standard Specification for Coextruded Poly (Vinyl Chloride) (PVC) Non-Pressure Plastic Pipe Having Reprocessed-Recycled Content
ASTM F1807	Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless-Steel Clamps, for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
ASTM F1866	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Schedule 40 Drainage and DWV Fabricated Fittings
ASTM F1924	Standard Specification for Plastic Mechanical Fittings For Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing
ASTM F1960	Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing
ASTM F1970	Standard Specification for Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems
ASTM F1973	Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) Fuel Gas Distribution Systems
ASTM F1974	Standard Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe
ASTM F2023	Standard Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene (PEX) Pipe, Tubing and Systems to Hot Chlorinated Water
ASTM F2080	Standard Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe
ASTM F2098	Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Insert Fittings
ASTM F2159	Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless-Steel Clamps for SDR9 Crosslinked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
ASTM F2160	Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD) (Excluding Section 4.1.2 and 4.4, 5.3.1, 4.2)
ASTM F2263	Standard Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Chlorinated Water

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ASTM F2389	Standard Specification for Pressure-rated Polypropylene (PP) Piping Systems
ASTM F2434	Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Tubing
ASTM F2618	Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems
ASTM F2619/F2619M	Standard Specification for High-Density Polyethylene (PE) Line Pipe
ASTM F2623	Standard Specification for Polyethylene of Raised Temperature (PE-RT) Systems for Non-Potable Water Applications
ASTM F2769	Standard Specification for Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems
ASTM F2788/F2788M	Standard Specification for Metric and Inch-sized Crosslinked Polyethylene (PEX) Pipe
ASTM F2806	Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (Metric SDR-PR)
ASTM F2905/F2905M	Standard Specification for Crosslinked Polyethylene (PEX) Line Pipe for Oil and Gas Producing Applications
ASTM F2929	Standard Specification for Crosslinked Polyethylene (PEX) Tubing of 0.070 in. Wall and Fittings for Radiant Heating Systems up to 75 psig
ASTM F3128	Standard Specification for Poly (Vinyl Chloride) (PVC) Schedule 40 Drain, Waste, and Vent Pipe with a Cellular Core
ASTM F3253	Standard Specification for Crosslinked Polyethylene (PEX) Tubing with Oxygen Barrier for Hot- and Cold-Water Hydronic Distribution Systems
ASTM F3347	Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing
ASTM F3348	Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing
ASTM F3497	Standard Test Method for Evaluating the Oxidative Resistance of Polypropylene (PP) Piping Systems to Hot Chlorinated Water
AWWA C900	Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In. (100 mm Through 1,500 mm), includes Errata
AWWA C901	Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service
AWWA C904	Cross-Linked Polyethylene (PEX) Pressure Pipe, 1/2 In. (13mm) Through 3 In. (76 mm), for Water Service
AWWA C906	Polyethylene (PE) Pressure Pipe and Fittings, 4 In. thru 65 In. (100 mm Through 1650 mm), for Waterworks

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AWWA C907	Polyvinyl Chloride (PVC) Pressure Fittings for Water-4 in. through 12 In. (100 mm through 300 mm) for Water Distribution
AWWA C909	Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 In. and Larger
CSA B137.0	Definitions, General Requirements, and Methods of Testing for Thermoplastic Pressure Piping
CSA B137.1	Polyethylene Pipe, Tubing, and Fittings for Cold Water Pressure Services
CSA B137.10	Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe Systems
CSA B137.11	Polypropylene (PP-R) Pipe and Fittings for Pressure Applications
CSA B137.18	Polyethylene of raised temperature resistance (PE-RT) tubing systems for pressure applications
CSA B137.19	Crosslinked Polyethylene (PEX) Piping Systems for Gas Services
CSA B137.2	PVC Injection-Molded Gasketed Fittings for Pressure Applications
CSA B137.3	Rigid Polyvinyl Chloride (PVC) Pipe for Pressure Applications
CSA B137.3.1	Molecularly oriented polyvinylchloride (PVCO) pipe for pressure applications
CSA B137.4	Polyethylene Piping Systems for Gas Services
CSA B137.4.1	Electrofusion-Type Polyethylene Fittings for Gas Services
CSA B137.5	Cross-Linked Polyethylene (PEX) Tubing Systems for Pressure Applications
CSA B137.6	CPVC Pipe, Tubing, and Fittings for Hot and Cold-Water Distribution Systems
CSA B137.9	Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems
CSA B181.0	Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping
CSA B181.1	Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings
CSA B181.2	PVC Drain, Waste, and Vent Pipe and Pipe Fittings
CSA B181.3	Polyolefin Laboratory Drainage Systems
CSA B182.1	Plastic Drain and Sewer Pipe and Pipe Fittings
CSA B182.2	PVC Sewer Pipe and Fittings (PSM Type)
CSA-C22.2 No 211.0	General Requirements and Methods of Testing for Nonmetallic Conduit Exceptions: Cl. 6.4 and Cl. 6.16
CSA-C22.2 No 211.1	Rigid Types EB1 and DB2/ES2 PVC Conduit
CSA-C22.2 No 211.2	Rigid PVC (Unplasticized) Conduit

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CSA C22.2 No. 327	HDPE conduit, conductors-in-conduit, and fittings
DIN 8074	Polyethylene (PE) - Pipes PE 80, PE 100 - Dimensions; Text in German and English
DIN 8075	Polyethylene (PE) pipes - PE 80, PE 100 - General quality requirements, testing; Text in German and English
DIN 8077	Polypropylene (PP) pipes - PP-H, PP-B, PP-R, PP-RCT – Dimensions
DIN 8078	Polypropylene (PP) pipes - PP-H, PP-B, PP-R, PP-RCT - General quality requirements and testing
FM 1612	Polyvinyl Chloride (PVC) Pipe and Fittings for Underground Fire Protection Service
FM 1613	Examination Standard for Polyethylene (PE) Pipe and Fittings for Underground Fire Protection Service (excluding Sec 4.3, 5.5.7, 5.5.9, 5.5.10)
IAPMO PS 36	Lead-free sealing compound for threaded joints
IAPMO PS 51	Expansion Joints and Flexible Expansion Joints for DWV Piping Systems
IGC 334	Push fit drain, waste, and vent (DWV) fittings
ISO 1167-1	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids - Determination of the resistance to internal pressure - Part 1: General method
ISO 13477	Thermoplastics pipes for the conveyance of fluids - Determination of resistance to rapid crack propagation (RCP) - Small-scale steady-state test (S4 test)
ISO 13479	Polyolefin pipes for the conveyance of fluids - Determination of resistance to crack propagation - Test method for slow crack growth on notched pipes
ISO 15874-1	Plastics piping systems for hot and cold-water installations - Polypropylene (PP) - Part 1: General
ISO 15874-2	Plastics piping systems for hot and cold-water installations - Polypropylene (PP) - Part 2: Pipes
ISO 2505	Thermoplastics pipes - Longitudinal reversion - Test method and parameters
ISO 3126	Plastics piping systems - Plastics components - Determination of dimensions
ISO 3127	Thermoplastics Pipes - Determination of Resistance to External Blows - Round-the-Clock Method Second Edition
ISO 4427-1	Plastics piping systems - Polyethylene (PE) pipes and fittings for water supply - Part 1: General
ISO 4427-3	Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 3: Fittings (excluding Table 7)
ISO 4437-2	Plastic piping systems for the supply of gaseous fuels – Polyethylene (PE)

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ISO 9080	Plastics piping and ducting systems - Determination of the long- term hydrostatic strength of thermoplastics materials in pipe form by extrapolation
NEMA TC-2	Electrical Polyvinyl Chloride Conduit
NEMA TC-3	Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing
NEMA TC-6 & 8	Polyvinyl Chloride Plastics Utilities Duct for Underground Installations
NEMA TC-7	High Density Polyethylene Raceway Conduit
NEMA TC-9	Fittings for Polyvinyl Chloride Plastic Utilities Duct for Underground Installation
NSF 14	Plastics Piping System Components and Related Materials
NSF/ANSI 358-1	Polyethylene Pipe and Fittings for Water-Based Ground-Source "Geothermal" Heat Pump Systems
NSF/ANSI 358-2	Polypropylene Pipe and Fittings for Water-Based Ground-Source "Geothermal" Heat Pump Systems
NSF/ANSI 358-3	Cross-linked polyethylene (PEX) pipe and fittings for water-based ground-source (geothermal) heat pump systems
NSF/ANSI 358-4	Polyethylene of Raised Temperature (PE-RT) Tubing and Fittings for Water-Based Ground-Source (Geothermal) Heat Pump Systems
UL 651	UL Standard for Safety Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings (excluding Sections 6.7, 6.8, & 6.11)
UL 651A	UL Standard for Safety Schedule 40 and 80 High Density Polyethylene (HDPE) Conduit (excluding Section 7.3)