Top Five Mistakes People Make When Designing a Protective Package

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Agenda: Top Five Package Design Mistakes

#5 Not Knowing Your Product’s Characteristics
#4 Having Sharp Items Near Your SBS
#3 Not Understanding Your Distribution Environment
#2 Using Too Much Cushion
#1 Not Establishing Pass / Fail Criteria Before Starting Testing
#5 Not Knowing Your Product’s Characteristics

...as it relates to Shock, Environmental and Vibration inputs
### #5 Not Knowing Your Product’s Characteristics (cont.)

Example: Small to medium-size electronic products

– Shock: Know the G-level at which your product breaks in each axis.
– Vibration: Know your product’s resonate frequency.

<table>
<thead>
<tr>
<th>TEST #</th>
<th>ORIENTATION</th>
<th>TRANSMITTED DECELERATION – G’s</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>x-axis side-side</td>
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<tr>
<td>1</td>
<td>Base Down (3)</td>
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<tr>
<td>2</td>
<td>Left Side (4)</td>
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<td>3</td>
<td>Front Down (5)</td>
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<td>4</td>
<td>Corner (3-4-5)</td>
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<tr>
<td>5</td>
<td>Edge (4-5)</td>
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</tr>
<tr>
<td>6</td>
<td>Edge (3-5)</td>
<td>3</td>
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<td>7</td>
<td>Edge (3-4)</td>
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<tr>
<td>8</td>
<td>Top Down (1)</td>
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<td>9</td>
<td>Right Side (2)</td>
<td>25</td>
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<td>10</td>
<td>Back Down (6)</td>
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<td>11</td>
<td>Corner (1-2-6)</td>
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<tr>
<td>13</td>
<td>Edge (1-6)</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Edge (1-2)</td>
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What is a Sterile Barrier System (SBS)?

Sharp objects can cut or tear the pouch or tray.
Know how and where your product is going to be shipped.

- Shipping as Single Parcel, Less Than Truck Load (LTL), in a Dedicated Truck, or Container?
- Will your packaged product be exposed to environmental extremes in the distribution environment?

- Knowing these answers will help you choose which test standard you should use.
Example: Customer wanted us to run MIL STD 810 for 18-wheeler truck shipments
#2 Using Too Much Cushion

How many of you have heard this when given a damaged product to resolve? “….well, just add more foam.”

- Remember Mistake #5 !!
  - Adding more foam is usually the wrong answer

- The correct answer: Reduce the cushion
Example: 1,270 lb product

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESONANT FREQUENCY</th>
<th>AMP. LEVEL</th>
<th>CROSSOVER FREQUENCY</th>
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<tr>
<td>#</td>
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**SUMMARY OF PACKAGE VIBRATION RESPONSE**
2-200 Hz at .4 G rms
Response Monitored on Frame in Base Down Orientation
#1 Not Establishing Pass / Fail Criteria Before Starting Testing

The biggest mistake we see!

Establish what’s a Pass and what’s a Fail before testing begins!
Recap: Top Five Package Design Mistakes

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Time for Questions
Need More Info Later?

• Submit webinar and test questions to Greg
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• Or contact WESTPAK, Inc. via our website at
  www.westpak.com/contactus.aspx

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