

## OUTDOOR APPLICATIONS

Use of Nomaco's flexible closed cell polyethylene or elastomeric foam insulation products outdoors require special installation recommendations to prevent unacceptable degradation from ultra-violet (UV) exposure.

Nomaco polyethylene foam insulation products are made from UV resistant polyethylene resins. For UV exposure (rooftop applications) or where optimum performance is required, the product must be protected from the elements. Various jacketing or cladding materials are recommended, ie. PVC, CPVC, AL, etc. If coatings are going to be used, please refer to technical bulletin for recommended coatings.

Nomaco elastomeric insulation products are produced from UV resistant materials. For moderate UV exposure applications (insulating the suction line from a heat pump to the house) no additional protective coating or jacketing is required for many years of service. However, for severe UV exposure (roof top applications) or where optimum performance is required, it is recommended that the product be coated with 374 protective coating or other applicable coating or jacketing as required for the conditions.

It is difficult to determine outdoor service life of the product due to the wide range of environmental conditions that may be encountered. In addition to the harmful rays of sun, other factors such as damage from maintenance workers, wildlife and weather conditions must also be factored in. Protective coatings / jacketing provide more than just protection from UV degradation.

Accelerated UV aging studies are difficult to correlate to actual outdoor exposure because of the wide range of potential exposures for various applications and in different parts of the country. In addition, there are no industry accepted performance criteria by which to determine if a product is meeting expectation or not. As such, Nomaco is not able to provide any type of specific life expectancy for our products when used outdoors. Our recommendations are based on over 30 years of experience in the flexible insulation industry.

Some states (TX, FL etc.) have recently made changes to their building codes to improve energy savings, revising wall thickness requirements for some applications from 3/8" to 3/4" or even 1" on some outdoor applications. These changes are state by state and in some cases even dictated at the local level. The codes have always stated that outdoor applications require the material to be protected from UV exposure. Some of the new codes now state: "should be protected from UV exposure unless the product is produced from UV resistant materials". This new wording poses a major problem in that the term "UV resistant material" is not defined. It is similar to the terms biodegradable or hypo-allergenic. Without specific definition or test methods, these terms are practically useless. As a result, Nomaco is reluctant to put the term "UV resistant" on its product because of the potential for misunderstanding. In some applications (as noted above) the product will perform to industry expectation but in severe UV exposure applications or where other factors may enter into the conditions the product will be exposed to, it may not perform to expectation unless it is protected. Because of the confusion caused with the wording (UV Resistant materials) some states such as California, who had used this wording, have now deleted it from their code. They have gone back to a statement which requires all products used outdoors have additional UV protection such as coating or jacketing.

Nomaco feels it is better to provide a conservative recommendation along with information on which our customers can make an informed decision.