

EX

LIFT TRUCK SERIES



MATERIAL HANDLING REDEFINED.

**RICOI**  
Lift Trucks

CAPACITIES UP TO 12,000 LBS  
IN A WIDE VARIETY OF STYLES.

APPROVED FOR OPERATION IN:

CLASS 1, DIVISION 1 & 2 GROUP D  
CLASS 2, DIVISION 1 & 2 GROUP G  
HAZARDOUS ENVIRONMENT



## OUR REPUTATION AS A PIONEER IN Design & Development

RICO is a leading manufacturer of engineered material handling equipment. Our over 130 years of combined expertise in this industry has resulted in RICO'S reputation as a pioneer in the design, development, and creation of equipment with capacities from 1,000 to 400,000 pounds.

With our headquarters located in Medina, Ohio, our major client base is involved in industrial, commercial, automotive and military markets and our products are used around the globe.

We are very proud to be one of the most self-sufficient companies in this industry. With over 98 % of our work performed in-house from design to fabrication to assembly, we are truly unique in the material handling equipment manufacturing arena.

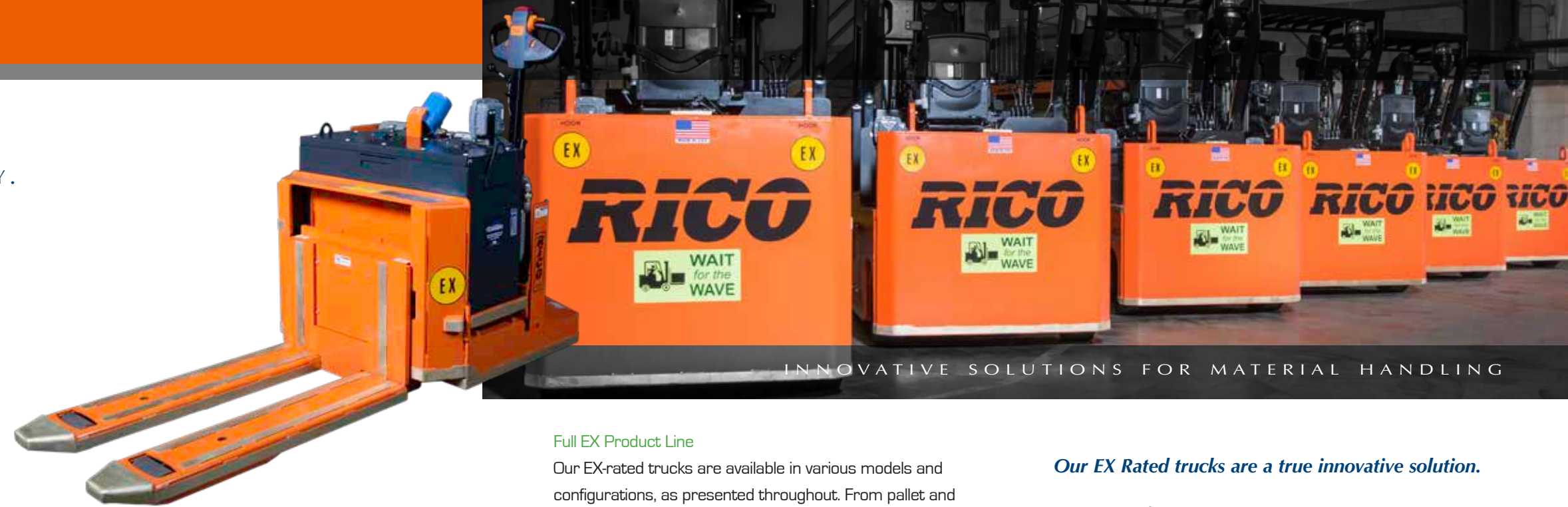
That means you get:

- Quicker Delivery,
- Flexible Production Schedules,
- Rapid Prototyping,
- High Standards for Quality,
- Increased Equipment Reliability,
- The HIGHEST Level of Tech Support.

That is the **RICO ADVANTAGE.**

FLEXIBILITY. VERSATILITY. EFFICIENCY.

# Leading by Example



INNOVATIVE SOLUTIONS FOR MATERIAL HANDLING

RICO's standard for excellence in design, manufacturing and installation of trucks instills in us a responsibility to create the best EX-rated lift trucks on the market today. Simple maintenance, clear operator visibility, and outstanding parts and service support are always tied to the creation of our trucks.

What is critical in the manufacturing process are steps we take to insure safety in our vehicles. All of RICO Explosion Proof trucks are built to the UL 583 specifications and are approved by the Nationally Recognized Testing Laboratory (NRTL).

## EX Enclosures

The EX enclosure houses electrical components, and is tested and approved to be included on our EX-rated lift trucks. Although the joints of EX enclosures will permit the entry of explosive vapors, the strength of our boxes will contain any internal explosion that could occur. The enclosures of RICO EX Trucks have been hydrostatically tested by FMRC for internal explosive resistance to pressures in excess of their requirements.

## Spark Resistant

Another step taken to insure safe operation is the protection from electrical sparks. Friction sparks can ignite a truck, so at RICO we use brass and aluminum to coat the exposed components on the perimeter of our trucks. Both brass and aluminum are alloys which reduce heat and the possibility of sparking. We take this need very seriously, in typical RICO fashion.

## MI Cable

Our mineral insulated cable was designed to meet the need for a non-combustible, heat and water resistant cable. Into a highly compressed mineral, typically magnesium oxide, we add one to seven electrical conductors. We seal this, liquid and gas tight, in a seamless copper tube. RICO uses the MI cabling to provide flexibility as well as space saving.

## Intrinsically Safe Wiring

In hazardous locations, it is imperative to have Intrinsically Safe Wiring. IS, by definition, is a critical component to creating a safe EX truck. We limit both thermal and electrical energy to minimize and eliminate the possibility of igniting any hazardous element. Again, the RICO way allows you to operate the safest truck on the market.

## Static Conductive Tires

We use Static Conductive tires to insure NO SPARKS. In your work environment, we need to be sure we have provided a truck which does not create peril or hazardous conditions.

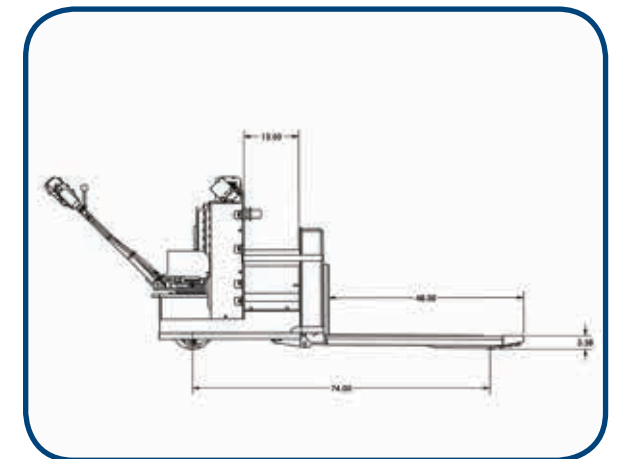
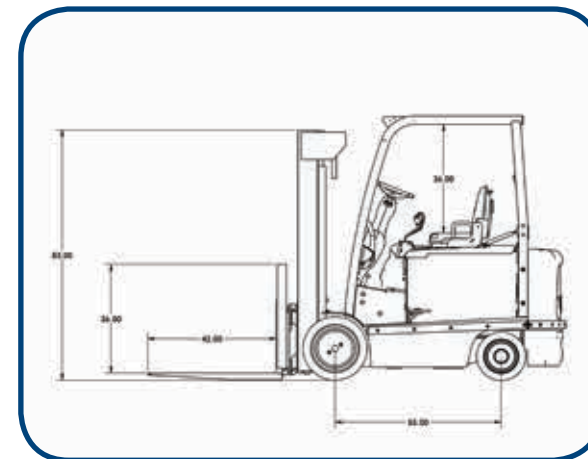
In the design of our EX trucks, we take the greatest care to maximize safety for our customers. We are 100 % safe from inside to out. EX-rated trucks by RICO insure your safety and that of your team. We could not be a leader without taking these necessary steps.

## Full EX Product Line

Our EX-rated trucks are available in various models and configurations, as presented throughout. From pallet and counter balanced trucks to straddle, reach, platform and tractor, our exacting specifications and adherence to all safety levels are what you have come to expect from RICO.

We pay very close attention to the NFPA 505, a Fire Safety standard for powered industrial trucks, which provides type designations, areas of use, conversions maintenance and operation.

You can also refer to the Hazardous Location Primer, available from RICO. This document introduces the basics of hazardous locations as contained in Article 500 of the National Electric Code. Please ask a RICO representative for a copy.



APPROVED FOR OPERATION IN:  
CLASS 1, DIVISION 1 & 2 GROUP D  
CLASS 2, DIVISION 1 & 2 GROUP G  
HAZARDOUS ENVIRONMENT



*Our EX Rated trucks are a true innovative solution.*

*The type of real solution to the real problems you face as a company.*

*The type of solution you have come to expect from RICO.*

*For more information about EX Rated Trucks or any of the other solutions we provide, please contact us at 330-723-4050 or visit us online at [www.ricoequipment.com](http://www.ricoequipment.com).*

# EX Rider Straddle Series

Capacities up to 10,000 lbs



### ENCLOSURES

- RICO EX trucks have been hydrostatically tested for internal explosive resistance to pressures in excess of NTRL requirements.



### CAB DESIGN

- The cab has been specifically designed for safety, efficiency, ergonomics and maximum visibility.



**WE BENT!**



### MI CABLE

- Mineral Insulated (MI) cable was developed to meet the needs of a noncombustible, high heat-resistant and water resistant cable.
- RICO uses MI cable where space is constricted and flexibility is key.



### INTRINSICALLY SAFE (IS) WIRING

- IS wiring limits both electrical and thermal energy to levels that are incapable of igniting hazardous mixtures.



### PROTECTION

- The perimeter of the truck, including the forks and other exposed portions, is covered in brass or aluminum to reduce the potential for "friction" type sparks.

# Walk Behind Pallet Truck Series

Capacities up to 12,000 lbs



### SAFETY FEATURES

- FMRC approved Electric Horn and travel alarm
- Battery Discharge Indicator



### ERGONOMIC CONTROLS

- Ergonomic multifunction handle control can be equipped with push button functions, emergency safety reversing and large central horn button for safe operation.



**WE RENT!**



### CASTER

- RICO exclusive static conductive polyurethane wheel for explosion proof EX-requirement.



### DRIVE END

- Low profile Drive end for increased operator visibility
- Built to UL 583 Specifications and approved by National Recognized Testing Laboratory (NRTL)
- Static Conductive Drive pulley belt



### PALLET FORKS

- Polyurethane entry wheels designed to assist with pallet entry and exit.
- Brass coated perimeter pallet forks for spark prevention



### BATTERY CONNECTOR

- Sealed battery connection with lockable latch
- Mineral Insulated cable for non-combustible, heat and water resistance.

# EX-AC Sit Down Rider Counterbalance Series

Capacities up to 8,000 lbs



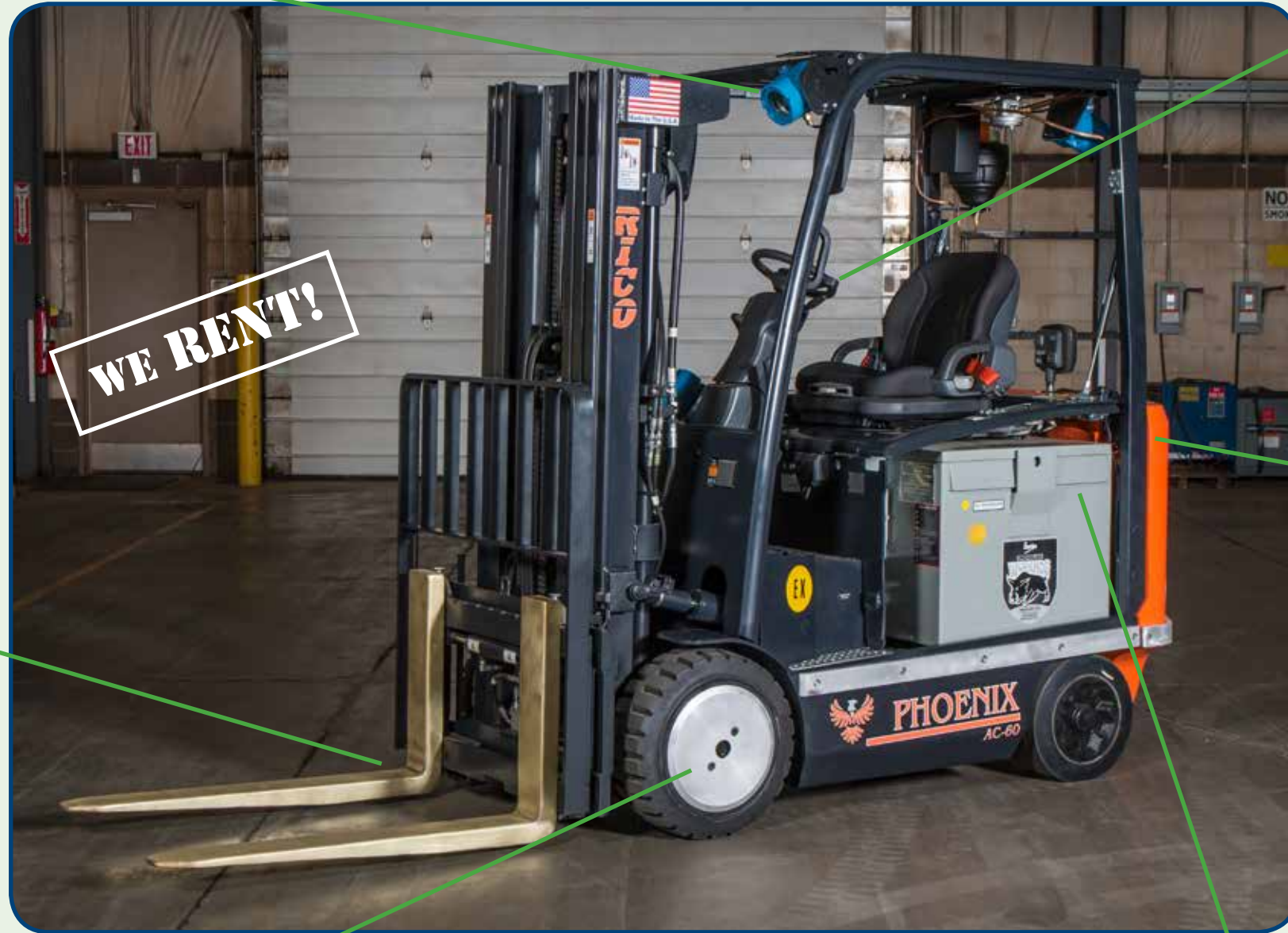
### SAFETY

- EX Rated Front LED Lights
- EX Rated Blue Pedestrian Lights
- EX Rated Amber Strobe
- EX Rated Back-up Alarm



### ERGONOMIC CONTROLS

- Ergonomic operator controls.
- Tilt steering column and adjustable positioning cushion ride seat
- Seat-mounted operator presence detection to prevent inadvertent operation of controls.



### FORKS

- Side Shifting Forks
- Brass coated forks, carriage and package guard



### ENCLOSURES

- EX Enclosure for electrical Components
- Utilize industrial standard component that have a time tested and track proven record for durability
- Easy access compartment allows for maintenance to be performed on fluid levels or repairs in less time.



### PERIMETER PROTECTION

- Spark Resistant chassis perimeter for safe operation
- Static Conductive tires

### SERVICEABILITY

- EX enclosed drive and pump motors
- Sealed electrical conduit wiring





## Hazardous Location Primer

This primer is meant to introduce some of the basic of hazardous (classified) locations as contained in Article 500 of the NEC (National Electric Code).

It is a fact that gases, vapors and mists escape during the production, processing, transporting and storage of flammable materials in the chemical and petrochemical industries, as well as in the production of mineral oil and natural gas, in mining and in many other sectors. Also, during many processes, flammable dusts are created. These flammable gases, vapors, mists and dusts can form an explosive atmosphere. If this atmosphere is ignited, an explosion can take place which may result in severe harm to human life and property.

Electric powered lift trucks used in these areas must be designed to prevent any normal operation of the equipment from igniting the atmosphere. Contrary to what many think, explosion proof equipment does not prevent an explosion but “contains” it when it occurs in an electrical enclosure.

### NEC Hazardous Location Classification

A Hazardous Location is an area where a fire and/or explosion hazard may exist due to flammable gasses or vapors, flammable liquids, combustible dust, or ignitable fibers. The area is classified in accordance with properties of the material responsible for the potential hazard and with the likelihood of the hazard actually being present. The following explains the significance of Class, Group, and Division designators.

Class is used to provide a general definition of the physical characteristics of the hazardous material with which we are dealing. The three classes are:

#### Class I

Gases, vapors and liquids that can be present in explosive or ignitable mixtures. For example: Gasoline – As a vapor (or liquid) is ignitable and/or explosive; therefore, it is a Class I material.

#### Class II

Dust. Combustible dust that can be present in amounts that could produce potentially explosive mixtures or dust of an electrically conductive nature. Examples: Flour or cornstarch. As a compact mass these products may only burn or smolder but when finely distributed in air. The mixture becomes explosive.

Metallic dust such as aluminum or magnesium have several dangerous properties. They are electrically conductive. They can burn very violently even when not finely distributed in air. When finely distributed in air they can be violently explosive. All fall into Class II – Dust.

#### Class III

Fibers or ‘flyings’ that are easily ignitable but are not apt to be suspended in air in such amounts to produce ignitable mixtures. Example: Rayon, Nylon, Cotton, Sawdust or Wood Chips, etc.

### Groups

Group designations are used to selectively group the material by relatively similar hazardous characteristics. For Example: Both gasoline and hydrogen are explosive when mixed with and ignited, but the explosive effect and violence of the resulting explosion will be substantially different. Groups are designed by the letters A through G. Letters A through D are Groups for Class I and E through G are Groups for Class II.

A, B, C, D – Gases/vapors are grouped by:

- Locations in which flammable gases, vapors or liquids are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

E, F, G – Dusts are grouped by:

- Combustibility
- Penetrability between parts
- Ability to contribute to creation of an ignition source (abrasiveness, electrical conductiveness)
- Blanketing effect
- Ignition temperatures

### Divisions

A Hazardous Location is an area where a fire and/or explosion hazard may exist due to flammable gasses or vapors, flammable liquids, combustible dust, or ignitable fibers or flyings. The area is classified in accordance with properties of the material responsible for the potential hazard and with the likelihood of the hazard actually being present. The following explains the significance of Class, Group, and Division designators.

#### Division 1

Division 1 locations which ignitable concentrations of flammable gases, vapors, liquids or combustible dust can exist all of the time under normal operating conditions.

#### Division 2

Division 2 locations which ignitable concentrations of flammable gases, vapors, liquids or combustible dust are not likely to exist under normal operating conditions.

### Summary

Class: Denotes physical characteristics of the materials.

Group: Categorizes the materials by relatively similar hazardous characteristics.

Division: Classifies the likelihood of the presence of the hazardous condition.

RICO Equipment, Inc. cannot assume responsibility for Class,

Group, Division or Operating Temperature determination.

Ultimate responsibility is in the hands of user and authorities having jurisdiction.



## NFPA CHART

NFPA 505 is a Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operation. This standard applies to fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines. The table below was taken from section 4.2 of this document.

This chart is used to identify what types of trucks (E, ES, EE, EX) may be used in certain hazardous areas. For the purpose of clarity, all the columns except EX have been grayed out.

EX-powered industrial trucks are not permitted to be used in those Locations identified by the letters NA. This includes areas such as Class I, Division 1, Group C. More specifically, you can also refer to the text reference located on the right hand column of the table. Using the same example as above, NFPA 505 paragraph 4.2.1 states;

4.2.1 Class I, Division 1, Groups A,B,C. Powered-operated industrial trucks shall not be permitted to be used in Class I, Division 1, Groups A, B, or C locations.

**Table 4.2 Summary Table on Use of Powered Industrial Trucks**

LOCATIONS*	CNG-Powered Trucks		Diesel-Powered Trucks				Electrically Powered Trucks				Gasoline-Powered Trucks		LP-Gas-Powered Trucks		Dual Fuel-Powered Trucks				Text Ref.	
	CN	CNS	D	DS	DY	DX	E	ES	EE	EX	G	GS	LP	LPS	G/CN	GS/CNS	G/LP	GS/LPS		
<b>Class I, Division 1</b>																				
Group A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.1
Group B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.1
Group C	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.1
Group D	NA	NA	NA	NA	NA	A	NA	NA	NA	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.2
<b>Class I, Division 2</b>																				
Group A	NA	NA	NA	NA	K	K	NA	NA	K	K	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.10
Group B	NA	K	NA	K	K	K	NA	K	K	K	NA	K	NA	K	NA	K	NA	K	NA	4.2.10
Group C	NA	K	NA	K	K	K	NA	K	K	K	NA	K	NA	K	NA	K	NA	K	NA	4.2.10
Group D	NA	J	NA	J	A	A	NA	J	A	A	NA	J	NA	J	NA	J	NA	J	NA	4.2.3
<b>Class II, Division 1</b>																				
Group E	NA	NA	NA	NA	NA	J	NA	NA	NA	J	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.4
Group F	NA	NA	NA	NA	NA	A	NA	NA	NA	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.5
Group G	NA	NA	NA	NA	NA	A	NA	NA	NA	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.2.6
<b>Class II, Division 2</b>																				
Group F	NA	J	NA	J	A	A	NA	J	A	A	NA	J	NA	J	NA	J	NA	J	NA	4.2.7
Group G	NA	J	NA	J	A	A	NA	J	A	A	NA	J	NA	J	NA	J	NA	J	NA	4.2.7
<b>Class III, Division 1</b>																				
Group F	NA	J	NA	J	A	A	NA	J	A	A	NA	J	NA	J	NA	J	NA	J	NA	4.2.8
<b>Class III, Division 2</b>																				
Group F	NA	A	NA	A	A	A	J	A	A	A	NA	A	NA	A	NA	A	NA	A	NA	4.2.9
<b>Ordinary (Unclassified)</b>	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4.1.1

#### Notes:

(1) A=Type truck authorized for location described

(2) J=Type truck authorized for location described with approval of the authority having jurisdiction

(3) K=Type truck authorized to be determined by the authority having jurisdiction

(4) NA=Type truck not authorized in location described

(\*)The references to class, division, and group in the headings in 4.2.1 through 4.2.9 correspond to classifications that are in accordance with NFPA 70 and are provided for the convenience of the user.

# EXPLOSION PROOF MAXIMIZE SAFETY



Rider Counterbalance



8K Sit-Down Counterbalance



Walkie Pallet



Walkie Pallet w/Skid Adaptor



Stand Up Straddle



Walkie Fork Over



Walkie Counterbalance with Clamp



6K AC Sit-Down Counterbalance



Fork Positioning Straddle



Walkie Pull Tow



Walkie Clamp Positioner



Standup Rider Reach Fork Positioner



Standup Rider Pull Tractor



Walkie Platform



Walkie Barrel Handler



Various Models Available





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