Fire Protection Products

CL4FIRE **CODE-96™** Wrap Insulation

Canada's National and Ontario 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 CODE-96™

CL4FIRE CODE-96 has been tested, certified and is continually inspected by Quality Auditing Institute - QAI, a world renown independent third-party laboratory servicing numerous global manufacturers. CL4FIRE CODE-96 and CL4FIRE Red are listed by QAI Laboratories.

CL4FIRE CODE-96 is a product that been approved for use in fire protecting grease ductwork as outlined in evaluation 14382-R from the Canadian Construction Materials Centre (CCMC) of the National Research Council of Canada in association with the Ontario Ministry of Municipal Affairs & Housing to ensure conformance to all Canadian Building codes.

Used primarily for grease ductwork, a single layer application of nominal 38mm (1 ½") thick, 96 kg/m3 (6 pcf) provides up to 2-hour fire rating for minimum of 230mm (9") from combustible materials (see evaluation 14382-from the Canadian Construction Materials Centre (CCMC) of the National Research Council of Canada). When zero clearance to combustibles is required simply add a 2nd layer of **CL4FIRE Red** or **CL4FIRE CODE-96** in that location and then return to using a single layer once the clearance requirement again exceeds the 230mm requirement for a single layer installation. See detail below.

CL4FIRE CODE-96 is also applicable on any QAI listed application as a direct replacement for 38mm (1 ½") thick **CL4FIRE Red**.

Features and Benefits

CL4FIRE CODE-96 is an environmentally friendly flexible fire protection ductwrap product approved to Canadian Building codes. We all know that it takes a significant amount of heat and energy to manufacture high temperature insulation and it also takes an enormous amount of fuel to transport any materials to the marketplace. By installing **CL4FIRE CODE-96**, you have the opportunity to cut carbon emissions.

The application of only a single layer of material **CL4FIRE CODE-96** allows for significant space and labour savings over any other 2-layer flexible wrap system in Canada and takes significantly less storage space on the jobsite.

CL4FIRE CODE-96 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 F405-1-4 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.

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

Specifications – Division 12 07 00

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

CL4FIRE CODE-96 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 CODE-96** 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

CL4FIRE CODE-96 is applicable for Grease Duct maximum 230mm (9”) clearance from ductwork to combustible materials and must be installed as per CCMC 14387-R as outlined in Appendix A and B.

Contact Information

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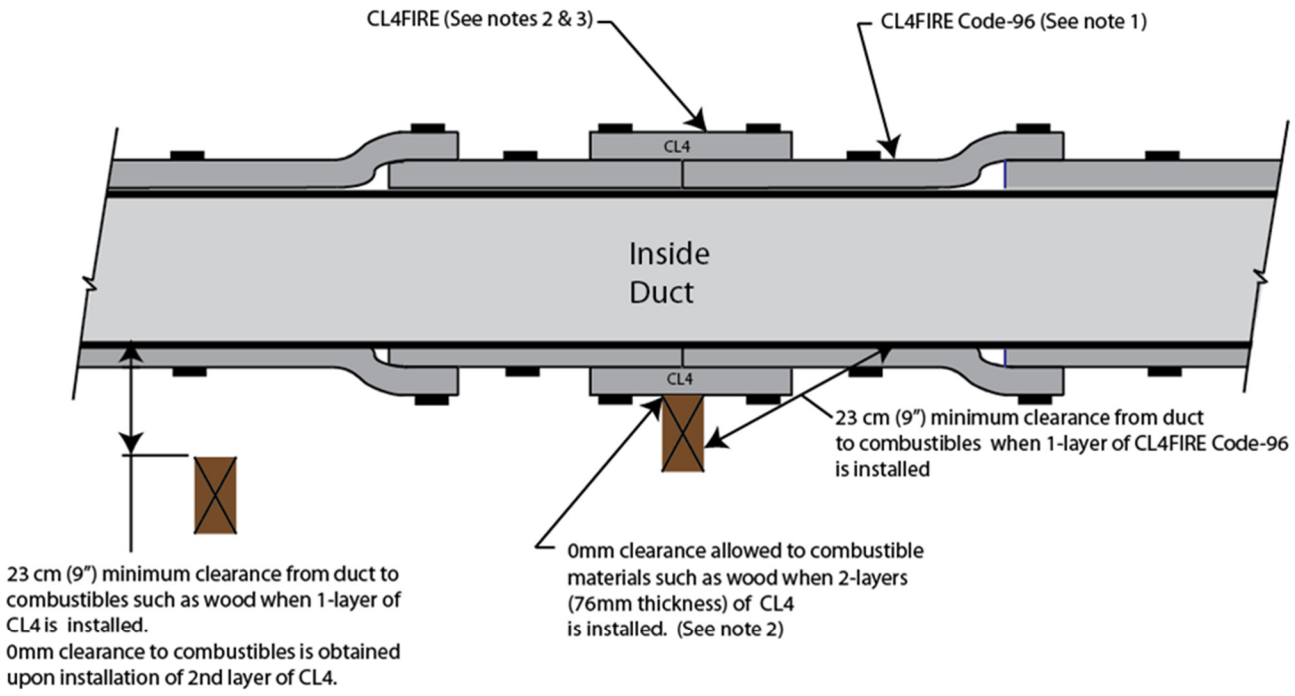
APPENDIX A

CL4FIRE CODE-96™ INSTALLATION DETAIL



Notes:

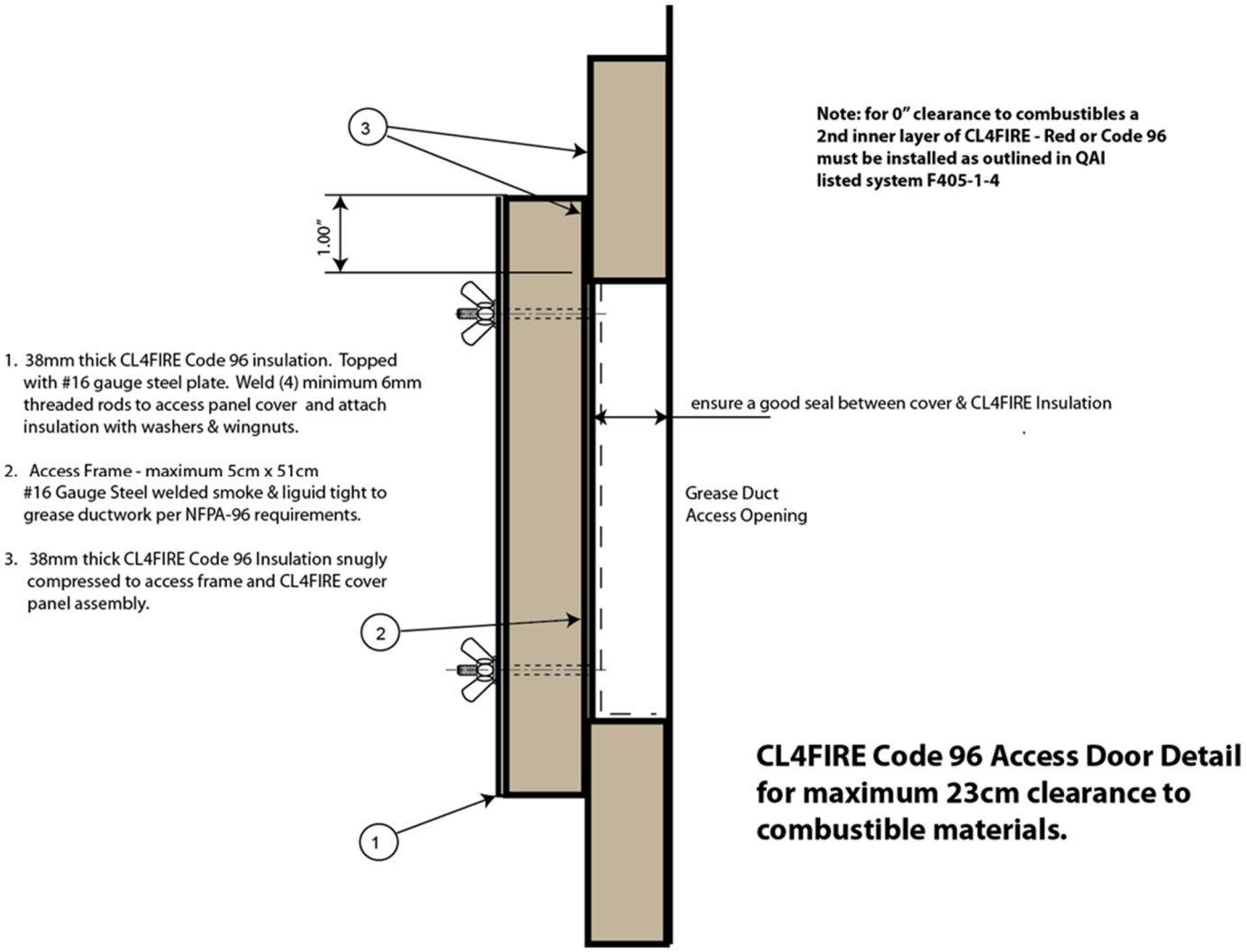
1) - Single layer for 23 cm (9") clearance specifically requires CL4FIRE Code-96 product

2) - Adding a 2nd layer of either CL4FIRE - Red or Code-96 insulation offers 0mm clearance to combustable materials

3) - Sections requiring two-layers of insulation are allowed to use CL4FIRE Code-96 as either the internal or external layer.

APPENDIX B

CL4FIRE CODE-96™ ACCESS DOOR DETAIL



1. 38mm thick CL4FIRE Code 96 insulation. Topped with #16 gauge steel plate. Weld (4) minimum 6mm threaded rods to access panel cover and attach insulation with washers & wingnuts.
2. Access Frame - maximum 5cm x 51cm #16 Gauge Steel welded smoke & liguid tight to grease ductwork per NFPA-96 requirements.
3. 38mm thick CL4FIRE Code 96 Insulation snugly compressed to access frame and CL4FIRE cover panel assembly.

Note: for 0" clearance to combustibles a 2nd inner layer of CL4FIRE - Red or Code 96 must be installed as outlined in QAI listed system F405-1-4

CL4FIRE Code 96 Access Door Detail for maximum 23cm clearance to combustible materials.