

PYROBAN®

**Preparing for the
EN1755 update:
Are you ready?**

WHITE PAPER

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WHAT IS EN1755?

EN1755:2015 is the standard by which companies like Pyroban build or convert forklift trucks so that they are safe for operation in hazardous areas (zone 1, 2, 21, 22). EN1755:2015 supercedes the existing EN1755:2000 standards.

“A spark from unprotected electrical equipment on a forklift, excess heat from the engine, motors, brakes and other components, and even a spark from static build up can create enough energy to cause ignition.”

Steve Noakes, Group Engineering & Operations Manager, Pyroban

It is the responsibility of the company placing the forklift truck onto the market to ensure it complies with the ATEX 2014/34/EU Directive so that it can be safely and legally put into service within an area where an explosive atmosphere could occur.

UPDATE TO THE EN1755 STANDARD

Forklift suppliers and OEMs need to be aware that the EU standard to which explosion protected forklifts are designed is changing. **Mandatory from November 2017**, it brings together the latest market knowledge and solutions, and references the latest standards which were not available when first issued and it clarifies and standardises the future level of safety required for products entering the market.

EN1755:2015 is titled *“Safety of industrial trucks. Operation in potentially explosive atmospheres. Use in flammable gas, vapour, mist and dust”*.

WHAT ARE THE MAIN CHANGES?

Requirements concerning static electricity will have a significant impact on trucks built or converted for Zone 2 operation (3G) from an end user and maintenance perspective. Static electricity will now be considered an ignition risk during “normal” operation, therefore:

- Seats, arm rests, roll up cabin sides and other externally accessible plastics need to be antistatic as a minimum
- All tyres (where travel speeds are >6km/h) on 3G trucks should now also be antistatic and there must be conductivity to earth either with two straps from the chassis to ground or by using conductive tyres
- The location and quantity of conductive tyres or earthing straps should also be marked on the chassis

More information on how this affects the supply chain for forklift tyres, seats and batteries follows.

For Zone 2 applications, the new EN1755:2015 requirements have maintained the core principles of the current standard and brought them into line with relevant latest standards.

- Gas detection is still included
- Restricted breathing enclosures require stronger leak performance
- Truck labelling has been re-defined
- Handbook requirements are more detailed.
- More detailed assessment of non-electrical components such as pumps and transmissions are required in line with EN13463
- Safety control systems should also meet EN13849 or SIL 1
- For load handling devices such as forks or clamps, the areas requiring cladding are redefined
- Brass, not stainless steel, should be used where the flammable material is in the IIC gas group

BE PREPARED

With the update of EN1755 on the horizon for 2017, end users and dealers are encouraged to be prepared for the changes.

The update will affect new orders placed in 2017 and ongoing maintenance requirements thereafter.



TYRES

The change in requirements for tyres is one of the more significant changes for the end user and dealer network to prepare for. The revised standard requires tyres for all applications, where travel speed is 6km/h or greater, to be antistatic. Currently this requirement is only applied to forklift trucks operating in zone 1 areas. Now trucks operating in zone 1, 2, 21 or 22 areas require antistatic tyres.

As companies can offer short build and conversion lead times for forklift trucks for zone 2 applications, it is important that the lead time for antistatic tyres is taken into consideration when the truck is ordered at the dealer. 10 week lead times for antistatic tyres is not uncommon, and this would impact the overall project lead time if tyres are not ordered initially. Similarly when tyres become worn, the lead time for antistatic tyres should be factored into maintenance planning programmes to minimise the risk of downtime.

Conductive tyres are suitable as antistatic tyres as they meet a higher specification. They can also still be used once they lose their conductive properties but still meet the antistatic properties. This helps extend the life of the tyres before replacement becomes mandatory.

SEATS

The constant movement of the operator is now considered a potential ignition risk from static electricity for zone 2 applications. Consequently seats need to be antistatic and bonded to the vehicle chassis. As seats are specific to forklift truck type, make and model, they are best ordered at the same time as the new fork truck.

Major seat manufacturers are aware of the new EN1755 requirements and have prepared antistatic versions in readiness. Explosion protection companies who convert the fork truck to meet the ATEX Directive requirements can also provide a seat replacement or re-covering service to ensure the seats comply.

Like tyres, seats are susceptible to wear and tear and the ongoing maintenance programme should ensure the antistatic properties are maintained if the seat becomes damaged or is repaired. Replacement seat lead times may be longer than a standard seat so this should be factored into the maintenance plans.

BATTERIES

Over the years battery manufacturers have added certified EX batteries to their range providing a common route to battery supply for standard and EX batteries.

With the vast variety of battery sizes across forklift truck types, makes and models, it is again prudent to order the EX battery at the same time as ordering the truck.

For some applications, the battery manufacturers may not have certified versions available. For these applications, EX truck manufacturers and conversion companies may have certified solutions available. For example, diesel starting batteries, Monobloc traction batteries, or special configuration traction batteries.



SUMMARY

As the new EN1755 approaches, end users and dealers are recommended to consider how the new requirements will be managed at both the new order stage and for ongoing maintenance.

Explosion proof component leadtimes can be longer than standard parts and so downtime could be a significant issue if parts supply is not considered early enough.

FOR MORE INFORMATION CONTACT PYROBAN

ABOUT PYROBAN

Pyroban provide explosion protection solutions for materials handling equipment and diesel engines.

For over 40 years we have been at the forefront of the industry developing products to protect your people, your site and equipment when operating in hazardous & added safety areas.

QUALITY

Additional to the ISO9001:2015 quality standard certification, each Pyroban Group company attains the required level of 3rd party certification for the business markets it serves including ATEX, IECEx, GB and NEC.

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