

Factors Influencing the Selection of Roof Systems

The NRCA Roofing Manual identifies a series of important factors that design professionals and owners should consider when selecting roof systems. In the “Roof Membranes” chapter of the *NRCA Roofing and Waterproofing Manual – Fifth Edition*, 21 factors are identified. In the current edition, the same factors plus an additional two appear in various locations of the modules for each roofing type. They are:

- Climate and geographical location
- Exterior and interior temperature and humidity conditions
- Roof deck type
- Roof configuration
- Fire resistance
- Impact resistance
- Ventilation requirements
- Compatibility with adjacent building components
- Worker safety
- Effect on occupants: odors, noise, and dust generated during application
- Manufacturer requirements
- Environmental effect
- Building use and life expectancy
- Code requirements
- Slope and drainage
- Building movement
- Wind resistance
- Insulation requirements
- Maintenance, repair and re-roofing requirements
- Sequence of construction
- Potential building additions
- Roof traffic
- Reflectivity and emissivity.

Combined, these factors provide a solid framework for understanding the body of knowledge represented in the myriad modules and related documents that fall under the NRCA umbrella. As such, committing them to memory is a worthwhile endeavor for those concerned about roofing in any capacity.



A few important factors are notably absent from this list:

Anticipated Lifecycle Cost: This is a major concern to design professionals, owners, lenders, and insurers of roofing projects. Although no buildings and the environmental conditions affecting them are alike, adequate data exists to develop reliable cost models for the building owner's consideration and to assist the design professional in developing a roofing project budget.

Roof Warranty Terms: Roof warranty terms can affect the construction budget, the owner's actions when it comes to responsibility for routine inspections, maintenance, rooftop equipment modifications, and how the owner acts in the event of damage to the roof. Because warranty rights and responsibilities of project stakeholders are often misunderstood, and because warranties are a significant construction cost factor, attention to roof warranty terms is important.

Available Local Resources: It is important to consider the available local resources necessary to install a particular roof system when making a roofing system selection, including the supply distribution network, qualified installers, special equipment necessary to install a particular roof system, and manufacturers' technical support.

Sources:

The NRCA Roofing Manual: Membrane Roof Systems – 2019.

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