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**PART II**  
**Packing Specification for Bundles**

**REQUIREMENTS:** These requirements are in addition to any that may be in the material descriptions or other Saudi Aramco specifications, including Saudi Aramco Packing Specification 8314-02, which should be used in combination with this specification. Deviation from these requirements is not allowed without the Buyer's prior written approval.

1. **SKIDS:**

- 1.1 A minimum of 2 rubbing strips/skids (minimum height 7.5 cm/3 in) must be positioned so that the bundle can be handled by a forklift truck and/or slings.
- 1.2 Additional rubbing strips/skids must be spaced equally, as necessary, to distribute the load and prevent sagging.
- 1.3 Rubbing strips/skids are not required for material bundled with steel strapping or wire alone; for example, small profile steel or small diameter steel pipe.

2. **SEPARATORS:**

- 2.1 Separators should be used:
  - 2.1.1 If the pieces need protection from each other; for example, coated and/or galvanized steel (except uncoated galvanized conduit).
  - 2.1.2 If necessary to achieve and maintain a stable bundle configuration.
- 2.2 Separators may be formed or flat, depending on the shape of the material bundled.

3. **SECURING POINTS:**

- 3.1 Securing should be done either with unannealed steel strapping (minimum width 3.2 cm/1-1/4 in) or by tie-rod connectors between top and bottom skid members; for example, for steel "U" bars.

- 3.2 The tie-rod method should be used where steel strapping is inadequate to maintain the bundle configuration.
- 3.3 The number of securing points should be adequate to prevent sagging or deformation of the bundle during handling.

4. **BUNDLES OF EPOXY-COATED REINFORCING BAR:**

- 4.1 Must be secured with unannealed steel strapping (minimum width 3.2 cm/1-1/4 in) placed over buffer strips of polyethylene or any other long-life material that will prevent the strapping from damaging the epoxy coating on the bars.
- 4.2 Must be wrapped with an envelope of heavy-duty ultraviolet- (UV-) resistant polyethylene protective film, held firmly in place with epoxy-coated tie wire, and capable of being reclosed after a partial issue.
- 4.3 Must be transported/stored on 75 by 75 mm/3 by 3-inch wood dunnage, with sufficient space between the bundles to allow them to be slung using nylon or other synthetic slings only. When lifting, a spreader bar and sufficient slings should be used to minimize load distortion and possible damage to the coating.

5. **SHEET MATERIALS:**

- 5.1 Before securing, sheet materials should be enclosed in an envelope or over-wrap strong enough to prevent either movement of individual sheets or mechanical damage to sheet edges; for example, for sheet steel, a metal envelope; for sheets of other material, a fiberboard or plywood over-wrap.
- 5.2 Bundles of very flexible sheets should be placed on a skidded platform to prevent sagging.

6. **UNIT WEIGHT:**

With the exception of such items as fabricated steel, casing, etc., the single bundle weight should not exceed 5,000 kg/11,000 lb.

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