Whatever Happened to Built-up Roofing? (BUR) ***By Charles McGarvey***
Roof Survey and Informational Services

There are countless subjects to write about in the roofing industry, but trying to find one that I find interesting enough to write as an article for the Trade News can sometimes be a challenge. If a subject is not personally interesting, I cannot write about it.

I expressed this thought to Mike Donnelly of Donnelly Roofing, who immediately gave me a subject that I not only related to because I lived through it, but also because I was a part of "Whatever Happened to Built-up Roofing"?

Without going into a long article about the differences between asphalt and coal tar BUR systems, I thought about my personal experiences with the demise of Built-up Roofing.

The year would have been around 1973 when I first started reading about roofing materials being marketed as part of the "Modern Roofing Industry". The materials included roofing systems constructed of factory-manufactured plastic or rubber sheets called single plys. They included European imports, several different American manufactured materials, and an American product developed for the automotive industry as weathering gaskets, which was being manufactured into large sheets to cover low-slope roofing systems called Ethylene Propylene Diene Monomer or EPDM.

I found the information about these materials fascinating. Plastic and rubber materials being manufactured into single sheets that would be used as roofing materials for low-slope roofs? No more kettles? Are they kidding? Why were these materials starting to replace BUR systems, which had been used to waterproof low-slope roofing systems for the last 100 years?

At first, I could not understand why these materials were replacing BUR? However, I came to realize it was nothing more than the free marketplace of ideas and innovation replacing inferior materials with new materials. So, how can I say that BUR materials suddenly became inferior after a 100 years of use? Simple, BUR systems consisted of reinforcing plys of asphalt or coal-tar saturated organic felts and an asphalt or coal tar bitumen mopped between each ply as the waterproofing agent. The strength of the system is the reinforcing plys and the waterproofing resistance is the bitumen.

As the manufactured quality of the organic felts used to construct a BUR system became lower and lower, along with increased mechanical and thermal stresses on the organic felts as buildings became larger and larger, substantial low-slope roofing system failures started to occur. Without getting into the change in materials used to manufacture organic felts, poor manufacturing processes, or technical reasons why the problems were occurring, the results were bubbling, blistering, wrinkling, splitting, and, in many circumstances, complete roofing system failure caused by the loss of tensile strength and the waterproofing resistance of the manufactured organic felts.

So, what did the manufacturers of organic reinforcing felts do about the problems related to the material weaknesses of BUR? In my humble opinion, *"nothing",* until it was too late and the doorway to competition was opened with the introduction of new plastic and rubber sheets that we know today as single plys.

By the time manufacturers of BUR materials replaced organic felt reinforcements with the introduction of Type IV fiberglass ply sheets, which would have stopped the vast majority of problems related to the use of organic felts, it was too late - single plys had made, and continue to make, massive inroads into the low slope roofing industry.

I have always thought that if the major manufacturers of organic reinforcing felts had not ignored the failure of their products but had introduced usable Type IV fiberglass ply reinforcements in the 1960s instead of the 1970s, single-ply roofing would have had a much harder time of being accepted in the roofing industry

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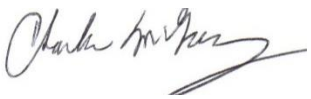
The moral of this story is, "Whether you have a business in the service or manufacturing industry, you must immediately resolve problems; if you do not, be prepared to be pushed out of the way by competition."

Respectfully Submitted,



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