"One good test is worth a thousand expert opinions!"
- Werhner von Braun
Improve your packaging methods to increase your profitability

The success of Signode Industrial Group (SIG) relies on the ability to provide our customers with improved packaging and loading methods that increase profitability. Along with a full line of packaging and loading products, Signode maintains an International Safe Transit Association (ISTA) certified Application Development and Research (ADR) Packaging Laboratory to design and test innovative packaging and loading methods. With over 80 years of experience in industrial packaging, Signode can help you implement efficient and economical methods for the safe packaging, handling, and shipping of your products.

Laboratory testing services and equipment

- **Portable GPS-based shock and vibration data loggers**
  Recording shipping and handling conditions for replication in Signode’s Packaging Research Laboratory

- **Random vibration table**
  Replicating a unit’s transportation environment in Signode’s Packaging Research Laboratory

- **Incline impact unit**
  Measuring a unit’s retained strap tension after replicating the effects of railcar coupling

- **Rough handling test**
  Moving a glass unit over the rough handling course to determine package integrity and stability

- **Environmental conditioning chamber**
  Placing a brick load into the temperature conditioning chamber

**Labratory Testing Services and Equipment**

<table>
<thead>
<tr>
<th>Random vibration</th>
<th>Rotary motion vibration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incline impact</td>
<td>Rough handling course</td>
</tr>
<tr>
<td>Drop</td>
<td>Drop</td>
</tr>
<tr>
<td>Compression</td>
<td>Compression</td>
</tr>
<tr>
<td>Stacking</td>
<td>Stacking</td>
</tr>
<tr>
<td>Overhead five-ton crane/hoist system</td>
<td>Overhead five-ton crane/hoist system</td>
</tr>
<tr>
<td>Strapping systems</td>
<td>Stretch wrapping and hood systems</td>
</tr>
<tr>
<td>Corrugated sample table</td>
<td>Woodshop</td>
</tr>
</tbody>
</table>

**Certifications and industry affiliations**

- International Safe Transit Association (ISTA) certified packaging laboratory
- Signode Packaging Research Engineers are certified by the Institute of Packaging Professionals (IoPP)
- American Society of Testing and Materials (ASTM)
- Association of American Railroads (AAR)
ADR Services

Field Engineering Assignment (FEA)

A Signode Field Engineering Assignment places an ADR Packaging Research Engineer on your staff, but not on your payroll. The ADR Engineer works at your plant examining, developing and testing alternative packaging and/or loading methods. The ADR engineer also supervises and inspects trial shipments to customer sites. Once the FEA is complete, a report is provided detailing test procedures, results, and recommendations.

Customer Application Review (CAR)

CARs include a one or two-day technical evaluation of your current packaging and/or loading methods followed by a detailed written report with analyses and recommendations. Assistance is then provided to implement recommendations.

Packaging Laboratory Assignments

Packaging Laboratory assignments offer comprehensive testing of your current packaging methods as well as the design and testing of alternative packaging systems. All work is conducted at the ADR Packaging Research Laboratory that is fully equipped to perform a wide range of industry standard packaging tests including vibration, compression, impact, stacking, rough handling, drop, and temperature conditioning tests. Once the Packaging Laboratory Assignment is complete, a report with optional videotaping is provided detailing test procedures, results, and recommendations.

Field-to-Lab™ Assignments

Field-to-lab assignments range from on-site field testing of your current packaging and shipping methods to packaging laboratory evaluations.

Combining field and lab testing allows packaging engineers to use GPS technology and vibration/shock analysis to measure the actual conditions your products experience during shipping and handling. These conditions are replicated in Signode’s Packaging Research Laboratory to evaluate your current packaging method and to design new solutions to help reduce costs and improve the arrival condition of your products.
$2.4 billion global company

88

Manufacturing facilities across 6 continents

Nearly 7,000 employees throughout the US, Europe and Asia