



Fire Protection Products

CL4FIRE RED Wrap Insulation

Canada's National and Provincial building codes approved 38mm thick single layer wrap system for combining reduced and 0mm clearances for up to 2-hour fire rating on grease duct, ventilation and metal pipes.

General Information – Product Description

CL4FIRE Wrap Products are manufactured using flexible bio-soluble insulation calcium-magnesium-silica insulation blankets totally encapsulated in a fiber reinforced aluminum scrim jacketing. Please note in some jurisdictions, it is recommended that a mask be worn when handling bio-soluble blankets.

CL4FIRE RED

CL4FIRE Red has been tested, certified and continually inspected by Quality Auditing Institute - QAI, a world renown independent third party laboratory servicing numerous global manufacturers. CL4FIRE Red is listed by QAI Laboratories and uniquely combined with evaluation 14372-R per the Canadian Construction Materials Division of the National Research Council of Canada to ensure conformance to all Canadian Building Codes.

Listed, tested and evaluated by QAI Laboratories for large steel ventilation duct sizes up to 218cm (86") and width and up to 13,316 sq cm (2064 sq.in.) using a single layer of nominal 38mm (1 ½") thick x 96 kg/m³ (6 pcf).

Requires 38mm (1 ½) nominal thickness for ventilation ductwork and metal piping. Also approved using nominal 76mm (3") thickness for grease duct and metal fuel piping such as diesel and natural gas.

Features and benefits

CL4FIRE Red insulation blanket is a lightweight, high temperature, bio-soluble calcium-magnesium silica insulation blanket that is fully foil encapsulated and bonded to the fiberglass reinforced scrim to ensure a secure and responsible installation without gaps. It is designed to be installed using weld pins, steel banding or a combination of both fastening methods as outlined in QAI listed systems F405-1-1, F405-1-2 and F405-1-4 and as outlined in NRC – Canadian Construction Materials Division (CCMC) evaluation 14387-R.

CL4FIRE Red meets CAN/ULC S-102 building code required flame spread index < 25 and a smoke development value of < 50.

Listed and building code reviewed for single layer 38mm (1 ½) thick application on ventilation ductwork and non-fuel metal piping for up to a 2-hour fire rating.

Listed and building code reviewed for 76mm (3") thick application on grease ductwork, generator exhaust, and metal fuel piping for up to a 2-hour fire rating when installed per QAI listed system F405-1-4 and CCMC 14382-R. Evaluated for use as 2nd 38mm (1 ½") layer which can be intermittently applied in combination with CL4FIRE CODE-96 38mm (1 ½") thickness blanket insulation.

Together these products offer a unique zero clearance, thin, safe and easy to install grease duct system specifically designed and approved for Canadian Building Codes installations.

Codes and Standards

CL4FIRE Red meets the following standards testing to requirements outlined by the National Research Council of Canada's Construction Materials Division as necessary for meeting Canadian building codes. See CCMC evaluation 14382-R for additional information.

- ◆ **CCMC Evaluation 14382-R combined with a Ministers ruling for the Ontario Ministry of Municipal Affairs & Housing Evaluation is required for fire protection of ventilation ductwork, metal piping and grease duct for reduced clearance to combustible materials because there is no Canadian building code referenced standards for ventilation duct or metal pipe applications. CCMC is the only agency that can offer evaluation for grease duct reduced clearances to combustible materials because the CAN/ULC S144 grease duct testing standard only outlines testing for zero clearance to combustibles.**
 - ◆ NFPA-96 – Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
 - ◆ CAN/ULC S144 Standard Method of Fire Resistance Test – Grease Duct Assemblies
 - ◆ ISO 6944 – 1985 Duct - A – Fire Resistance Tests – Ventilation Duct
 - ◆ CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems
 - ◆ CAN/ULC S102 Standard Method of Test for Surface Burning Characteristics of building materials
 - ◆ ASTM E2336 Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems (superseded in Canada by CAN/ULC S144 standard)
 - ◆ ASTM E 119 – Standard Test Methods for Fire Tests of Building Construction and Materials
 - ◆ ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials
 - ◆ ASTM E 814 (UL 1479) – Fire Tests of Through-Penetration Fire Stops Standard
 - ◆ CAN/ULC S135 - Standard Test Method for The Determination of Combustibility Parameters of Building Materials
 - ◆ CAN/ULC S702 - Standard for Mineral Fiber Thermal Insulation for Buildings
 - ◆ ASTM C411 Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation
 - ◆ ASTM C356 – Standard Test Method for Linear Shrinkage of Preformed High-Temperature Thermal Insulation Subjected to Soaking Heat
 - ◆ ASTM C1136 – Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation
 - ◆ ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials
 - ◆ ASTM E1371 Standard Test Method for Determination of Emittance of Materials near Room Temperature Using Portable Emissometers
 - ◆ ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties
 - ◆ ASTM C1338 Standard Test Method for Determining Fungi Resistance
 - ◆ ASTM C665 Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
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Specifications – Division 12 07 00

Product shall be stored in sealed original moisture resistant packaging prior to use.

CL4FIRE shall be installed by a qualified contractor in strict accordance with QAI listed systems or CCMC 14687-R evaluation requirements.

Grease duct access doors must be **CL4FIRE Red** protected with installation per manufacturers detailed requirements.

12mm (1/2") wide stainless steel banding must be installed using tensioning tool and crimped with stainless steel banding clips.

Where required steel insulation pins must be capacitor discharge gun welded to exposed or underside of ductwork on maximum 304mm (12") centers and maximum (6") from the edge of duct.

2 or 3 sided applications may be installed only when the gap between the substrate and duct or pipe does not exceed 102mm (4")

Should a transition be required from a gypsum shaft system to a CL4FIRE Fire Protection Thermal Insulation installation, the annular space around the duct and the shaft must be filled to a minimum of 102mm (4") depth of CL4FIRE insulation and topped with a 6mm (1/4") depth of sealant flush with the surface of the gypsum.

Applications

Grease duct

Grease duct zero clearance installations must be installed using minimum 76mm (3") thickness of **CL4FIRE Red** installed to QAI listed system F405-1-4 listed system requirements.

Grease Duct maximum 230mm (9") clearance from the ductwork to combustible applications must be installed using CCMC 14387-R detail as outlined in Appendix A of the CCMC document.

Ventilation Duct

Ventilation ductwork or metal non-fuel piping must have a single layer of **CL4FIRE Red** 1 1/2" thick installed to QAI listed system F405-1-1 as follows:

- ◆ For up to a 1-hour fire rating **CL4FIRE Red** may be installed using snugly butted seams or 76mm (3") overlaps throughout
- ◆ For up to a 2-hour fire rating **CL4FIRE Red** must be installed using 76mm (3") overlaps throughout

Metal Fuel Piping

Metal fuel-piping such as natural gas and diesel must be installed using a minimum of 2 layers of 38mm (1 1/2") **CL4FIRE Red** installed with seams staggered a minimum 76mm or (3").

Contact information

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