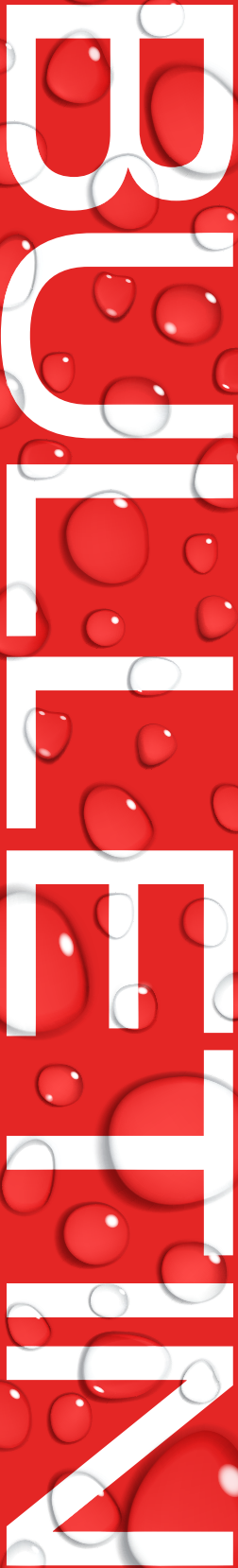


# TUFF INDUSTRIES INCORPORATED

## WATERPROOFING SOLUTIONS



### TECHNICAL



## PONDING WATER, DECK SLOPE AND TUFF PRODUCT WARRANTIES

### What is considered “ponding water” or “inadequate slope”?

TUFF Industries Inc. refers to common industry standards for clarification in regards to slope and ponding water on decks and roofs.

The National Roofing Contractor Association (NRCA) Roofing and Waterproofing manual defines ponding water as “the excessive accumulation of water at low lying areas on the roof.” To avoid ponding water, the NRCA recommends that all roof systems be designed and built to ensure positive drainage of water.

Since vinyl membranes are predominantly applied directly to structural substrates such as plywood sheathing or concrete, the structural roof deck must be designed and built to ensure positive drainage. TUFF defines positive drainage as designing the deck or roof structure with consideration for all deflection, allowing for additional slope as needed to ensure drainage of the deck or roof area within 48 hours (during ambient drying conditions) of the end of rainfall or moisture accumulation.

TUFF recommends a nominal deck slope of 1/4” in 12” or 2%, which is commonly required by some Building Codes and Roofing Associations. The design professional should consider the following conditions to ensure positive drainage; building settlement, frame shrinkage, drain locations, roof layout and structural deflection.

For lesser sloped decks, the vinyl membrane can be installed in the direction of the slope to prevent membrane seams from impeding water flow.

### What is the definition of ponding water, deck slope and how does it apply to the warranty?



### The Workmanship Warranty and the Product Warranty, as applicable, do not apply if:

- The Project or the Product, or any part thereof, has been damaged by accident, vandalism, abnormal usage or abuse, misuse, negligence, fire, natural disasters (including, but not limited to, lightning, wind, hail, floods, earthquakes, gales, hurricanes, tornadoes) or other acts of God, (settlement), warping, distortion, failure, normal weathering, cracking or movement of any deck, wall or foundation of building(s) on the Property, any damage by traffic on or about the Project or by impact of foreign objects or by contamination of the Product or of any membrane by corrosive chemicals, oils, greases, gases or any misuse, neglect or improper handling of the Project or the Product, infiltration or condensation or moisture in, through, around or above the walls, copings, HVAC systems or any part of any buildings or structures, (ponding water caused by inadequate slope, improperly positioned drains or settling of any building or structure), lack of venting or the failure of the building or structure to prevent ingress of wind, vapor diffusion or precipitation into the Project or the Product or by other causes beyond the control of the Installation Company or TUFF.