



Confusion Concerning Insulated Steel Deck Constructions

Let us examine several facts. What is commonly referred to as Class 1 Construction or Construction No. 1 indicates that these constructions have been examined by the engineering organizations working for the interested insurance companies and have met the requirements for spread of fire on the underside of the assembly and in some but not all cases for resistance to wind uplift. The approval this granted has no reference whatsoever to the structural strength and vapour resistance of the vapour barrier; to the properties of the insulation other than those relating to spread of flame on the underside of the construction; and, when wind uplift is not included, to the bonding properties of the adhesive. Of equal importance is the fact that fire and wind uplift resistance requirements can be met without a vapour barrier.

While CRCA recognizes the importance of designing roof assemblies that provide protection against loss resulting from fire and/or wind damage, they also recognize that inadequacies in, or the complete lack of a vapour retardant system can result in rapid and complete deterioration of the entire roof assembly. CRCA is already on record as advocating the use of adequate vapour retardant systems on all roofs regardless of the type of deck or type of insulation.

Consider the basic differences between the classes of construction required for insurance purposes. Basically Class 1 Construction or Construction No. 1 assists the owner of a non-sprinklered building, the contents of which are rated as non-combustible, to obtain a lower insurance premium. However, if the building contents are classed by the underwriters as combustible it then becomes necessary to install a sprinkler system to obtain the lower insurance premium rates. The interesting thing to note is that once the building is sprinklered the designer can then use either Class 1 or Class 2 roof construction with either no or very little variation in rate. The designer can then make use of more adequate vapour retardant systems such as those outlined in the CRCA manual.

In the opinion of many in the roofing industry the attributes of Class 1 type constructions are vastly over rated. In many cases the capitalized differential in insurance premiums between Class 1 and lower type has been small compared to the differential in construction costs. Recognizing this fact, the general limited adequacy of Class 1 type systems as vapour retardants and the problems of roof membrane deterioration associated with vapour retardants of limited efficiency, CRCA submits that it would be in the best interests of all concerned if roof designers were to consider vapour retardant materials and systems of proven efficiency for application over steel decks regardless of their conformance to specific insurance company standards.

It has been drawn to our attention that Specification SVR-3 in the original issue of the CRCA Specification manual is still being used. When the roofing specifications were revised and re-

issued in January 1969, this specification was NOT re-issued. Any 1 ply application with a 2" sidelap under field applied conditions is not considered an efficient vapour barrier.