



Torch Application – Guideline to mitigate rooftop fires

The purpose of this guideline is to promote awareness as it relates to the possible risk of rooftop fires during the application of roof systems involving open flames.

The National Fire Code of Canada (NFC) or the equivalent provincial fire code, whichever has jurisdiction provides the minimum requirements in NFC Division B Section 5.2.1.1.(1) pertaining to the “use of open flames or producing heat or sparks i.e. cutting; welding; soldering; brazing; grinding; adhesive bonding; roofing operations; thermal spraying and thawing of pipes and materials”. In addition to these requirements, CRCA members undertake specialized torch safety training that identifies both the safe use of the roofing torch and specialized construction details to limit the contact of the direct flame to combustible substrates. Even with these requirements, rooftop fires continue to occur and it is recommended that further precautions above the minimum fire code requirements and existing safe work practices be undertaken.

Mitigation

The use of an open flame torch during the process of roofing installation present an elevated risk when combustible materials are involved.

Most torch related rooftop fires appear to originate at membrane flashings, perimeters and roof penetrations. These areas are more susceptible due to the complexity of the details and an increased risk of fire being drawn into the building at joints between building materials and into interior spaces due to differences in pressure.

One option to mitigate the occurrence of rooftop fires at the most susceptible areas is to incorporate a “picture-framing or pre-flashing” application that can be utilized when installing modified bitumen membranes at roof flashings, perimeters and penetrations. A “picture framing” or “pre-flashing” application utilizes flameless products for the application of the base and cap sheets at a minimum of 915 mm (3 ft) into the field of the roof prior to installation of field membrane.

In addition to the elimination of torching at membrane flashings, perimeters and penetrations, the use of open flame torches to apply roofing materials on buildings and/or structures that consist of wood decks or wood substrates should also be avoided. Wood substrates and decks, even when covered with non-combustible material, remain susceptible to fire being drawn into the joints between materials.

Alternate Materials

There are alternate materials that can be used in conjunction with or as a replacement for torch-on modified bitumen membranes. Flameless application utilizing products, such as cold

applied or self-adhered products have been developed for the installation of modified bitumen membranes. Some of these products can be installed in temperatures as low as -10°C (14° F).

Safety should be at the forefront of all construction activities. CRCA's position on recommending the use of flameless products at sensitive areas and on susceptible materials will assist in the reduction of potential fires caused by roofing activities. When combined with other safe work practices, the installation of flameless roof materials may contribute to lower insurance costs for both building owners and roofing contractors while reducing the risk to building occupants.

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