

Powered pallet trucks (PPTs)

Type 1:
High-lift truck



Type 1:
High-lift truck with drivers platform



Vmax. < 6 km/h

Type 2:
Elevating transporter



Type 3:
Straddle stacker



Type 4:
Double-deck lift truck



FSS 3 Rev. 04 No.	Mandatory requirement	Safety objective	Decision based on the RA	Mandatory retrofitting (required from revision)	Remarks	Applies to
1	Adjustable speed limiting facility in accordance with the maximum speed limit specified for the pertinent type of vehicle in section 7.1.3 of FSS 3.	Traffic safety		Revision 3		Types 1 to 4
2	The ground clearance shall be no less than 20 mm and no more than 40 mm.	To prevent crushing injuries to the heel and metatarsal zones of the operator's feet.		Revision 3		Types 1 to 4
3	Reach-through protection on the lifting frame. Compliance with the requirements of ISO 13857 –Safety of machinery - Safety distances.	Eliminates the possibility of crushing / shearing points attributable to moving parts of the lifting frame being accessed from the operator side.		Revision 3	Adequate protection is usually assured when the covers extend up to a height of 2.2 m.	Types 1, 3 and 4
4	The maximum permitted lifting height is 5 m.	To reduce the risk of the vehicle overturning.		Revision 3	When working at a height of more than 3 m, the possibility of using a straddle stacker (type 3) or forklift truck should also be investigated.	Types 1, 3 and 4
5	Protective grilles for transportation of small parts where the lifting height amounts to more than 1.80 m	To protect the operator from falling loads	X	Revision 3	PPTs may only be used to lift small items, which could fall onto the operator, if they are equipped with protective grilles.	Types 1, 3 and 4
6	Clearly visible manufacturer's rating plate with clearly arranged load-bearing capacity diagram or load diagram	Informs the operator about the actual load-carrying capacity of the PPT for the respective lifting height and center of gravity.		Revision 3		Types 1 to 4
7	Safeguarding against unauthorized use (a) by means of a key as a minimum requirement, (b) a transponder system is recommended, with personalized access to the equipment (PIN systems may not be used)	Access protection prevents equipment being used by unauthorized personnel.		Revision 3		Types 1 to 4
8	On-demand crawling speed (turtle mode)	Minimizes the risk of crushing in confined spaces.	X	Revision 3	Additional safety for certain activities, e.g. transferring to high racking levels, fragile loads etc.	Types 1 to 4
9	Operator control: A steering handlebar is used to steer and operate the PPT. The top end of the handlebar accommodates all of the important operator control elements, e.g.: •Actuating elements for the raising / lowering movement •Actuating elements for traveling forward and reversing (direction of travel) •Emergency reverse button (collision prevention switch) •Traction aid •Acoustic warning signal • Crawling speed	The emergency reverse button has been designed to be effective throughout the entire F driving zone. If the "emergency reverse" button is pressed while the truck is moving in the direction of the steering handlebar, the machine immediately brakes to a standstill with maximum force, then travels in the opposite direction until the button or handlebar is released. The PPT is braked positively in the B1 and B2 braking zones. B1: Upper braking zone F: Driving zone B2: Lower braking zone The actuating elements for forward and reversing speed have been designed as proportional-action setpoint generators and therefore enable adapted, continuous speed adjustment in both directions.		Revision 3		Types 1 to 4
10	Emergency stop function	If the EMERGENCY STOP button is pressed, all electrical functions are deactivated immediately.		Revision 3		Types 1 to 4
11	Braking by means of • Automatic braking (handlebar is the braking position) • Braking by reversal (PPT control system) • Braking as a result of releasing the "travel direction" actuating elements (release braking) • EMERGENCY STOP braking / braking triggered by the battery connector (positive braking, e.g. closed-circuit operated, spring-loaded electromagnetic brake)			Revision 3		Types 1 to 4
12	Battery charge indicator	Information about the current charging capacity, possible remaining duration of use		Revision 3	The battery's state of charge (SOC) is indicated on a display.	Types 1 to 4
13	Lift cut-off	Prevents loads from being lifted when insufficient energy is available.		Revision 3	The "lift" function is linked to a minimum charging capacity value.	Types 1, 3 and 4
14	Operating hours indicator	To indicate additional preventive / corrective maintenance		Revision 3		
15	Reflectors when used outside	Visibility in the dark		Revision 3		
16	Suitable wheels			Revision 3	The factors to be taken into consideration when choosing wheels include the following: • Load-bearing capacity, wear, road surface •Noise development •Hygienic requirements •Climatic conditions •Electric conductivity requirements	Types 1 to 4