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Scoring an “A” with Your School Roof

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If you are a school official, here is something you can achieve a perfect score on your flat roofs that commonly represent constant and costly maintenance. In addition, you will get an A+ for energy efficiency. School architecture over the past few decades has diligently attempted to eliminate flat roofs in their construction. What is driving this design change is the incorporation of more long-term, low-maintenance, energy-efficient products. Unlike the schools of the past that have a combined roof assembly R-Value of 5 or 6 and average life spans from 13 to 17 years, our newer schools are designed to meet the Federal Model Energy Code with maintenance free products. Proof of this is the current push to build “green” energy-effective buildings that are environmentally compliant.

So what are they using to achieve these results? Many school architects now employ sloped roofs with cost-effective standing-seam metal roofing in lieu of flat roof problematic membranes and assemblies. This style of architecture not only improves the appearance of the school but substantially decreases associated maintenance expense while greatly improving energy efficiency.

This is all good for your schools that are now being built, but what about those that are 20 years of age and older? The answer to this test question is quite simple—retrofit metal roof systems. This design concept addresses flat roof construction experiencing constant leaks and high maintenance by constructing a light-gauge steel framing system atop the existing roof and cladding it with a new standing-seam metal roof. During the installation of these systems, the contractor includes insulation bringing the new assembly to Model Energy Code requirements of R-30, soon to be R-38. The end result is an energy-efficient, long-term performing roof system. In fact, metal roofing is now recognized by industry experts for having a 40-year lifespan compared to its nearest flat roof competitor at 20 years.



Pictured here is just one recently completed Ohio school project that is benefiting from using the MBCI NuRoof Concept. In spring 2006, Harrison Hills City School District chose to retrofit its Lakeland Elementary facility. Excluding the gymnasium, this school required some 35,500 square feet (3,252 m²) of new metal roofing installed over a MBCI NuRoof retrofit framing system.

So now you have the answers and a perfect score is in your reach, what do you do? First, it is important to understand that this concept of retrofit metal roofing must be a fully engineered system. Meaning, the new framing and metal roof system must be designed to not overload the existing roof. This is accomplished by evaluating the existing roof's structural system in its ability to receive the new retrofit system and the added weight of its components. Second, through the project's bid process, make sure that a retrofit roof system manufacturer with the required engineering expertise will be used by the successful contractor. You can ensure that this is achieved by using "performance-based" specifications that address everything from existing roof preparation before framing attachment to new roof warranties covering installation and metal roof paint/coating protection. Hallmark to this is requiring an installer certified by the retrofit systems manufacturer.

Your major decision today when considering a retrofit of an existing school is the long-term benefits that need to be achieved. To ensure this, the project must be planned properly by selecting the correct metal roof system for the application based on the new roof's geometry, employing a properly designed ventilation system that provides effectively balanced airflow and including an insulation package that increases the energy efficiency. These factors work together in reducing the operating cost of your school and achieving a long-term low-maintenance roof.

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