Datapoint
Reporting on advancements in material testing and data management

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Coming in 2026: New Electromagnetic Characterization Capabilities

Applus+ DatapointLabs is expanding our materials testing capabilities to include electromagnetic (EM) characterization of polymers, composites, and other insulating materials across a wide range of frequencies and environmental conditions. Our goal is to provide customers with actionable data on properties such as surface and volume resistivity, dielectric constant (permittivity), dielectric loss (loss tangent), and dielectric strength, supporting both R&D material selection and engineering performance validation.

To accomplish this, we are building an integrated measurement platform that combines precision electrical measurements with controlled temperature and humidity conditioning, enabling characterization not only at standard laboratory ambient conditions but also under application-relevant environments suitable not only for appropriate material characterization but also for realistic simulations with EM software such as Ansys Maxwell. This capability is being developed with established test standards in mind (e.g., ASTM, IEC) and will support both low-frequency and high-frequency dielectric measurements with overlap for cross-validation and confidence in results.

We are not yet live with this service, but we wanted to give early notice because many customers benefit from planning EM characterization into their development timelines. If you anticipate a need for resistivity, dielectric, or breakdown data—especially where temperature/humidity or frequency dependence matters—please reach out. We would be happy to discuss your use case, target conditions, and specimen geometry so we can align our rollout and prioritize the capabilities most relevant to your applications. Contact us about EM testing

New Research Enhances Testing and Model Validation for Structural Adhesive Materials

Applus+ DatapointLabs CAE Specialist, Dr. Daniel Campos Murcia, will present the current state of research undertaken in collaboration with colleagues at Applus+ Rescoll to expand testing and material model validation capabilities for structural adhesives. His presentation is included in the Thermosets and Rubber session of SPE ANTEC 2026, taking place March 9-12, 2026, in Pittsburgh, PA, USA.

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Upcoming Events

- MD&M West, February 3-5, 2026; Anaheim, CA, USA. Find Applus+ Laboratories among the event sponsors.
- Meet our experts at SPE ANTEC 2026, March 9-12, 2026; Pittsburgh, PA, USA. Dr. Daniel Campos Murcia will present *Simulation and Validation of Epoxy Adhesive Joints: Evaluation of LAW36 and LAW59 in Radioss* in the technical sessions.
- OzenCon 2026: Innovation Driven by Simulation, March 10, 2026; Mountain View, CA, USA. Look for Applus+ DatapointLabs among the event sponsors.
- JEC World 2026, March 10-12, 2026; Paris, France.
- Medical Technology UK, March 11-12, 2026; Coventry, UK.
- Innovative Polymers for Healthcare, March 25-26, 2026; Strasbourg, France.
- Hannover Messe 2026, April 20-24, 2026; Hannover, Germany.
- MD&M South, April 22-23, 2026; Charlotte, NC, USA. Find Applus+ Laboratories among the event sponsors.
- NAFEMS Eastern Europe Conference 2026, April 28-29, 2026; Budapest, Hungary.
- NAFEMS DACH Conference 2026, May 5-7, 2026; Bamberg, Germany.
- CARHS Automotive CAE Grand Challenge, May 19-20, 2026; Hanau, Germany.
- Plastics Industry & Environment, May 20-21, 2026; Douai, France.
- SIA Simulation Day, May 21, 2026; Paris, France.

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(New Research, continued)

Simulation and Validation of Epoxy Adhesive Joints: Evaluation of LAW36 and LAW59 in Radioss

Abstract: This work presents a comparative study of adhesive material models LAW36 and LAW59, in Radioss, with the objective of assessing their predictive capabilities for epoxy-based structural adhesives. The investigation focuses on simulating stress distributions, fracture energies, and failure mechanisms in joints of varying adhesive thicknesses (0.1, 0.2, and 0.5 mm). A comprehensive experimental program supports numerical analysis, including bulk tensile, Thick adherend shear test, and Mode I fracture toughness tests, based on ISO 527-2, ISO 11003-2, and EN 6033 standards, respectively. An additional validation test replicating multi-mode loading conditions is incorporated to establish transferability of the calibrated models to realistic applications. Numerical models employ solid elements for adhesive layers and shell elements for metallic adherends, with mesh refinement in adhesive regions to resolve local stress gradients. Displacement-controlled loading is applied to reproduce tensile and shear conditions, enabling extraction of stress-strain responses, fracture energies, and failure patterns. Model calibration is performed against experimental data using fracture toughness, failure strain, and maximum stress as reference parameters. Comparative evaluation is conducted with quantitative error metrics to assess accuracy and computational cost. The results aim to identify the most reliable adhesive law for joint-level simulations, providing guidance for model selection in structural applications.

(Upcoming Events, continued)

- France Innovation Plasturgie, June 2-5, 2026; Lyon, France.
- OMTEC, June 9-11, 2026; Chicago, IL, USA.
- SIA Powertrain 2026, June 17-18, 2026; Lille Grand Palais, France.
- CADFEM Conference Rapperswil 2026, June 18, 2026; Rapperswil, Switzerland.

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