

# Adapting to Modern Roofing Demands: Advantages of a Hybrid Roof System



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Balancing the need for durability, protection against chemical exposure, and cool roof requirements and contribute to potential savings on cooling costs,<sup>1</sup> can make roofing choices feel overwhelming. At Siplast, we face the same conundrums you face, as we adapt to the modern roofing demands of our own warehouses, plants, and offices.

For example, we recently decided that a hybrid two-ply roof system offered the unique combination of reliability and performance we required for our SBS-modified bitumen Finished Goods warehouse.

## Let's take a look:

- **Repairs:** Before installing the new system, we assessed and repaired the existing Paradiene 20/30 two-ply SBS-modified bitumen system. This step helped to ensure water tightness and prepared the roof for the upcoming changes.
- **Recovery Board:** To strengthen the roof structure, we added a new ½" gypsum recovery board using Low-Rise Foam Adhesive. This provided structural integrity and served as a solid base for the subsequent layers.
- **Self-Adhered Base Ply:** For an efficient application process, we opted for the Paradiene 20 Self-Adhered Base Ply. This SBS-modified bitumen base allowed us to phase the construction of the roof in a manner that prevented excess construction traffic on the Parasolo KEE membrane.
- **Fleece Back Membrane:** To withstand exposure to weather elements and potential ponding water, we installed a 60 Mil Parasolo KEE Fleece Back membrane using Low Rise Foam Adhesive. This high-performance thermoplastic finish-ply offers enhanced durability and, protection against chemical exposure and algae growth, compared to a standard Parasolo PVC membrane.



# ...we can extend the time between roof replacements...

## But why choose a hybrid system in the first place?

**Temperature Control:** Warehouses often face extreme temperatures, especially in the summer. By selecting a white Parasolo KEE as our finished surface, we were able to reduce roof surface temperatures and mitigate heat buildup, potentially creating a more comfortable working environment for our employees.

**Durability:** Compared to standard single-ply systems, a two-ply hybrid roof system configured with premium materials provides enhanced durability, long-term performance, and extra protection for the structure. This level of performance is particularly beneficial for hospitals, schools, airports, and — as in this use-case — industrial buildings.

**Legacy Building Ownership:** Legacy plays a crucial role in reroof and adaptive reuse projects, but often these buildings don't meet the latest performance standards or codes. It is important to carefully consider how the existing structure should be maintained or modified to align with current or future performance needs.

**People & Environment:** According to the [U.S. Department of Energy](#), you can help extend the lifespan of a roof by using reflective cap sheet. A cooler roof can help extend the time between roof replacements,<sup>2</sup> lower local outside air temperatures, and lessen urban heat island effect, and increase thermal comfort for the occupants.

At Siplast, we strive to provide reliable and innovative solutions for a variety of roofing needs. Whether it's SBS-Modified Bitumen, Single Ply, Reusable Insulation Systems, Coatings, Liquid Roofing Systems, Air Barrier Systems, or Waterproofing, our commitment to quality and performance remains unwavering.

<sup>1</sup> Energy cost savings are not guaranteed and the amount of savings may vary based on climate zone, utility rates, radiative properties of roofing products, insulation levels, HVAC equipment efficiency and other factors.

<sup>2</sup> The [Mass Effect](#) Study discusses how temperature affects the rate of membrane aging; temperature readings collected during the study were plugged into the Arrhenius Equation, which is a mathematical formula that shows the relationship between temperature and rate of chemical reaction – in this case, between membrane temperature and rate of degradation due to oxidation (heat aging).



## More About the Author



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Peter Gross has over 20 years experience in the roofing industry, both on the contracting and manufacturing sides of the business. Peter holds a Construction Documents Technology (CDT) certification from the Construction Specifications Institute and is a past president of the Carolinas Chapter of IIBEC.

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