

Exterior Building Components are extremely vulnerable to the quality of construction and to the environment.

PENTA's staff of engineers and professional's are experienced in the evaluation and repair design of virtually all exterior building component systems including roofs, and various types of facades. PENTA routinely provides cost effective consulting to building owners and managers that are experiencing water intrusion from the façade or roofing membranes. We have developed programs to assist our clients in life-extending maintenance plans and repair procedures, as well as periodic evaluations of various building components.

Our service lines include:



Façade Evaluations – PENTA provides clients with evaluations of virtually all types of exterior building cladding including: Curtain wall, pre-cast concrete panels, granite, glass and metal cladding, brick and mortar, marble, stucco, and Exterior Insulation and Finish System (EIFS). Our evaluations generally consist of reviewing existing Structural and Architectural drawings to document the existing system, evaluating sealants, penetrating sealers, window gaskets, and various connections associated with the cladding.

Roof Evaluations – PENTA provides clients with evaluations of virtually all types of roofing systems. We have developed evaluation procedures including visual, infrared, conductance and dielectric meter evaluations to assess and document a roof system's general condition, moisture content and water-tightness. The roof evaluations are comprehensive in nature and include observations of roof penetrations, condition of the roof decking and evidence of deterioration, condition of the flashing and seals at the roof edges, roof-wall intersections and parapet walls, the integrity of the roof membrane and other conditions that could contribute to poor roof performance and decrease the service life of the existing roof system.

Water Infiltration Evaluation - PENTA provides clients with Water Spray Testing services in order to document sources and pathways of water intrusion into a facility. Water spray tests can be an essential tool to discover the actual source of water intrusion into a facility. Additionally, ASTM standards call for water spray testing to evaluate proper window installation in many applications.



Design – PENTA can develop work procedures and/or Specifications for repairing or replacing materials found to be defective during the evaluation of the building envelope. Our design documents generally follow the Construction Specifications Institute's multi-division format and are developed for site specific projects. As part of the designs, PENTA prepares drawings indicating general locations and details for repairs. PENTA also provides contract documents for bidding purposes so that contractors can provide consistent bids for the owners.