

STANDARD FOR LOADING AND SHIPPING OF PIPING ASSEMBLIES

ES-37

Prepared by
Pipe Fabrication Institute Engineering Committee



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STANDARD FOR LOADING AND SHIPPING OF PIPING ASSEMBLIES

1. Scope

- 1.1 This Standard establishes the minimum requirements for the loading of prefabricated piping assemblies to minimize or prevent damage during subsequent shipment
- 1.2 The loading and shipping methods described in this Standard are considered minimum protection. Due to the infinite possibilities of size and configuration of piping assemblies additional measures may be necessary for certain types of fabrication subject to agreement between the customer and the fabricator.

2. Loading

- 2.1 Procedures for loading normally include the following:
 - 2.1.1 A bottom layer of dunnage, adequate to ensure that forklift forks will fit between the fabricated pipe and the truck bed, will be placed at regular intervals across the bottom loading surface.
 - 2.1.2 Spools of infinite configuration are loaded and placed in the best possible way to prevent movement and damage during shipment. Large diameter or heavy wall fabrication should always be placed on the bottom of the load with smaller and lighter weight materials placed on top of the load.
 - 2.1.3 It is recommended that slings of fabric construction be used for loading fabricated piping.
 - 2.1.4 When possible, spools of a “straight” configuration should be loaded in a layered manner with dunnage placed between each layer.
 - 2.1.5 Major abrasive contact points between painted spools should be protected by placing a protective material such as plastic foam, rubber, carpet or wood between the spools to minimize damage. Particular care should be taken to protect and prevent contact between machined surfaces such as the gasket sealing area of flanges.
 - 2.1.6 When carbon steel and stainless steel materials are loaded on the same transportation, non-contact separation between such materials shall be provided. When multilayered shipments are warranted, if possible, stainless steels should be loaded above carbon steels to help prevent contamination by moisture runoff.

2.1.7 Small assemblies, loose material or supports may be packaged (i.e., boxed, crated, palletized or contained in stretch wrap) for protection and security during shipment. Alternate means such as side kits or stakes may be necessary to secure small spools.

2.1.8 Over-width, over-height, or over-length loads require special consideration subject to agreement between the customer, fabricator, and the carrier.

3. Shipping

- 3.1 Final securing and tie down of the load is the responsibility of the carrier.
 - 3.1.1 It is recommended that slings of fabric construction be used for securing fabricated piping. Chains or metal slings (i.e., cable) may be used provided sufficient measures are taken to prevent damage (or carbon steel contamination of stainless materials) to pipe assemblies.
- 3.2 An itemized packing list should accompany each shipment of fabricated piping assemblies.
- 3.3 Tarping or covering is not required unless specified in the purchase order.

4. Safety

- 4.1 All employees engaged in loading trucks with fabrication shall be instructed in the applicable safety procedures as required by statute and by company policies. At minimum:
 - 4.1.1 Prior to each use, all slings and lifting equipment shall be checked for any visible damage and to ensure that their load-bearing capacity is sufficient for the job at hand.
 - 4.1.2 Employees shall be trained in fall protection, be able to identify potential hazards, and take appropriate steps to mitigate them.
- 4.2 Equipment operators and riggers should be properly trained and familiar with equipment and standard hand signals.