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MAGAZINE EDITORIAL

WANT TO GROW YOUR METAL ROOFING BUSINESS?

With the slowdown in new construction and especially buildings with metal roofing systems, it is getting harder and harder to make a buck today. Well, let's think about adding something else to your bag of tricks.

Retrofit Metal Roofing has been touted for years as being a viable and profitable business opportunity. You have read about it in every metal construction trade publication, seen countless advertisements and have even driven by a project or two. So why aren't you grasping the opportunity to keep even more busy in times like this?

Retrofit Metal Roofing comes in two forms. First there is "Metal-over-Flat" or sometimes referred to as "Sloped Build-up" retrofit framing. You've seen this, it's when you screw together a light-gauge cee and zee-shaped framing on top of an existing flat roof building. The framing creates the slope for a new metal roof to be installed. End result, the building owner has a new long-lasting metal roof that will probably outlast himself.

Then, there is "Metal-over-Sloped" retrofit roofing. This type of retrofit is much more contractor friendly and allows you to mobilize on the jobsite quicker and complete the work for an earlier than normal bank deposit. This article will address the latter of the two because there is a growing need in the market place for these metal re-roofing applications and good qualified contractors.

Metal-over-Sloped systems enable you to install new structural metal roofing directly over existing conventional membrane roofs and existing worn-out metal roofs. Our older metal roofs have reached the end of their service. Several reasons explain this, but if you research the metal roof coatings years past, local environmental exposure impact and design practices used 20-30 years ago you will find the answer to why there are so many metal buildings that need new roofs.

The key to doing Metal-over-Sloped retrofits is in the structural sub-framing system and its ability to be installed simply while satisfying any new building code requirements. Most metal component Manufacturers offer these systems fully-engineered where the sub-framing and new metal roof systems are packaged together to specifically meet local jobsite conditions.

For existing metal roofs that are sometimes referred to as "Metal-over-Metal" retrofit, there is an easy way and a not-so-easy way when it comes to the sub-framing. What is important to

your desire to grow your metal roofing business is simple. You should be looking to add "Metal-over-Metal" reroofing to your bag of tricks?

Installing a new metal roof and retrofit sub-framing system to an existing metal building roof will add about 2 pounds per square foot (PSF) to the existing roof. This means, the existing roof will have to support this added weight. So, how do you accommodate this? In addition, is the current building code authority going to require you to upgrade the new roof assembly to meet the current specified wind speed? And finally, but just as important, should you be thinking about an energy efficiency upgrade? Let's take each of these and provide you with some options.

ADDING WEIGHT TO THE EXISTING ROOF

Most sub-framing systems and methods have no affect on the structural capability and capacity of the existing roof system. They just add weight without compensating for anything. However, some systems that are fabricated to nest over the existing roof profile and attach directly to the existing roof purlins (normally, spaced no more than 60"). These systems will normally increase the weight carrying capability of the existing purlins. Manufacturers like Roof Hugger® of Lutz, FL have been providing patented "pre-notched" sub-purlins for years that nest over the existing roof and attach directly to the existing purlins. Based on their stringent American Iron and Steel Institute (AISI) laboratory based testing, Roof Hugger's sub-purlins can increase the capacity of the existing roof purlins as little as 35.7% and up to 79%. So, take an existing and very common 20 PSF roof system as an example. Effectively, Roof Hugger nesting sub-purlins can increase the capacity up to a minimum of 27 PSF, which is much more than the 22 PSF you need (20 PSF + 2 PSF weight of new materials = 22 PSF) to accommodate the newly added weight. Of course, the testing is based on materials used in the tests which in this case were 12, 14 and 16 gauge 8" deep zee purlins spanning 25'-0". One note of caution is the increase has no affect on the building's rigid frame supports.

UPGRADING TO CURRENT BUILDING CODE REQUIREMENTS

Let's say that you have a building in Houston, Texas that was built in 1980 when the equivalent wind speed was 90 MPH and now that building is sitting in a 130 MPH wind zone due to hurricane induced code changes over the last 30-years. Now this could be a real problem for any contractor that is required to obtain a building permit. Well, you're in luck because a similar benefit to using nested sub-purlins such as Roof Huggers can very possibly solve your problem. In similar fashion, the AISI based testing proved that Roof Hugger's sub-purlins increases the existing roof purlin's wind uplift capacity by up to 94%. However, in most cases this won't do the trick entirely. In higher wind prone areas (100 MPH +), additional sub-framing may need to be employed to satisfy the corner and edge zones of a building's roof. The required framing is these areas is all dependent on the new metal roof's American Society of Testing Materials (ASTM) E-1592 wind uplift values. Roof Huggers have been installed on over 50-million square feet of existing metal building roofs with not one failure even in wind speeds of 150 MPH and greater.

HELPING THE BUILDING OWNER TO SAVE MONEY

The U.S. Department of Energy (DOE) has stated that more heat energy is lost through building envelopes than is generated by buildings' heating systems. Solar heat gain and internal loads from equipment and occupants can easily add 50% to the annual heating costs, especially in commercial buildings. For cooling, a building's roof assembly can account for as much as 24-30% of the cooling load consumption due to solar heat/gain and air infiltration. We all know that to be energy efficient in today's world is hallmark in our new construction and renovation planning.

While "Metal-over-Metal retrofit roofing began as just a simple method of installing a new metal roof over an existing metal roof, today it is being employed for energy efficient benefits as well. These so called double-skinned "Sandwiched" applications create an air space between the old and new roofs that enables you to reduce the building's energy consumption. For example, you can add insulating materials such as fiberglass batt, rigid board polyisocyanurate/polystyrene or next generation phase change materials (PCM) for extreme thermal resistance. If you want to keep it really simple, then just ventilate the air-space and reap the benefits of natural convective cooling ventilation or more commonly referred to as Above Sheathing Ventilation (ASV). This simplistic approach doesn't cost much and will decrease the heat gain through the roof assembly by as much as 45% if combined with a "Cool" rated paint system on the new metal roof. Case studies illustrate a 20-25% reduction in energy cost as a result. Now, if you really want to get energy conscious, think about newer technologies such as renewable solar thermal heating and cooling (water) or solar heat recovery for space and process heating (air). These solar based systems are approved by Uncle Sam to kick in the IRS's Tax Code Section 179D thirty-percent (30%) dollar-for-dollar tax credit plus accelerated depreciation. So, the solar based system's large price tags are softened by the building owner's tax credits. All of these systems can be installed collectively to create a fully integrated encapsulated thermal-composite roof assembly.

Need some more reasons to get energized on doing Metal-over-Metal retrofit? 1) In lieu of removing the old roof and replacing with a new one, most projects are completed without disruption to the building's operations; 2) Building inhabitants are not exposed to airborne contaminants; 3) Case studies have shown that on a larger project from start to finish, contractors will install on the average about 2500 square feet of sub-framing and panels per day and 4) most metal buildings have limited roof penetrations, but when they do there are several rooftop equipment manufacturers out there that cater to retrofit applications such as these. Special curbs and other equipment are manufactured to specifically address these conditions and to prevent removal and re-installation.

So, what does all of this and the related market potential mean to you the metal roofing contractor? Quite simply, you have a threshold of opportunity looking at your doorstep. **Metal-over-Metal Retrofit metal roof systems are a vehicle that can grow your business**. So, grab the opportunity and ask anyone of the many metal roofing manufacturers to help guide you through the technical aspects of these retrofit metal roof systems.

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