

## **UPDATE: North Dakota State University Proves the Sky is the Limit in 3M Disruptive Design Challenge**

Engineering students from North Dakota State University win design challenge to build a container for emergency relief supplies using chemical bonding and adhesive solutions

Engineering students from North Dakota State University beat out three other teams to claim bragging rights as the first-ever 3M Industrial Adhesives and Tapes Disruptive Design Challenge winner. Other participating colleges included Iowa State University, University of Minnesota, and University of Wisconsin-Madison. The event took place at 3M headquarters in St. Paul, Minn., on Friday, April 13, 2018.

North Dakota State University took home first place following an exemplary presentation of their team's emergency relief container design in 3M's Disruptive Design Challenge. This hands-on, interactive competition was created to expose and educate the next generation of innovative engineers to the various uses and design benefits of chemical bonding and adhesive solutions. Each member of the winning team took home a \$1,500 prize, as well as invaluable learning to help fuel their careers as future engineers.

The winning team's container survived a simulated scenario inspired by real-world events from not-for-profit humanitarian aid organization Direct Relief, in which medical supplies are delivered via airdrop. The student's container was subjected to:

- a 40-meter crane drop (approx. 150 feet to the ground) to test for resiliency
- a 100-yard in-hand transport to test for transportability
- a four-foot water submergence to test for waterproofing
- repurposing for a secondary use to support on the ground relief efforts

Through their container design and construction, North Dakota State University illustrated the benefits associated with the use of 3M industrial adhesives and tapes and solved a sticky design problem with creativity. North Dakota State University's winning container was a truncated octahedron covered in a colorful and distinct geometric design, inspired by "dazzle camouflage" – the opposite of typical camouflage – to make sure their container would stand out in any environment.

The exterior of the container had flashing lights to make it visible in poorly lit environments. The container was constructed with the goal of creating an easy manufacturing process for replacements and building during emergencies. Foam inside the container could be removed and re-used to construct sleeping mats, pillows, and cushions in an emergency. The container itself had straps so it could be turned into a backpack and easily transported in an emergency.

North Dakota State University truly found ways to create a design that stood out, both visually and with innovative engineering ideas, to combat some of the biggest challenges of emergency relief.

"The ingenuity and creativity displayed by all the teams is inspiring. We believe one of the best ways to educate young engineers about the design and construction benefits of industrial adhesive and tapes is through hands-on experience," said Ty Silberhorn, Division Vice President, 3M Industrial Adhesives & Tapes. "We are proud of all twenty-six participating students. As these talented future engineers get closer to entering the workplace, we hope they will draw on their learning and knowledge and incorporate adhesives and tapes into their design, construction and assembly challenges."

For more information about the 3M Disruptive Design Challenge, visit [www.3m-ddc.com](http://www.3m-ddc.com), #BuiltToBond.

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North Dakota State University took home first place in 3M's Disruptive Design Challenge with their emergency relief container design using 3M Industrial Adhesives and Tapes. (Photo: Business Wire)

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North Dakota State University took home first place in 3M's Disruptive Design Challenge with their emergency relief container design using 3M Industrial Adhesives and Tapes. (Photo: Business Wire)

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