

SUBJECT 5

Re: Water Heaters, tank type — Item 26520

Contact: Adam C. Mercer Telephone — (703) 838-1911 mercer@nmfta.org

Proponent: Freight Classification Development Council

Present Classification Provisions

Item	Description	Class
	BOILERS, FURNACES, STOVES AND RELATED ARTICLES GROUP: subject to item 25400	
26520	Heaters, water, tank type, see Notes, items 26521 and 26522:	
Sub 1	In boxes or Packages 208, 1016, 1277 or 2537, other than secured on lift truck skids or pallets.....	125
Sub 2	In boxes or Packages 208, 1016, 1277 or 2537, secured on lift truck skids or pallets; or in crates or Package 2536	100
26521	NOTE—Does not apply on solar collectors, solar water heaters or swimming pool heaters. See item 177010 for applicable provisions for solar collectors or solar water heaters, and item 133300 for swimming pool heaters.	
26522	NOTE—Tank-type water heaters tendered in boxes or crates must be supported or suspended in the box or crate and be protected so that there will be no shifting and not less than 1 inch clearance between the article and the inside wall of the box or crate.	

Proposed Classification Provisions

Item	Description	Class
	BOILERS, FURNACES, STOVES AND RELATED ARTICLES GROUP: subject to item 25400	
⇒26520	Heaters, water, tank type, see Notes, items 26521 and 26522:	
Sub 1	In boxes or Packages 208, 1016, 1277 or 2537, other than secured on lift truck skids or pallets, subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 2	Less than 6	300
Sub 3	6 but less than 10	175
Sub 4	10 or greater.....	100
Sub 5	In boxes or Packages 208, 1016, 1277 or 2537, secured on lift truck skids or pallets; or in crates or Package 2536; subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 6	Less than 6	200
Sub 7	6 but less than 10	125
Sub 8	10 or greater.....	85
26521	NOTE—No Change.	
26522	NOTE—No Change.	

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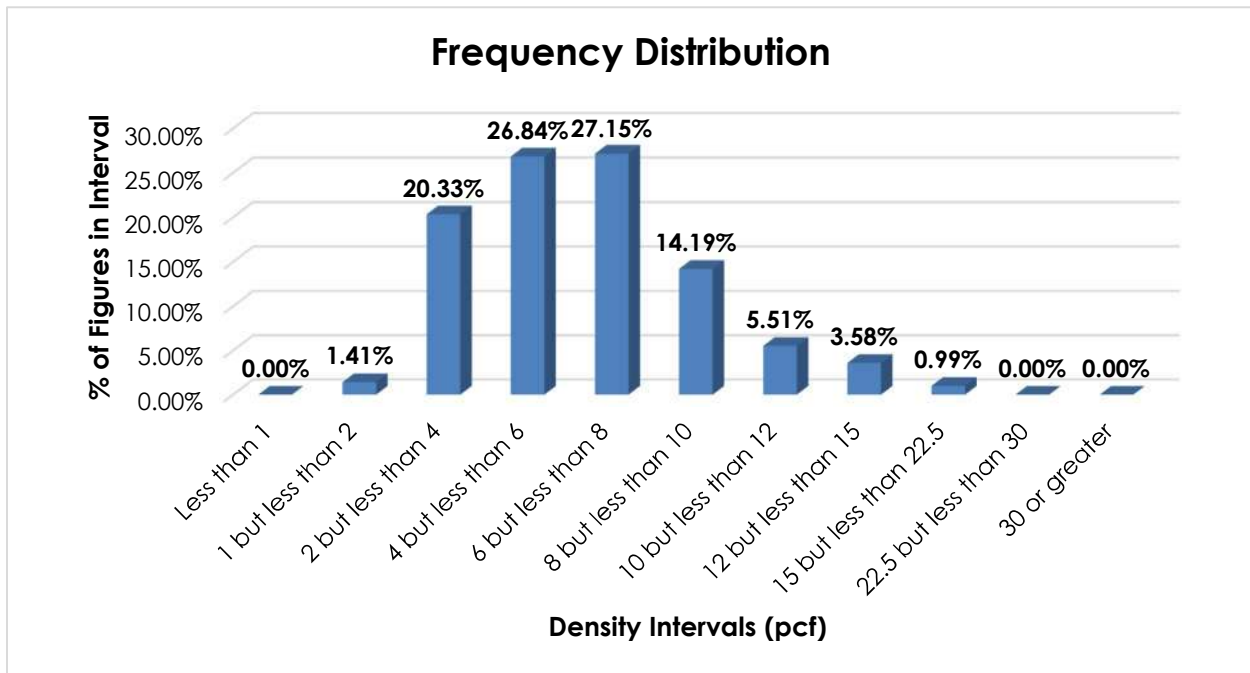
Analysis

Introduction

This proposal addresses indications that shipments of tank-type water heaters, as named in item 26520, exhibit transportation characteristics inconsistent with the currently assigned classes.

Transportation Characteristics

Density—The information of record includes 52,779 density observations obtained from the FCDC’s Density Study¹. The densities range from 1.20 to 19.32 pcf, with an overall average density of 6.37 pcf. As shown in the graph below the density distribution is right-skewed, with over 88% of the figures between 2 and 10 pcf. Density breaks at 6 and 10 pcf reflect the modality and spread of the distribution.



When the data is evaluated based on the proposed density breaks at 6 and 10 pcf, the density ranges and averages shown in the table below emerge.

Density Groups (pcf)	Density Range (pcf)	Average Density (pcf)
Less than 6	1.20 – 5.99	4.13
6 but less than 10	6.00 – 9.99	7.59
10 or greater	10.00 – 19.32	12.13

¹ The Density Study is part of an ongoing effort by the FCDC to collect information on actual shipments across all product categories handled by the LTL industry. Carriers that choose to participate in the Study periodically submit shipment data captured through their respective freight auditing programs. The FCDC uses verifiable data points, identified by NMFC item, that include the weight and the dimensions and/or cube of the shipping unit.

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Handling—Tank-type water heaters may be shipped boxes, crates or one of the authorized numbered packages. When shipped in boxes or one of the authorized numbered packages secured on lift truck skids or pallets, or in crates, tank-type water heaters should not typically present unusual or significant handling considerations.

However, when not tendered in crates or secured on lift truck skids or pallets, tank type water heaters are more difficult to safely handle. If handled with a forklift, extra care and attention will be required to prevent damage, as there are no access points for the fork tines. Moving tank-type water heaters in normal cross-dock operations with a hand truck will require extra time or personnel to handle the shipment. In addition to being more time consuming, handling tank-type water heaters by hand in cross-dock operations also increases the potential for damage due to their size and weight, as well as the height of the box.

Stowability—When tank-type water heaters are tendered in boxes, crates or one of the authorized numbered packages, a flat load-bearing surface will typically be present, which can allow for loading other freight on top of the handling unit. There will typically be lateral support for adjacent freight as well.

When tendered in boxes not secured on lift truck skids or pallets, negative stowing considerations have been identified. As with handling, stowing individual tank-type water heaters that are not secured to a lift truck skid or pallet in the vehicle will involve increased time and personnel to structure the load. Depending upon how the tank-type water heaters are positioned in the vehicle, a flat load-bearing surface may not be available for other freight. Additionally, based upon the height of the article in relation to its width, tank-type water heaters that are not secured on lift truck skids or pallets may also need to be blocked or braced in the vehicle to prevent them from tipping.

Liability—As with most general commodities, when tendered for shipment fully enclosed within boxes or one of the authorized packages secured on lift truck skids or pallets, or in crates, tank-type water heaters should not be unusually susceptible to damage, nor likely to damage other freight. However, when not tendered secured on lift truck skids or pallets or in crates, tank-type water heaters exhibit greater susceptibility to damage.

Conclusion

Based on the foregoing analysis, this proposal would amend item 26520 to maintain classes predicated on packaging but would add density breaks 6 and 10 pcf². The table on the following page relates the information of record to the proposed density groupings and FCDC guidelines for the proposed classes when tendered secured on lift truck skids or pallets or in crates, and a two-class adjustment from the density guidelines when the articles are tendered not secured on lift truck skids or pallets or in crates to reflect the identified negative handling, stowability, and liability characteristics.

² The density provisions would include reference to Item (Rule) 170, the inadvertence clause.

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Density Groups (pcf)	Average Density (pcf)	FCDC Minimum Average Density Guideline (pcf)	Class When Articles are Packaged as Described in Proposed Sub 5	Class Adjustment When Articles are Packaged as Described in Proposed Sub 1
Less than 6	4.13	4	200	300
6 but less than 10	7.59	7	125	175
10 or greater	12.13	12	85	100