HIGH TEMPERATURE FILLING GUIDELINES FOR SUPER SACK® CONTAINERS

Super Sack containers, or flexible intermediate bulk containers, are used to package and ship numerous products, which may vary in temperature. Bulk bags may be exposed to high temperatures during filling. B.A.G. Corp. offers the following information to provide a general understanding about the effects of high temperature on the performance of both bags and bulk container liners.

EFFECTS OF HIGH TEMPERATURE ON THE PERFORMANCE OF BULK BAGS

Super Sacks are made out of woven polypropylene fabric, a plastic material. The polypropylene fabric is strong and flexible because of the woven pattern of the individual fabric tapes. Heat exposure of more than 70°F will cause the polypropylene molecules in the fabric tapes to shift and loosen. As the temperature increases, so does the movement of the molecules. The tensile strength, or the amount of force needed to pull to the breaking point, of the fabric is reduced as the molecules lengthen. This results in potential stretching of the woven polypropylene, thus weakening the Super Sack container.

B.A.G. Corp. urges against filling a Super Sack container with product at temperatures of more than 200°F. When a bulk bag is filled with a product more than 200°F, after heat exposure the bulk bag should be tested to determine the effect the exposure had on the safety factor. Super Sack containers are rated for at least a 5:1 safety ratio.

EFFECTS OF HIGH TEMPERATURE ON THE PERFORMANCE OF LINERS

The standard bulk container liner offered by B.A.G. Corp. is manufactured from polyethylene film. To evaluate the effects of high temperature on liners, the liner manufacturing process should first be understood. Polyethylene resin is melted and then extruded into a blown film. The temperature at which it is extruded ranges from 400°F to 425°F. It is important to note that the bulk container liner material will begin to melt to a molten state between 260°F and 295°F. Similar to the woven fabric, high temperatures allow the plastic molecules to soften and shift. Polyethylene liner material will begin to soften between 195°F and 210°F. Due to the temperature at which the film softens, B.A.G. Corp. urges against filling a lined Super Sack container with product more than 170°F.

For products requiring a liner, which will be loaded at higher temperatures, a high-temp bulk container liner may be used. B.A.G. Corp. offers a polypropylene film liner to use in Super Sack containers. This high-temp liner has a maximum filling temperature of 295°F, significantly greater than the standard polyethylene liner film.

GUIDELINES FOR USE

B.A.G. Corp. recommends the following guidelines when filling Super Sack containers at high temperatures. When filling a Super Sack container with a product having a temperature of more than 100°F, it is important to support the bag from the bottom. Moving or lifting the filled
bulk bag by the loops or stacking filled containers after heat exposure is not recommended, unless the surface temperature of the fabric has dropped to under 100°F.

Several factors to consider when determining the performance of filled Super Sack containers, after heat exposure, are the peak temperature and length of exposure. One should also keep in mind any stress on the fabric, liner, and bulk bag components during high temperature contact.