5. If erection loadings are greater than the transportation loadings, the vessel shall be designed for the most severe vertical, lateral and longitudinal loading condition.

Table 1 - Minimum Transportation Acceleration Loadings

Transportation Mode	Vertical Acceleration		Lateral Acceleration	Longitudinal Acceleration
	Downward	Upward		
Truck (Highway Speeds)	1.7g	0.5g	0.3g	1.8g
Truck (< 25 MPH or Multi-wheel Transporter)	1.3g	0.2g	0.2g	0.2g
Rail	2g	2g	2g	3g
Inland Barge	1g	0.2g	0.75g	0.4g
Oceangoing Ship or Barge	2g	2g	0.75g	0.4g

Notes:
1. If multiple modes of transportation are used, the most severe condition shall be used for evaluation.
2. 1.0g is a load equal to the weight of the vessel.

4.2.8.2 Impact Factor

1. A minimum impact factor of 2 shall be applied to the lift weight for the design of lifting devices.

2. The basis for the lift weight shall include all components to be included in the lift (e.g., trays, ladders/platforms, insulation, additional piping with insulation, etc.).

4.2.8.3 Lifting Stresses

For vertical vessels having height-to-diameter ratios greater than 8 and weighing more than 25,000 pounds (11,300 kgf), the following lifting stress calculations shall be performed:

a. Bending stresses in the vessel shell and skirt from the loadings imposed during the lift from the horizontal to vertical position shall be checked.

b. Calculated general primary membrane tensile stress shall not be greater than 80% of the material's specified minimum yield strength at 100°F (38°C).

c. Calculated compressive stress shall not be greater than 1.2 times the B factor specified by the *Code* {4.4.12}.