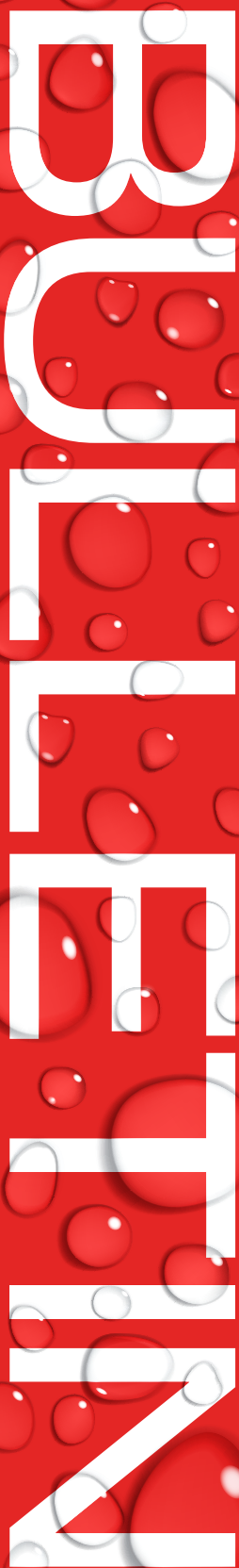




### TECHNICAL



## THE CANADIAN BUILDING CODE / ROOFS EXPLAINED

Over the past few years there has been a great deal of confusion regarding the terminology of Code, Standard and Guidelines regarding the waterproofing of decks, balconies and walkways, and how they have been “presented” to the Construction community. The purpose of this literature is to educate and clarify what the National Building Code requires.

### THE NATIONAL BUILDING CODE OF CANADA 2005, (NBC).

“The NBC sets out technical provisions for the design and construction of new buildings. It also applies to the alteration, change of use and demolition of existing buildings. Because the NBC is a model code, its provisions can be considered as the minimum acceptable measures required to adequately achieve the listed objectives of safety, health, accessibility and fire and structural protection of buildings. They become the minimum acceptable provisions once they are adopted and passed into law or regulation by an authority having jurisdiction.”

“The NBC does not list acceptable proprietary building products. It only establishes the criteria that the building materials, products, and assemblies must meet.”

FIRST we look to Section 9.26. Roofing, to define deck/balcony area Code requirements.

### SECTION 9.26.1.1 PURPOSE OF ROOFING

1. Roofs shall be protected with roofing, including flashing, installed to shed rain effectively and prevent water due to ice damming from entering the roof.
2. For the purpose of Sentence (1), roofs shall include platforms that effectively serve as roofs with respect to the accumulation or drainage of precipitation. (See Appendix A) (National Building Code of Canada 2005. Division B, Page 9-145)

Appendix (A) defines the statement: “platforms that effectively serve as roofs”.

### A-9.26.1.1.(2) PLATFORMS THAT EFFECTIVELY SERVE AS ROOFS.

Decks, balconies, exterior walkways and similar exterior surfaces effectively serve as roofs where these platforms do not permit the free drainage of water through the deck. Unless the surface slopes to the outside edges and water can freely drain over the edge, water will pond on the surface. When rain is driven across the deck (roof) surface, water will move upward when it encounters an interruption. (National Building Code of Canada 2005. Division B, Appendix A, Page A-180.)

The National Building clearly states that all flat deck areas are considered roofs, and therefore must conform to the definition of Sentence (1) – Purpose of Roofing. Therefore, because Tuff Industries products are PVC membranes, we must go to the Standards Section (5.10.) to determine what, if any, standards PVC membranes must meet in order to be installed on a structure to meet the Building Code.

### SECTION 5.10. STANDARDS

#### 5.10.1. APPLICABLE STANDARDS

##### 5.10.1.1 COMPLIANCE WITH APPLICABLE STANDARDS

1. Except as provided in Sentences (2) and (3) in this Part\*, materials and components, and their installation, shall conform to the requirements of the applicable standards in Table 5.10.1.1. where those materials or components are
  - a) incorporated into environmental separators or assemblies exposed to the exterior, and
  - b) installed to fulfill the requirements of this Part.

\*Sentences 2 & 3 in this Part address flame spread ratings in thermal insulation and wired glass separations installed as a fire separation respectively.

**TABLE 5.10.1.1.**

**STANDARDS APPLICABLE TO ENVIRONMENTAL SEPARATORS AND ASSEMBLIES EXPOSED TO THE EXTERIOR FORMING PART OF SENTENCE 5.10.1.1.(1).**

Issuing agency	Document Number	Title of Document
CGSB	CA/CGSB-37.54	Polyvinyl Chloride Roofing and Waterproofing Membrane

*(National Building Code of Canada 2005. Division B, Part 5, Page 5-11.)*

The National Building Code now dictates that all flat roof deck and balcony areas are considered roofs and, when specifying a PVC membrane, the product must conform to the referenced Standard of CGSB-37.54 (current version), governing Polyvinyl Chloride Roofing and Waterproofing Membrane. Taking this to the next step, we define CGSB-37.54, (current version) and its' requirements.

**CAN/CGSB-37.54-95 CANADIAN GENERAL STANDARDS BOARD  
POLYVINYL CHLORIDE ROOFING AND WATERPROOFING MEMBRANE**

**SCOPE**

**1.1** This standard applies to flexible, polyvinyl chloride (PVC) membranes for use in roofing and waterproofing.

**1.2** This standard also provides a basis for evaluating PVC membranes used on decking subject to pedestrian traffic, although additional criteria such as skid resistance, abrasion resistance and resistance to puncture from sustained loads may be important.

The National Building Code of Canada 2005, has now clearly – without doubt – defined that a deck area IS considered a ROOF, and that the only acceptable Standard for PVC membranes is CGSB-37.54-95.

The National Building Code 2005 states that "...its' provisions can be considered the minimum acceptable measures required to adequately achieve the listed objectives of safety, health, accessibility, fire and structural protection of buildings". The current CCMC Technical Guideline 07543 does not meet this minimum requirement, specifically the 2000 hour weathering test requirement of CCMC is 60% lower than the CGSB37-54 (current version) requirement of 5000 hours.

It is also important to note that some manufacturers produce a cover letter speaking to CGSB, or other important tests, containing terminology such as "In our Professional opinion..." or "...meets the intent of the Code". The Building Code Standard, in this case CGSB-37.54-95, is a very clearly written document, precisely outlining required tests, and the acceptable parameters of those tests, defining precisely how to conduct those same tests in a controlled laboratory environment.

**COMMON MYTHS:**

**Myth #1:** CCMC creates Building Code Standards.

**Truth:** CCMC creates Technical Guidelines at the request of building product manufacturers.

**Myth #2:** The code requires that you specify 60 mil membrane thickness.

**Truth:** All deck membrane manufacturers "market" mil thickness. Published mil thicknesses are measured using the highest "peak" of the embossed surface and have no bearing on actual polymer used, quality, nor suitability for use. The National Building Code dictates that all flat decks are to be treated as roofs, and PVC membranes used must comply with CGSB-37.54 (current version), – period.

**Myth #3:** Product is "Approved" by CGSB.

**Truth:** CGSB does not "approve" building products for use or compliance to their Standards. CGSB Standards are made up of industry stakeholders who collaborate to outline the test parameters the product must be tested to, and the product either meets, (passes) or does not, (fails).

Tuff Industries Inc, the manufacturer of various PVC roof membranes, has a long standing reputation of delivering high quality products, and installing those products to the highest standards in the industry. Our business partners are all highly recognized, Global companies with decades of true roofing experience in both Manufacturing and Installation procedures.

Our commitment has always been to provide value-added products engineered to meet and surpass the most demanding Building Code Standards.

We view education as one of the highest priorities and the most important service we can provide to our customers. Many myths are created daily and we take the job of clarifying misunderstandings very seriously.

At Tuff Industries Inc., our goal is much like yours... to supply products, technical assistance, and clear, concise information to our mutual customers with the goal of long-life performance and zero failures.

Footnote: All referenced Standards and quotes are directly referenced from the National Building Code of Canada 2005

**There is no "opinion" or "intent" to meet – YOU EITHER PASS OR FAIL!**