

## **Graham Finch, RDH Building Science- Engineers Yukon Webinar, September 9, 2020**

**Title:** Removing the Confusion of Water Vapour Diffusion in the Design of Building Enclosures

**Date:** Wednesday, September 9, 2020; 12pm-1:30pm PST

**Location:** Online webinar. Link and instructions will be provided prior to event.

**Cost:** \$30 (members and non-members)

### **Description:**

The control of water vapour diffusion is a critical design consideration for enclosure durability and occupant health in Yukon. There is a careful balance with vapour diffusion between minimizing wetting and encouraging drying, a balance that has only become more confusing with many new building materials, enclosure designs, and improved energy efficiency requirements. Unlike typical moisture problems caused by air leakage or bulk water, vapour diffusion problems can occur for years before mould growth or other damage becomes visible.

Fortunately, there are analytical tools and models that can help. These can allow the user to “see” the long-term impacts of design decisions such as insulation selection and placement, vapour retarder or barrier membranes and the benefits of diffusion drying. This type of analysis is imperative when designing higher R-value wall and roof assemblies and pondering exterior insulation types and ratios or the details of vapour control strategies.

This seminar will cover the basics of water vapour diffusion, how to control it in highly insulated wall and roof assemblies, and how to assess high versus low-risk design choices. Industry tools will be demonstrated using examples specific to the challenges faced in Yukon buildings.

### **Learning Objectives:**

- Describe the process of vapour diffusion and how it is controlled in modern building enclosure assemblies.
- Identify the problems that poor vapour diffusion control can cause within insulated enclosures.
- Apply available tools for the analysis of water vapour diffusion within building enclosure assemblies.
- Compare different wall and roof assemblies and their risk associated with water vapour diffusion control.

### **Bio:**

Graham Finch, MASC, P.Eng – Principal, Senior Building Science Specialist  
RDH Building Science, Victoria, BC

Graham Finch is a building science engineer who specializes in enclosure design, research, and investigation work for new and existing buildings. Graham also works with building product manufacturers and other clients on product research and development, performance monitoring, forensic investigations and field testing. He actively publishes guidelines and technical articles and is regularly invited to present on the latest building science information at local to international conferences. Much of his recent work has focused on highly insulated building enclosures, including specific research and publications related to new and existing buildings in Yukon and Northwest Territories.