GRILL GENERAL PACKAGING SPECIFICATION

Effective date: 09/05/08 Revision date: 11/14/16

Purpose: To develop optimum packaging elements for grills shipped to Lowe's Companies, Inc.

SECTION I – TRANSIT TESTING REQUIREMENTS

The following testing procedures must be passed:

Vibration and Drop Tests:

- ISTA procedure 1A for packages less than 150 Pounds.
- ISTA procedure 1B for packages equal to or greater than 150 pounds.

Squeeze Clamp Tests:

- Packaged product must withstand 2000 pounds of pressure across the package surface when fully engaged in the clamp fixture in both front to back and side to side orientation without damage.
- Packaged product must withstand 1500 pounds of pressure across the package surface when engaged half way in the clamp fixture in both front to back and side to side orientation without damage.
- Clamp testing must be performed utilizing a hydraulic fixture. Mechanical screw-type apparatus are not acceptable.

Vertical Compression Tests:

- Product must be capable of being stacked a minimum of 16 feet (192 inches) and a maximum of 20 feet. The compression requirement is determined in the following manner:

Example is a carton with a depth of 36" and a weight of 50 pounds.

1. Determine maximum number of boxes above bottom carton:
   (Gross stack height/box depth) – 1
   192"/36 = 6 – 1 = 5 number of cartons above bottom carton

2. Determine load on bottom box:
   Number of cartons above bottom carton (weight)
   5(50) = 250

3. Environmental Factor of 3(load) = Compression Requirement
   250 (3) = 750 Compression for 1 Hour

SECTION II – REQUIRED PACKAGING COMPONENTS

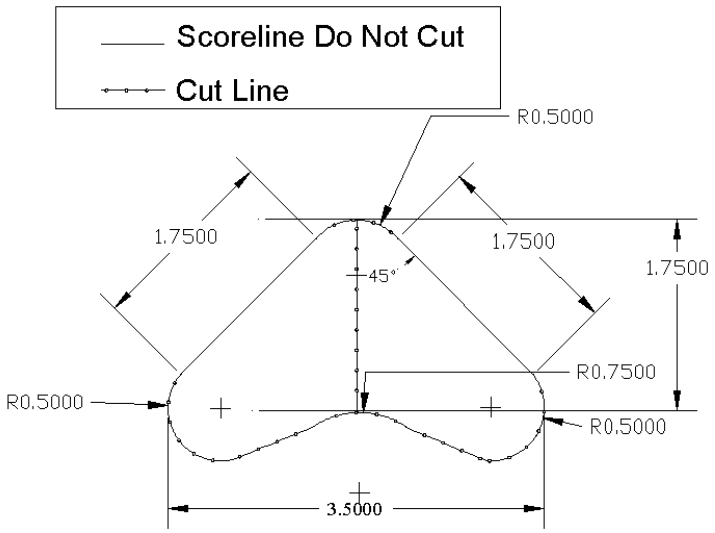
The following components are required to ensure adequate structural integrity for the Lowe's RDC and Store handling environments.

Internal Packaging Components:

- Finished exposed surfaces (painted, coated or polished) must be protected from corrugate or EPS abrasion by an adequate protective barrier such as poly foam, plastic sheeting, etc.
- Rigid angle board should be incorporated inside the shipping carton in the four vertical corners to provide protection against squeeze truck handling and ensure adequate stacking attributes.
- All components must be adequately secured and protected to prevent movement of product inside master carton i.e. no metal to metal contact.
- Horizontal bracing consisting of rigid board must be incorporated into each end and center of the carton.

Access Holes (when applicable if used):

- Access holes must comply with the Lowe's Access Hole Specification and be located in appropriate areas to facilitate handling of the product at RDC and Store level. Hand access must not be hindered by grill components or internal packaging. Access holes should be utilized based on carton size and handling issues.
  <u>SEE BELOW FOR ACCESS HOLE SPECIFICATION</u>



Package Markings:

- Markings should consist of Common English verbiage, be a minimum of 5 inches tall by 4 inches wide, clearly printed. The height and width of the markings should be proportional if changed due to carton space availability.
- All box symbols must be placed in a standard placard-style box, positioned on the bottom right corner of all 4 sides of the box. All other symbols must be submitted by the vendor and approved by Lowe's Quality Assurance prior to implementation.

Stack Height: The stacking height should reflect 16-20 feet stacking.

Orientation Arrow: To be used to identify the correct orientation of the product for shipping and storage purposes.

Plastic Strapping (when applicable if used):

- Minimum width = ½"
- If metal clips are utilized to secure the strapping, they must be free of sharp points or edges.

Sealing Tape:

- Minimum of 2-1/2" wide with biaxally oriented polypropylene backing and pressure sensitive hot melt rubber resin adhesive. If necessary, more than 1 strip of tape less than 2-1/2" wide may be used.
- The tape must be resistant to aging and tolerate wide climate variations. Smooth and wrinkle-free application is required and the tape must extend at least 3" on the side panels of both the carton top and bottom.

SECTION III – SHIPPING CARTON CORRUGATE REQUIREMENTS:

Gross Weight of >120 Pounds

Corrugated Carton:

- Double-Wall A/B Flute with **Full Overlap Top and Bottom**
- Burst Strength = 500# (lbs. per square inch)
- Edge Crush = 56# (lbs. per inch width)
- Weight of Outer Liner = 90# (lbs. per 1000 square feet)
- Weight of Middle Liner = 42# (lbs. per 1000 square feet)
- Weight of Inner Liner = 90# (lbs. per 1000 square feet)

Gross Weight of >95 Pounds and <120 Pounds

Corrugated Carton:

- Double-Wall A/B Flute with **Full Overlap Top and Bottom**
- Burst Strength = 350# (lbs. per square inch)
- Edge Crush = 51# (lbs. per inch width)
- Weight of Outer Liner = 42# (lbs. per 1000 square feet)
- Weight of Middle Liner = 42# (lbs. per 1000 square feet)
- Weight of Inner Liner = 42# (lbs. per 1000 square feet)

Gross Weight >65 Pounds and <95 Pounds

Corrugated Carton:

- Double-Wall A/B Flute with **Full Overlap Top and Bottom**
- Burst Strength = 275# (lbs. per square inch)
- Edge Crush = 48# (lbs. per inch width)
- Weight of Outer Liner = 42# (lbs. per 1000 square feet)
- Weight of Middle Liner = 26# (lbs. per 1000 square feet)
- Weight of Inner Liner = 42# (lbs. per 1000 square feet)

Gross Weight of 65 Pounds and Less

Corrugated Carton:

- Double-Wall A/B Flute with **Full Overlap Top and Bottom**
- Burst Strength = 200# (lbs. per square inch)
- Edge Crush = 42# (lbs. per inch width)
- Weight of Outer Liner = 33# (lbs. per 1000 square feet)
- Weight of Middle Liner = 26# (lbs. per 1000 square feet)
- Weight of Inner Liner = 33# (lbs. per 1000 square feet)