

MMA Champ Dan Henderson's New Spray Foam Roof Using Honeywell Solstice® LBA is a Knock-Out

Spray foam roof delivers toughness and low global warming potential for California fitness center

"I've had spray foam in my home gym for a long time. I know it is very tough and durable. I may be able to punch through it but it might take me a while (jokingly). As far as Mother Nature goes, I am absolutely confident that this roof will withstand everything that it throws at it."

Dan "Hendo" Henderson — former Olympic wrestler, UFC, Pride FC and Strikeforce champion



The Challenge:

Dan Henderson's Athletic Fitness Center had a single-ply membrane system installed over a built-up roof (BUR) that was leaking. The approximately 28,000 square foot roof, estimated to be about 30 years old, had been patched multiple times but was deteriorating and not energy efficient.

The Solution:

A new closed-cell spray polyurethane foam (ccSPF) roof system developed by West Development Group*, formulated with Honeywell's ultra-low global warming potential Solstice® Liquid Blowing Agent (LBA), was installed by Western Pacific Roofing.

*Subsidiary of the Henry Company

With more major titles than any other athlete in mixed martial arts (MMA) history, Dan Henderson is one tough customer – literally. As he works with upcoming fighters at his training facility in Temecula, California, he expects the very best. Henderson understands what it means to be resilient and durable. Therefore, a ccSPF roof formulated with Honeywell Solstice LBA was the obvious choice for his facility's roof repair.

Having purchased the building about a year and half ago, Henderson knew upgrades were needed. "I've had spray foam in my home gym for a long time and have been pleased with it," said Henderson. "I chose a foam roofing system with Solstice LBA because it's very durable and can increase energy efficiency. Not only do I want to prevent leaks, I'm excited to see what we save every month in our utility bills."



Round 1: Safety Emphasized During Challenging Installation

"With many skylights and a variety of roof surfaces, this installation was the ultimate challenge for a roofer," said Mary Bogdan, senior principal scientist at Honeywell, who provided on-site technical support. Bogdan gave top marks to Western Pacific Roofing for their focus on safety throughout the entire installation. "The application areas were roped off, each of the skylights was barricaded to ensure adequate fall protection, and ventilation systems were shut down and sealed. Roof access was carefully controlled and clear signage posted. The installation



Installers wore proper protective equipment and followed safety procedures throughout the installation.

crew used proper protective equipment (PPE) and ensured that everyone else remained outside of the work area.”



Round 2: Solstice LBA Gives CcSPF an Edge

Bogdan also underscored the many advantages of Solstice LBA, an ideal blowing agent replacement for HFC-245fa and other HFC alternatives. Some of these key advantages include:

- Ultra-low global warming potential (GWP) of 1 (99.9% better than HFC alternatives)
- A slightly lower molecular weight so less material can be used in a system
- A lower vapor pressure, which improves handling and delivers smoother foam surfaces (smooth surfaces require less coating)
- Improved thermal performance (improves energy efficiency, which allows air conditioning units to run less)

Other benefits for this project included a reduction in construction debris sent to the landfill. After removing the old layer of single-ply membrane, the ccSPF system was applied directly over the original BUR roof. This allowed the roof to be sealed and repaired rather than completely torn off and replaced. Also, the spray foam and acrylic coating are light-colored, which offer reflective benefits by keeping the surface cooler than darker materials. In addition, Solstice LBA is:

- A nonflammable liquid (ASTM E-681)
- Listed under the U.S. EPA’s Significant New Alternatives Policy (SNAP) program to replace ozone depleting substances
- Listed on the TSCA inventory
- Not a volatile organic compound (VOC) as determined by the U.S. EPA



Round 3: CcSPF System Exceeds Performance Expectations

Along with its nonflammability and ultra-low GWP, Solstice LBA in the foam formulation offered other performance advantages as well. “The installation went very well today,” said Richard Brunelle, supervisor, Western Pacific Roofing. “This foam is a lot smoother and looks really nice. The knit lines appear to be very tight and the product laid down really well. It also seemed to clog the spray guns a lot less than normal applications.” He added, “I would use Solstice LBA again. It’s a good product.”

Bogdan concurred, “The spray foam system went down beautifully today. We saw a wide temperature range during application from a rooftop temperature of 59° F to 120° F and the system performed well. The surface finish was excellent and the installation crew had no issues.” Some additional performance benefits of ccSPF systems formulated with Solstice LBA include:

- Increased yields (8-10%)¹
- Improved thermal performance
- Outstanding foam adhesion
- Higher compressive strengths
- Consistency during application (minimal temperature adjustments)



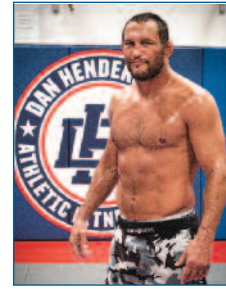
The single-ply membrane on the original BUR roof had been patched many times but was deteriorating and leaking.



CcSPF's unique ability to contour and seal around skylights and the many other rooftop protrusions made it an ideal solution.

Henderson: Winner by Unanimous Decision for Using Solstice LBA

In summing up the experience of having a new ccSPF roof installed, Henderson said, "I am very happy with the installation. It was completed quickly and was pain-free. For anybody considering a new roof, I would absolutely point them in the direction of a spray foam roof. It will stop leaks and last a long time. On the environmental side, it can lower your power usage and if it's made with Solstice LBA, it has a low global warming impact. I'm excited to see what it does for my building."



Dan Henderson



As Henderson works with athletes at his fitness training center, he expects the very best.

Contact Honeywell to Learn More

To learn more about the benefits of Solstice LBA
call Honeywell at **1-800-631-8138**
or visit **www.honeywell-blowingagents.com**

¹ Reported by Jack Moore, West Roofing, in Cleveland Hopkins International Airport case study.

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