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Subject:	Saudi Aramco Packing Specifications		1 of 3 pages

**Specification for Disposable, Flexible
Intermediate-Size Bulk Containers (Big Bags)**

1. **PURPOSE:**

This specification presents the requirements and procedures for protecting specific semi-bulk materials during shipment, multiple handling, and outdoor storage in Saudi Arabia.

2. **USE:**

This specification is a statement of Saudi Aramco's minimum requirements. The vendor's own experience and practice should be used to determine whether certain items require more than these minimum standards to ensure safe delivery to their final destination.

Substitution of the vendor's standard packing, which provides equal or better protection at a lesser or equal cost, will be allowed after Saudi Aramco Materials Logistics Department review and written approval.

The specification may also be used by Saudi Aramco personnel at loading ports to determine if goods are adequately packed for shipment.

3. **ATMOSPHERIC PROTECTION:**

Items will be exposed to rain, salt spray, condensation, high humidity, high temperatures, and fine dust in Saudi Arabia and require protection accordingly.

4. **OUTER BAG DESIGN:**

4.1 The bag must be designed and fabricated to hold 1,500 kg (3,300 lb), as specified in the requisition or purchase order, with a minimum safety factor of five to one.

4.2 To enable bottom discharge by cutting with a pyramid knife, the bottom must be flat without a spout.

4.3 The 4 lifting loops must be of adequate length to be handled by one hook. The color of the straps should be contrasting to the bag's fabric color.

4.4.1 The quality of the lifting loop fabric and the method of the loops' attachment to the bag fabric must be compatible with the safe working load and safety factor of the bag.

4.3.2 As an additional support to the load, the four loops must extend down the bag sides and under the bag base in an X support format.

- 4.4 The outer bag must be made of a woven polypropylene.
- 4.4.1 The quality of the fabric must be compatible with the safe working load and safety factor of the bag and with the weight and type of product packed.
- 4.4.2 The minimum weight of the fabric (bottom and sides) must be:
- 240 g per m² (7 oz per yd²) for bags with a capacity of 1,500 kg (3,300 lb).
- 4.4.3 For additional protection to the inner bag, the top of the outer bag must be provided with an adequately closed top skirt or top spout.
- a. The inner bag must be closed in a goosenecked manner to provide a watertight closure.
 - b. The top of the inner bag must be secured to the top of the outer bag.
 - c. Both the quality and the position of (cable) ties must be such that the closure remains intact during all stages of handling and transport.

5. **INNER BAG:**

- 5.1 The polyethylene inner bag must be able to provide a watertight barrier to protect the material.
- 5.2 The thickness of the liner must be a minimum of 120 microns (approximately 0.12 mm). A thinner, high strength equivalent may be used to suit the filling process.

6. **ULTRAVIOLET RAY (UV) PROTECTION:**

The material used for the construction of the outer bag must be UV-stabilized for improved resistance against UV radiation during unsheltered outdoor storage for a minimum of 6 months under Saudi Arabian conditions as follows:

Maximum ambient temperature 55 degrees Celsius (130 degrees Fahrenheit)

Maximum relative humidity 100 percent

Average annual solar radiation 200 Kilo Langley (K cal/cm²) per year

After 12 months' storage under the above conditions, the residual tensile strength of the material must be a minimum of 50 percent of the original tensile strength.

7. **STACKING CAPABILITY:**

Both the inner and the outer bags must be capable of being stacked a minimum of 3 high, fully loaded, without affecting the original tensile strength of the material.

8. **MARKING:**

8.1 All marking must be done in accordance with instructions provided with the purchase order.

8.2 In addition, the outer bag must be provided with:

8.2.1 A label indicating the safe working load (SWL), safety factor, safe stacking height, and test certificate details.

8.2.2 The product name and quantity (either kilograms or pounds, as specified in the purchase order), clearly marked on 2 opposite sides.

9. **EXCEPTIONS:**

Any deviation from the above minimum packing requirements must be approved in writing by Saudi Aramco.

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