



**Knauf Blends Beauty and Brawn for New Hummer Facility**

**HUMMER H2 Assembly Plant, Mishawaka, Indiana**



**Field Bulletin**

White PSK Duct  
Wrap creates clean,  
finished look.

**"This is my insulation."®**





GM's new Hummer H2, manufactured by AM General,

offers drivers both a rugged military heritage and consumer-friendly comfort.

## Emphasis is on utility at H U M M E R H 2 A S S E M B L Y P L A N T

SUVs. Sport Utility Vehicles. A name almost synonymous with rugged, at least in its infancy. Yet soon, even what is arguably the most rugged of them all — the military HUMVEE™ and its civilian counterpart, the HUMMER™ H1 — will have a softer side. The new consumer-friendly HUMMER H2 will combine combat-bred toughness with enough cozy amenities to make it feel comfortably at home in suburbia.

The dual personality of the H2 will actually mirror its new manufacturing environment: a careful juxtaposition of demanding, military-like quality standards with thoughtful design elements intended to create a more pleasant work experience. And one of the tools that helped make that setting possible was White PSK Duct Wrap from Knauf.

The white PSK facing on Knauf's Duct Wrap with KwikStretch™ markings enabled the insulation team to provide both performance and aesthetic benefits for AM General's plant. The team (right) included (l. to r.): Dan Hoffman, Knauf; John Eiler, Diversified Insulation Distributors; Brian Willett and J.R. Schuler, Gribbins Insulation.

## Creating A PRODUCTIVE ENVIRONMENT

Even the smallest details of AM General's imposing new 630,000-square-foot (58,527 m<sup>2</sup>) plant near South Bend, Indiana, hint of its military heritage. From precisely monitored plant-wide air pressurization systems to pre-engineered blowout panels and spark-arresting fixtures in the paint mixing room, the very walls of the facility seem to be inscribed with a rigorous code of safety and quality standards.

Yet the comfortable ambience the company has created for its workers paints a stark contrast. And that was clearly the intent of Albert Kahn Associates, the architectural engineering firm that designed the plant. "For the person who works here every day, it's important for the plant to look nice," says Rick Bernard, mechanical/electrical coordinator for Kahn. "If the workers are not happy with their environment, then the product that goes out the back door is going to reflect that. If you've got something that looks large and airy and clean, the attitude is completely different."



## Combining BEAUTY AND PERFORMANCE

For Kahn, that perspective extended even to duct insulation: Knauf Duct Wrap with white PSK (poly-scrim-kraft) facing was selected instead of a more conventional silver foil-faced product. "It looks clean and bright, and we don't have to paint it to get a nice, shiny finished look," Bernard adds. "That saves our contractors time, and you can see the difference it makes in the atmosphere it projects throughout the plant."

About 120,000 square feet (11,148 m<sup>2</sup>) of 2" (51mm) Knauf Duct Wrap was used on dual-service supply ducts in the plant's HVAC system, which includes in-line gas burners for heating and three screw-type chillers that supply 44°F (7°C) chilled water for cooling. Seventeen

air handling units with an average capacity of 60,000 CFM (1699 m<sup>3</sup>/minute) each distribute conditioned air.

One of the most important roles for the insulation was preventing condensation on ducts during cooling operation (55°F/13°C supply air temperature) – a daunting task, given the use of 100 percent fresh air during humid Indiana summers. "Preventing condensation is critical, especially in the paint mixing areas," says Bernard, "because water and paint obviously don't mix real well. And of course, condensation doesn't look good, either." One of the advantages that Knauf's PSK facing provided over traditional white vinyl – an alternative facing that was considered – was a significantly lower moisture vapor transmission rating, to help prevent water vapor from migrating toward the cold ducts.



2" Knauf Duct Wrap was used to prevent condensation on ducts during cooling operation, a formidable challenge during humid Indiana summers, considering the combination of 100% fresh air and 55°F (13°C) supply air from the chillers. KwikStretch markings on the duct wrap helped installers make faster measurements.

Kahn selected Knauf's white PSK-faced Duct Wrap both for its durability and for the contribution a bright, glossy white finish could make to the overall atmosphere in the plant.



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## Standing up T O A B U S E

Another challenge the duct insulation had to overcome was abuse on the job site. "Unfortunately, construction workers tend to think of ductwork as a walkway, so when they go back to fix or install something, the insulation gets ripped up," notes Bernard. "So the tougher the insulation, the less rework that has to be done. This system has been working very nicely; I've yet to see any of it come undone or lift up. I'm very impressed with it."

The insulation contractor, Gribbins Insulation of Evansville, Indiana, completed the Hummer plant job in about four months, with just four crew members on the job site. "This was the first time we used the PSK product, but it worked out really well," says Brian Willet, project manager for Gribbins. "Our installers liked it, and it solved a design challenge for the engineers. So it turned out to be a good solution all around."

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## PROJECT PROFILE

- **Facility:**  
**HUMMER H2 Assembly Plant**
- **Size:**  
**630,000 sq. ft.**
- **Owner:**  
**AM General Corporation**
- **Architect/Engineer:**  
**Albert Kahn Associates  
Detroit, Michigan**
- **Mechanical Contractor:**  
**Apex Industries  
Indianapolis, Indiana**
- **Insulation Contractor:**  
**Gribbins Insulation  
Evansville, Indiana**
- **Insulation Distributor:**  
**Diversified Insulation  
Distributors  
Indianapolis, Indiana**
- **Knauf Products:**  
**PSK Duct Wrap with  
KwikStretch™ markings**

HUMVEE™ is a trademark of AM General Corporation.

HUMMER™ is a trademark of General Motors Corporation.

Conditioned air is distributed by 17 air handling units with an average capacity of 60,000 CFM. About 120,000 ft<sup>2</sup> (11,148m<sup>2</sup>) of Knauf Duct Wrap was used on supply and return ducts.

