

“We need your dirt.”

Arizona Dust is an SAE-spec material that puts Ford F-Series leather interiors to the test

By Joe Sage



Quite a few manufacturers cue into Arizona themes to name their paint colors (such as the recent Volkswagen Beetle Dune concept in a yellow-orange metallic paint simply called “Arizona”) or their interior themes (the Jeep Cherokee and Grand Cherokee’s “Grand Canyon”). It turns out Ford has been literally digging right in and carrying the real thing back to Michigan.

Ford engineer Tim Dunn and spokesman Scott Fosgard joined us by phone recently to describe how “Arizona Dust”—a type of dirt so unique and so useful, it carries a specification from the Society of Automotive Engineers (SAE)—has become key to development and durability testing of leather seats for the new F-150, that can be “Ford tough” while still delivering that luxury leather look and feel.

Leather seats are now huge sellers, especially in the Platinum and King Ranch trims. While customers expect the trucks to be as tough as ever, withstanding anything a rancher or contractor can throw at them, perforated leather is actually needed for heated and cooled seats, which can’t be done with fabric. Tough conditions in the field include extreme cold and heat, so this is one reason even the top tier King Ranch model will be found on a work site as well as at a country club.

King Ranch leather used to be more like saddle leather, but tastes have evolved to expect more like what has been familiar from the automotive side.

Either way, as Fosgard points out, “if you had a saddle, you wouldn’t expect to just use it and have it look like the day you bought it. If you look after it, it will look after you. People use conditioning creams and so on.”

However, he’s the first to admit that “you can stick as many labels as you like on the seat, and educate the customer, but you can’t make them do it.” Fair enough. Most people just want to sit down and go. Year after year.



The robot above was always on time and never complained, but was not quite getting the job done. The lab produces more typical real world field abuse now, with truck seats used all day every day by volunteers in tough dungarees, getting in and out, in and out, on top of a coarse and abrasive paste of Arizona Dust—an SAE-spec dirt found only in the Salt River Valley and perfect for the job.

FIRST INDICATIONS OF A NEED

Ford had been receiving data from customers experiencing premature leather wear. Analysis showed that damage was in the top coat. “All automotive leathers are basically ‘painted on,’” says Ford seats engineering supervisor Dave Webb, loosely describing a high-tech chemical layer of color and grain that’s all rolled into the final materials process.

That kind of wear is the nature of the beast over time, but warranty work at low mileage is not. They needed to find the cause and come up with a fix. Robotized testing was done in a Michigan lab, but Dunn wanted to address the toughest customers where they lived and worked, and where the brand’s fierce loyalty and unmatched credibility are born. He would have to head out into the field.

THE MISSING LINK: THE REAL WORLD

Webb set out to devise a better test. They had the fabric, they had the motion and they had the seats. They needed tougher fabric and realistic motion. And they needed dirt.

Not just any dirt would do. It turns out the perfect stuff comes from Arizona’s Salt River Valley, outside metro Phoenix. Powder Technology Inc. of Burnsville, Minnesota prepares the dirt to a uniform SAE certification, as ISO 12103-1 Arizona Test Dust Contaminants. It is categorized from fine to coarse, by size in micrometers, by particle size distribution by volume, and so on. This is some dead serious dust and dirt. Ford calls it simply Arizona Dust.

WE NEED SOME VOLUNTEERS...

Now they needed a process.

That robotized test would slide a fabric-covered equivalent of a driver’s torso and



thighs in and out and across the seats (see above) for the equivalent of all those miles. The robot wore a standard cloth most car and truck manufacturers use to represent pants.

For the new testing, Ford lined up some big guys to get the job done—each over 250 pounds—“basically the offensive line from the Detroit Lions,” jokes Webb. These tough testers wear real world work jeans—the same pair every day. Arizona Dust is smeared on the seats, almost like a paste, and it’s smeared on those jeans.

The testers literally climb into the truck, squirm around on the seat, climb back out... and then do it again. And again and again. The process goes on and on, until the engineering team can deduce what’s going on.

Once Arizona Dust testing started, Ford was able to revisit its leather supplier. They were able to “dial up” the top coat—the amount, the type, the thickness, the amount of paint needed. “The test allows us to know that point,” concludes Dunn. The result: new materials that are much more truck-specific.

The team of testers varies from program to program. There are three different leather seats used on the F-150, and they typically have three testers rotate for each seat (thus adding up to enough offensive linemen to consider forming their own baseball team).

Ford spokesman Scott Fosgard challenges anyone to get in and out of their truck 10,000 times and see how things hold up. Then try it while wearing the same pair of jeans each and every time.

“When your last name is ‘tough,’” says Fosgard, “you have to do these things. We owe a debt of gratitude to Arizona,” he continues, “because without your dust, we wouldn’t have learned so much so fast.” ■

