SUBJECT 3

Re: Conveyors, Elevators or Lifts, or Parts thereof

Contact: Larissa A. Franklin Telephone — (703) 838-1824 franklin@nmfta.org

Proponent: Freight Classification Development Council

Present Classification Provisions

Item		Description	Class
		MACHINERY GROUP: subject to item 114000	
120000		**Elevators, Conveyors, or Parts Named:**	
120020		**Conveyors:**	
120040		Gravity chute, steel:	
	Sub 1	SU or in SU sections	100
	Sub 2	KD, in packages	77.5
120060		Gravity roller:	
	Sub 1	SU or in SU sections	85
	Sub 2	KD, in packages	77.5
120070		**Conveyors,** drag-line or overhead runway, in packages, see Note, item 120071	65
120071		NOTE—Applies only on rails or tracks and rail or track hangers, switches, track rollers, roller chains, power drives or nuts and bolts or other fittings for assembly. Tracks consisting of rails and arch beams may be shipped loose and power drives may be on skids.	
120080		**Conveyors, Elevators or Lifts,** NOI:	
	Sub 1	In boxes or crates, 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	150
	Sub 4	10 or greater	77.5
	Sub 5	In packages other than boxes or crates, subject to Item 170 and having a density in pounds per cubic foot of:	
	Sub 6	Less than 6	300
	Sub 7	6 but less than 10	175
	Sub 8	10 or greater	85
120090		**Conveyors,** portable, with electric motor driven steel spring belts and electric motor self-propelling drive mechanism	200
120140		**Spiral Screw Conveyor Parts:**	
120160		**Box Ends (Trough Ends), Gates or Spirals (Flights** mounted on pipe or shaft), steel, in packages	77.5
120180		**Box Linings (Trough Linings),** steel, loose or in packages, **or Flights,** steel, nested, in bundles or in packages	65
120200		**Boxes (Troughs),** with or without gear attached, in packages	85
120220		**Couplings,** spiral conveyor or shaft, steel, in packages	60

SUBJECT 3

Present Classification Provisions — Concluded

Item	Description	Class
	MACHINERY GROUP: subject to item 114000	
	Elevators, Conveyors, or Parts Named: subject to item 120000	
120240	**Conveyor Parts,** other than spiral screw conveyor parts:	
120260	**Belt-support Intermediate Sections,** KD, **or Side Angles, Side Channels, Deck Covers, Frames or Conveyor Idler Supports,** loose or in packages	65
120280	**Conveyor Belts:**	
Sub 1	Steel wire	70
Sub 2	Strip steel	85
120300	**Conveyor Idlers (Rolls)**	70
120320	**Conveyor Trippers**	85
120340	**Chain and Steel Flights,** assembled, in packages	77.5
120350	**Ends or Wheels,** gravity conveyor roller, **or Wheels,** gravity wheel conveyor, steel, in boxes	65
120360	**Flights,** steel	65
120380	**Flights,** wooden, in packages	65
120390	**Tracks or Rails,** carrier or conveyor (overhead runway), sheet or plate steel	55
120400	**Troughs,** shaker, iron or steel, 7 gauge or thicker	70
120500	**Elevator Machines,** freight or passenger, see Note, item 120501, in packages	85
120501	NOTE—Applies only on elevating or traction machines used to power elevators or elevator systems. Does not apply on elevator cars, components or assemblies constituting a complete elevator or elevator system.	
120540	**Elevator Parts:**	
120560	**Elevator Boots or Heads,** iron or steel	85
120580	**Elevator Buckets,** iron or steel:	
Sub 1	Not nested, NOI, loose or in bundles	85
Sub 2	Not nested, NOI, in boxes or crates	70
Sub 3	Cast malleable iron, partially nested, see Note, item 120582	60
Sub 4	Nested, in packages:	
Sub 5	Other than cast malleable iron	60
Sub 6	Cast malleable iron	55
120582	NOTE—Item 110, Sec. 13(a) will govern except that the words 'two-thirds of its height' may be substituted for 'one-third of its height.'	
120600	**Elevator Buckets,** metal, NOI, in boxes, crates or drums:	
Sub 1	Not nested	100
Sub 2	Nested	92.5
120620	**Elevator Legs,** iron or steel:	
Sub 1	SU	100
Sub 2	KD, in packages	85
120680	**Stackers,** bag, portable, with stacker belts retracted to a height not exceeding 3 feet, with hydraulic belt lift	100

SUBJECT 3

Proposed Classification Provisions

Item	Description	Class
	MACHINERY GROUP: subject to item 114000	
120000	**Elevators, Conveyors, or Parts Named:**	⇉Cancel; no further application
120020	**Conveyors**	⇉Cancel; see item A-NEW
120040	Gravity chute, steel, etc	⇉Cancel; see item A-NEW
120060	Gravity roller, etc	⇉Cancel; see item A-NEW
120070	**Conveyors,** drag-line or overhead runway, etc	⇉Cancel; see item A-NEW
120071	NOTE—⇉Cancel; no further application.	
120080	**Conveyors, Elevators or Lifts,** NOI, etc	⇉Cancel; see item A-NEW
120090	**Conveyors,** portable, with electric motor driven steel spring belts and electric motor self-propelling drive mechanism	⇉Cancel; see item A-NEW
120140	**Spiral Screw Conveyor Parts:**	⇉Cancel; no further application
120160	**Box Ends (Trough Ends), Gates or Spirals (Flights** mounted on pipe or shaft), steel, etc	⇉Cancel; see item A-NEW
120180	**Box Linings (Trough Linings),** steel, loose or in packages, **or Flights,** steel, nested, etc	⇉Cancel; see item A-NEW
120200	**Boxes (Troughs),** with or without gear attached, etc	⇉Cancel; see item A-NEW
120220	**Couplings,** spiral conveyor or shaft, steel, etc	⇉Cancel; see item A-NEW
120240	**Conveyor Parts,** other than spiral screw conveyor parts:	⇉Cancel; no further application
120260	**Belt-support Intermediate Sections,** KD, **or Side Angles, Side Channels, Deck Covers, Frames or Conveyor Idler Supports,** etc	⇉Cancel; see item A-NEW
120280	**Conveyor Belts,** etc	⇉Cancel; see item A-NEW
120300	**Conveyor Idlers (Rolls)**	⇉Cancel; see item A-NEW
120320	**Conveyor Trippers**	⇉Cancel; see item A-NEW
120340	**Chain and Steel Flights,** assembled, etc	⇉Cancel; see item A-NEW

SUBJECT 3

Proposed Classification Provisions — Continued

Item	Description	Class
	MACHINERY GROUP: subject to item 114000	
	Elevators, Conveyors, or Parts Named: subject to item 120000	
	Conveyor Parts, other than spiral screw conveyor parts: subject to item 120240	
120350	**Ends or Wheels,** gravity conveyor roller, **or Wheels,** gravity wheel conveyor, steel, etc	⇉Cancel; see item A-NEW
120360	**Flights,** steel	⇉Cancel; see item A-NEW
120380	**Flights,** wooden, etc	⇉Cancel; see item A-NEW
120390	**Tracks or Rails,** carrier or conveyor (overhead runway), sheet or plate steel	⇉Cancel; see item A-NEW
120400	**Troughs,** shaker, iron or steel, 7 gauge or thicker	⇉Cancel; see item A-NEW
120500	**Elevator Machines,** freight or passenger, etc	⇉Cancel; see item A-NEW
120501	NOTE—⇉Cancel; no further application.	
120540	**Elevator Parts:**	⇉Cancel; no further application
120560	**Elevator Boots or Heads,** iron or steel	⇉Cancel; see item A-NEW
120580	**Elevator Buckets,** iron or steel, etc	⇉Cancel; see item A-NEW
120582	NOTE—⇉Cancel; no further application.	
120600	**Elevator Buckets,** metal, NOI, etc	⇉Cancel; see item A-NEW
120620	**Elevator Legs,** iron or steel, etc	⇉Cancel; see item A-NEW
120680	**Stackers,** bag, portable, with stacker belts retracted to a height not exceeding 3 feet, with hydraulic belt lift	⇉Cancel; see item A-NEW

SUBJECT 3

Proposed Classification Provisions — Concluded

Item	Description	Class
	MACHINERY GROUP: subject to item 114000	
⇉A-NEW	**Conveyors, Elevators or Lifts, or Parts thereof,** NOI, in packages, see Note, item B-NEW:	
Sub 1	Greatest dimension exceeding 288 inches, subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 2	Less than 8	300
Sub 3	8 but less than 15	125
Sub 4	15 but less than 30	92.5
Sub 5	30 or greater	70
Sub 6	Greatest dimension exceeding 192 inches but not exceeding 288 inches, subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 7	Less than 8	250
Sub 8	8 but less than 15	110
Sub 9	15 but less than 30	85
Sub 10	30 or greater	65
Sub 11	Greatest dimension exceeding 96 inches but not exceeding 192 inches, subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 12	Less than 8	200
Sub 13	8 but less than 15	100
Sub 14	15 but less than 30	77.5
Sub 15	30 or greater	60
Sub 16	Greatest dimension not exceeding 96 inches, subject to Item 170 and having a density in pounds per cubic foot of:	
Sub 17	Less than 8	175
Sub 18	8 but less than 15	92.5
Sub 19	15 but less than 30	70
Sub 20	30 or greater	55
⇉B-NEW	NOTE—Articles tendered for shipment on lift truck skids, pallets or platforms must be securely fastened to and must not overhang the edges of the lift truck skid, pallet or platform deck. Exposed surfaces and edges must be protected by packing forms or other packaging materials so as to withstand the normal rigors of the less-than-truckload environment.	

SUBJECT 3

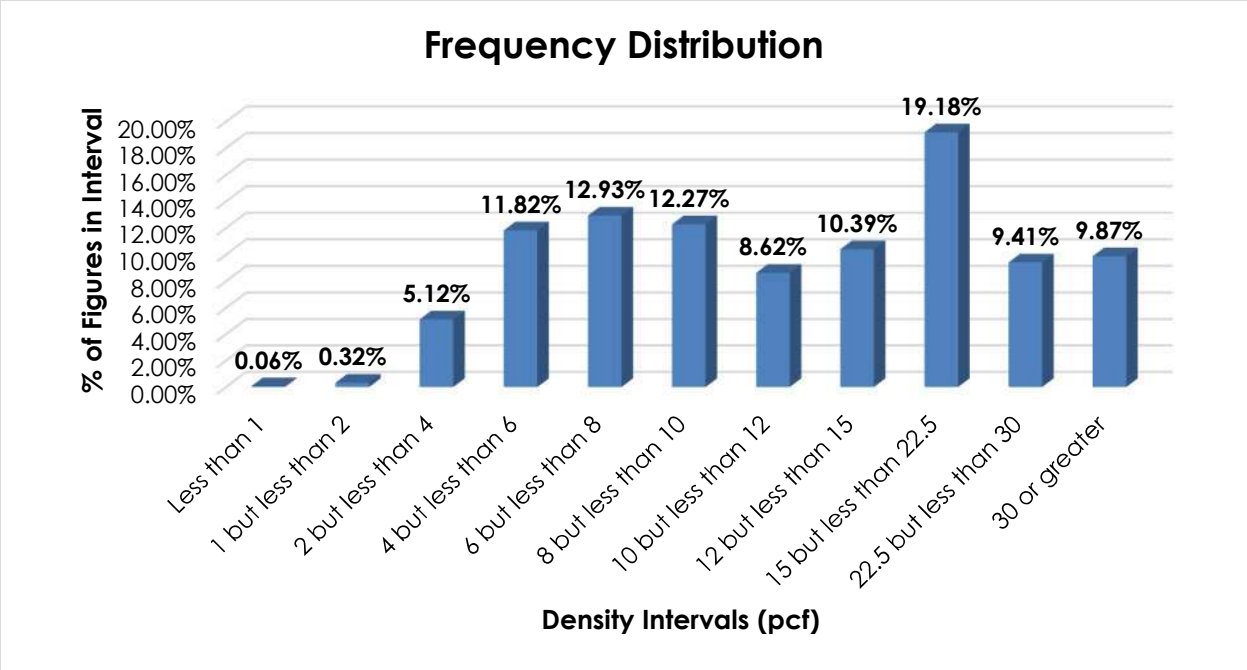
Analysis

Introduction

This proposal responds to the summation of Research Project 1518, which sought to review the transportation characteristics of gravity chute or gravity roller conveyors, as named in items 120040 and 120060, respectively. During the course of research, the project expanded to include all items subject to Elevators, Conveyors, or Parts Named subgeneric heading, as shown in the Present Classification Provisions herein.

Transportation Characteristics

Density—The information of record includes 129,859 density observations submitted by carriers and obtained from the FCDC's Density Study[1]. The densities range from 0.41 to 59.93 pcf, with an overall average density of 15.02 pcf. As shown in the graph below, the density distribution is relatively uniform between 4 and 10 pcf, with a distinct peak in the 15 but less than 22.5 pcf interval. Density breaks at 8, 15 and 30 pcf reflect the modality and spread of the distribution.



When the data is evaluated based on the proposed density breaks at 8, 15 and 30 pcf, the density ranges and averages shown in the table on the following page emerge.

[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.

SUBJECT 3

Density Groups (pcf)	Density Range (pcf)	Average Density (pcf)
Less than 8	0.41 – 7.99	5.55
8 but less than 15	8.00 – 14.99	10.99
15 but less than 30	15.00 – 29.99	20.87
30 or greater	30.00 – 59.93	39.91

Handling—When not exceeding 96 inches in greatest dimension, the involved products may be tendered in boxes secured on lift truck skids or pallets, or in crates, but as greatest dimension increases, the commodities are typically tendered in packages other than boxes or crates. When not exceeding 96 inches in greatest dimension, the involved articles do not appear to have any significant handling issues. However, these commodities vary greatly in size, and the data of record shows that numerous observations exceed 96 inches (8 feet) in greatest dimension[2], with some exceeding 288 inches (24 feet). As greatest dimension increases, the handling into and out of the vehicle becomes considerably more difficult, and specialized equipment, or additional personnel, may be necessary to safely handle longer units. Furthermore, as greatest dimension increases, cross-dock operations can be significantly affected. Often there is not enough room at carrier facilities to safely or easily handle and maneuver excessively long handling units.

Stowability—When the involved articles do not exceed 96 inches in greatest dimension, they typically do not present significant or unusual stowability issues. Handling units exceeding 96 inches in greatest dimension are more difficult to stow with other general freight, particularly as they may lack a flat load-bearing surface for top freight. Due to the commodities' size and configuration, it may be difficult to stow adjacent freight. These products may also have protrusions or edges that can potentially be damaged or damage adjacent freight. These factors can make it more difficult and time consuming for the carrier to properly structure the load and maximize vehicle utilization. Furthermore, for the longest articles, the carrier will have to ensure that the freight will fit in the vehicle.

Liability—The involved products are neither perishable nor hazardous. Shipments of these commodities not adequately protected by packaging materials or that overhang the lift truck skid or pallet are more liable to damage, such as bending, denting, and scuffing. Also, they can damage other freight if not correctly stowed within the vehicle.

Conclusion

Based on the foregoing analysis, this proposal would cancel all items subject to the Elevators, Conveyors, or Parts Named subgeneric heading with reference to a new item, naming "Conveyors, Elevators or Lifts, or Parts thereof, NOI." The new item would provide classes predicated on greatest dimension and density, with breaks at 8, 15 and 30 pcf[3]. The table on the following page shows the average densities and minimum average density guidelines for each density group, the guideline classes, and class adjustments as greatest dimension increases.

[2] Item (Rule) 568, "Heavy or Bulky Freight—Loading or Unloading," employs the threshold limit of exceeding 8 feet (96 inches) in greatest dimension as the measurement at which freight becomes more difficult to load and unload when compared to general boxed freight.
[3] The density provisions would include reference to Item (Rule) 170, the inadvertence clause.

SUBJECT 3

Density Group (pcf)	Average Density (pcf)	FCDC Minimum Average Density Guideline (pcf)	Class Based on FCDC Density Guidelines When Greatest Dimension Does Not Exceed 96"	Class Adjustment When Greatest Dimension Exceeds 96" But Does Not Exceed 192"	Class Adjustment When Greatest Dimension Exceeds 192" But Does Not Exceed 288"	Class Adjustment When Greatest Dimension Exceeds 288"
Less than 8	5.55	5	175	200	250	300
8 but less than 15	10.99	10.5	92.5	100	110	125
15 but less than 30	20.87	15	70	77.5	85	92.5
30 or greater	39.91	35	55	60	65	70

Notes, items 120071, 120501 and 120582 would be canceled as having no further application, as would multiple subgeneric headings, items 120000, 120140, 120240 and 120540.

A new attendant Note would be established to provide additional packaging requirements. The minimum packaging requirements would ensure that freight is adequately protected and can be handled and stowed in a manner that is reasonably safe and practicable so as to withstand the normal rigors of the less-than-truckload environment.