

Project Profile



Project

RC Willey Intermountain
Distribution Center
Salt Lake City, UT

Owner

RC Willey Home Furnishings
Salt Lake City, UT

Architect

Valentiner Crane Brunjes Onyon
Salt Lake City, UT

General Contractor

Layton Construction
Sandy, UT

Roofing Contractor

Redd Roofing Company
Ogden, UT

Roofing System

Sarnafast system, Mechanically Attached,
using white, 60 mil S327 EnergySmart
Roof® membrane

Project Size

865,000 square feet

Completed

January 1997

The Search for Roof with History of High Performance Leads to Sika Sarnafil

In 1996, furniture retailer RC Willey of Salt Lake City, Utah, was experiencing exceptional business growth. The company needed to build a new warehouse / distribution center to satisfy the logistical requirements of the western region that it serviced. To accommodate present and future needs, a massive 865,000 square foot facility was designed. During the material selection phase, one of the greatest challenges was to find a high performance, proven roofing system. This roof would play a vital role in protecting RC Willey's critical operations base.

In addition, the roofing material chosen for this project would need to be suitable for cold-weather application. Other important considerations included wind resistance to accommodate typical gusts reaching 60 mph, exposure to high ultra violet (UV) radiation, and chemical resistance to jet fuel.

The Solution

In a collaborative effort, executives from RC Willey, along with the project architect from Valentiner Crane Brunjes Onyon, general contractor Layton Construction, and the

roofing contractor, Redd Roofing, all reached the same conclusion — Sika Sarnafil's 40-year performance history and high performance attributes were just what the company needed to protect its new facility and the valuable assets stored inside. Input from Roy Bosley of Layton Construction was instrumental in guiding the project team as they reached this consensus.

A light colored, mechanically attached roofing system, Sika Sarnafil's EnergySmart Roof® system, was chosen and eventually installed by Redd Roofing. This system includes 2.7 inches of Sarnatherm polyisocyanurate insulation over a steel deck and is recognized as a UL Class A9 fire rated roofing assembly.

This system exceeds the compliance requirements of the EPA Energy Star® Roof Products Program.

Recognition from National Magazine

Subsequently, a Newsweek™ magazine article described efforts by NASA to calculate the environmental benefit of light-colored (highly reflective) roof surfaces. The RC Willey Sika Sarnafil roof was featured in the story, which focused on roofing's scientifically prescribed role in helping to

Sika®

Sarnafil®

reduce energy consumption, cool oppressive urban air temperatures, decelerate smog formation, and ultimately improve air quality.

NASA Comes Calling

Over the past decade, researchers from the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), national laboratories, electric utilities, and NASA have been investigating both the energy saving and environmental air quality benefits that can be attributed to increased use of reflective roofing. Investigators have focused on a theory that reflective roofing can reduce a building's air conditioning energy use — and if installed community-wide, these roofs could simultaneously help to cool oppressive urban air temperature and improve overall air quality.

The evidence is compelling. Durable, reflective roofing products make more sense. Professionals from NASA's Global Hydrology and Climate Center personally visited the RC Willey Intermountain Distribution Center in 1998 to study the surface characteristics of the Sika Sarnafil roof.

Dr. Jeff Luvall was one of the NASA scientists recording thermal images of the Salt Lake valley with aerial, heat-sensing equipment. NASA curiosity was heightened due to the absence of any significant heat detection at the building's geographic location. As Dr. Luvall commented, "Quite honestly, I didn't know that the building existed (because of its reflective properties) until the day I was escorted onto the roof."

This revelation is noteworthy, given the size of the massive building. The integral surface properties of the Sarnafil roofing membrane shield the warehouse by reflecting most of the incoming solar radiation.

This performance feature allows an enormous, man-made structure to blend into the natural vegetation around it. These findings are scientifically significant and have been documented by NASA's heat-sensing photography for both the building and its



The RC Willey Intermountain Distribution Center in Salt Lake City, Utah, relies on 865,000 square feet of energy-efficient EnergySmart Roof system from Sika Sarnafil.

natural surroundings. Due to Sika Sarnafil's unique, single-ply membrane, the RC Willey building is effectively "camouflaged" by the highly reflective roof.

Dark Colored Roofs and Solar Radiation

Technological resources have confirmed that dark-colored roofing surfaces — widespread across city landscapes throughout our country and the world — typically absorb most of the incoming solar radiation to which they are exposed. When dark colored roofs absorb solar radiation, they begin to radiate additional heat. Most ordinary roofing materials have been identified as unnecessary contributors to oppressive urban air temperatures. These uncomfortable conditions are often magnified within geographic boundaries commonly known as urban heat islands.

The air temperature in a heat island is typically 5-10 degrees (F) warmer than in surrounding rural areas. Higher temperatures foster an increase in energy demand to run air-conditioning equipment. A rise in energy demand leads to a corresponding increase in power-plant generation. Electricity generation is undesirable, of course, because power plants are a major source of hazardous airborne pollutants.

Additional and pre-existing pollution

emissions are subsequently subjected to an increasingly rapid, smog-forming reaction. In this deadly cycle, intensive heat accelerates the formation of smog and unhealthy, ground level ozone. Such a deteriorating condition has made the promotion of environmentally preferable, highly reflective roofing materials an issue of national priority.

Sika Sarnafil and Energy Star Program

When the EPA launched the Energy Star Roof Products Program, Sika Sarnafil became a Charter Partner. EPA and DOE label products and programs to help consumers quickly and easily identify items that can save them money, save energy, and help protect the environment.

Energy Star programs are based on voluntary agreements between the EPA and product manufacturers. By entering into the program, a product manufacturer commits to develop specific products that meet agreed-upon, energy-efficient criteria.

Sika Sarnafil is the first and only commercial single-ply membrane manufacturer to label roofing products under the EPA Energy Star program. Sika Sarnafil is also the only single-ply membrane manufacturer that can point to more than 40 years of unique, historically proven roofing technology.

To learn more:

Sika Sarnafil

A Division of Sika Corporation
100 Dan Road
Canton, MA 02021
Telephone: 1-800-451-2504
Telefax: 781-828-5365
www.sikacorp.com

Sika Sarnafil

A Business Unit of Sika Canada Inc.
6820 Davand Drive, Unit 2
Mississauga, Ontario L5T 1J5
Telephone: 905-670-2222
Telefax: 905-670-5278
www.sika.ca

Sika®

Sarnafil®