Global Technical Service Co., Ltd.

TEST REPORT

EN ISO 3691-1

Industrial trucks — Safety requirements and verification — Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks

Test report reference No. .....:	R90322222001-002	
Tested by (+ signature) .....:	James Li	
Approved by (+ signature).....:	Kevin Zhang	
Date of issue .....:	2022-11-07	
Contents .....:	37 pages	
.....:		
Client		
Name.....:	Zhejiang Goodsense Forklift Co., Ltd.	
Address .....:	Haichang Road 1188#, Binhai Industrial Zone, Taizhou, Zhejiang, China	
Test specification		
Standard.....:	EN ISO 3691-1:2015 + A1:2020	
Test item		
Description .....:	INTERNAL COMBUSTION Forklift Truck	
Trademark.....:	None	
Model and/or type reference .....:	FD15; FD18; FD20; FD25; FD30; FD35; FD40; FD45; FD50; FD60; FD70; FD80	
Rating(s).....:	Refer to instruction manual	
Manufacturer .....:	Zhejiang Goodsense Forklift Co., Ltd. Haichang Road 1188#, Binhai Industrial Zone, Taizhou, Zhejiang, China	

Test case verdicts

Test case does not apply to the test object..... : N(Not applicable)

Test item does meet the requirement ..... : P(Pass)

Test item does not meet the requirement ..... : F(Fail)

Testing

Date of receipt of test item ..... : 2022-11-04

Date(s) of performance of test..... : 2022-11-04 - 2022-11-07

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the point separator.

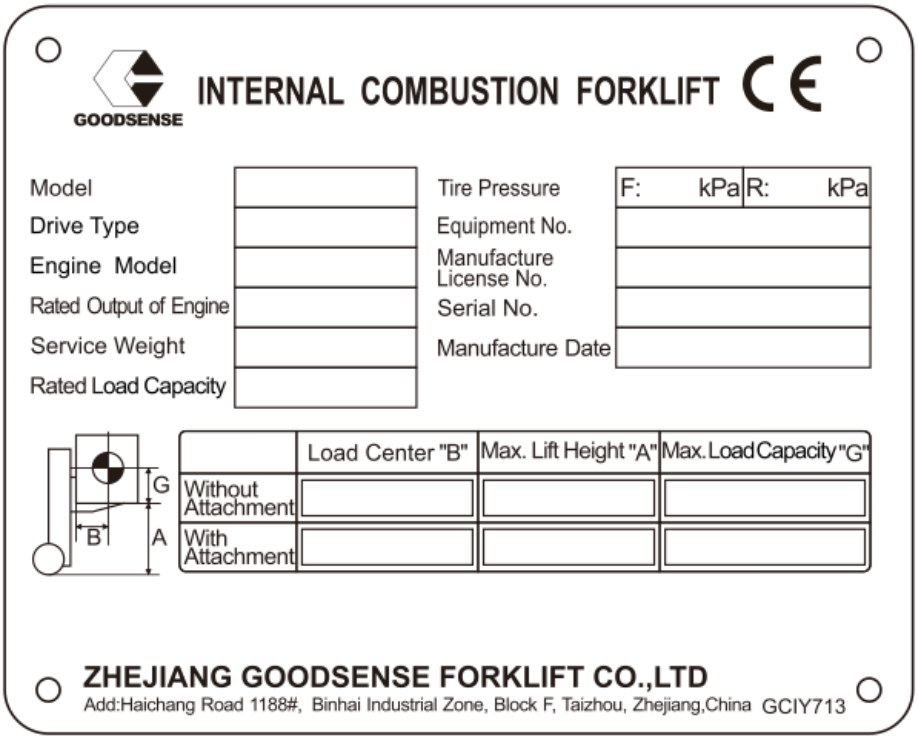
Test location: Taizhou, China

Type characteristics:

INTERNAL COMBUSTION Forklift Truck
FD15; FD18; FD20; FD25; FD30; FD35; FD40; FD45; FD50; FD60; FD70; FD80

Detailed information refers to instruction manual.

Copy of marking plate: (as a sample)



EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4	Safety requirements and/or protective measures		-
4.1	General		-
4.1.1	Overall requirements		
	The truck shall comply with the safety requirements and/or protective measures of this clause.	See the remarks in the following clauses.	P
	In addition, the truck shall be designed according to the principles of ISO 12100 for relevant but not significant hazards which are not dealt with by this document.	The hazards not covered by this standard are not significant and have been taken account according to EN ISO 12100:2010 during the stage of design.	P
4.1.2	Normal climatic conditions	Refer to instruction manual	P
4.1.3	Normal operating conditions	Refer to instruction manual	P
4.1.4	Electrical requirements		-
	Electrical requirements are subject to regional requirements. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.	Complies with EN 1175:2020, see test report.	P
4.1.5	Edges or angles		-
	There shall be no sharp edges or angles posing a hazard in the area of the operator in the normal operating position and in the area of access and egress during normal operation and daily checks.	No sharp edges or angles posing a hazard.	P
4.1.6	Stored energy components		-
	Components which store energy and would cause a risk during removal or disassembly, e.g. Hydraulic accumulator or spring applied brakes, shall be provided with a means to release the energy before removal or disassembly.	No this kind of components on this truck.	N
4.2	Starting/Moving		-
4.2.1	Unauthorised starting		-
	Trucks shall be provided with a device (e. g. a key, a code, a magnetic card) which prevents starting without that device.	Key is provided. 	P
	Devices for pedestrian controlled trucks and rider controlled trucks manufactured by the same manufacturer shall not be interchangeable between the two truck types.	The key between the trucks are not interchangeable.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Where devices, e.g. magnetic cards, are destined for an individual operator, one device may be used on both truck types but shall not allow starting by unauthorized persons.	No this kind of device on this truck.	N
4.2.2	Unintended movement and inadvertent activation		-
	Truck movement from the holding position, other than by actuation of the controls by the operator, due to drift or creep (e.g. by leakage), shall be avoided.	Movement due to drift or creep are avoided on this truck.	P
4.2.2.1	Parking brakes		-
	A parking brake shall be provided complying with 4.3.1.	See 4.3.1.	P
	For sit-down rider trucks the parking brake system should be manually operable by hand or foot from the normal operating position or automatically applied by leaving the normal operating position.	The parking brake is operated by hand from operating position. 	P
	Trucks, with only non-automatically applied parking brake(s), shall have a warning to the operator to apply brakes before leaving the truck.	The warning is provided.	P
	Failure of the control system of an automatically applied parking brake shall be indicated to the operator.	Not automatically parking brake.	N
4.2.2.2	Internal combustion engine powered trucks		-
	Internal combustion engine powered trucks shall be fitted with a device which prevents the engine being started while the transmission is engaged.	An automotive type manual gearbox and manually operated clutch pedal are provided.	P
4.2.2.3	Travel controls		-
	Travel controls on internal combustion engine powered trucks shall be so arranged that on level ground the truck will not move from rest until the transmission has been engaged.	The travel controls are so arranged.	P
4.2.2.4	Powered travel movement		-
	Powered travel movement of the truck with a ride on operator shall be possible only if the operator is in the normal operating position.	Seat switch is provided. According to EN 1726-1, the parking brake and neutral travel control applied by the operator can satisfy this requirement.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Powered travel shall not occur automatically when the operator returns to the normal operating position without an additional operation, e.g. by requiring resetting the direction control or by reactivating speed control.	Reactivating speed control is required.	P
4.2.2.5	Manual gearbox and manually operated clutch pedal		-
	A truck with an automotive type manual gearbox and manually operated clutch pedal satisfies the requirements of 4.2.2.2 and 4.2.2.4.	An automotive type manual gearbox and manually operated clutch pedal are provided.	P
4.2.3	Travel speed		-
4.2.3.1	Pedestrian controlled trucks	Not such type truck	-
	Single speed pedestrian controlled trucks operating on level ground shall not exceed a travel speed of 4 km/h and acceleration of 0,5 m/s^2 and shall be designed for low-lift only.		N
	Variable speed pedestrian controlled trucks operating on level ground shall be controllable by the operator to align with their walking speed.		N
	The maximum speed is subject to regional requirements. Additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.		N
4.2.3.2	Stand-on trucks and pedestrian controlled trucks with foldable platform	Not such type truck	-
	The maximum speed on level ground of stand-on trucks and pedestrian controlled trucks fitted with a foldable platform when the operator is on the platform is subject to regional requirements. Additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.		N
	For trucks with a foldable operator platform, see 4.7.3.3.		N
	For trucks with stand-on options, see 4.7.3.2 and 4.7.3.4.		N
4.2.3.3	Travel with mast raised	This truck is not used for this situation.	-
	Travel with mast raised is subject to additional regional requirements. See ISO TS 3691-8.		N
	The speed of reach trucks shall be reduced automatically without causing a hazard to V_{max} no more than 6 km/h as determined by the manufacturer when the elevated section of the mast is more than 400 mm above the height of the mast when fully lowered.	No reach trucks.	N
4.3	Brakes		-
4.3.1	General		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	All industrial trucks shall be designed with service and parking brakes. Brakes shall comply with ISO 6292.	Service and parking brakes are designed complying with ISO 6292:2008.	P
	The parking brake shall be equipped with a system preventing unintentional release.	The parking brake can not be released unintentionally.	P
	The parking brake force shall be applied by mechanical means.	The parking brake force is applied by mechanical means.	P
	Braking requirements are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.	The braking system maybe changed according to the country the truck used.	P
4.3.2	Failure of energy supply to automatically acting brakes		-
	Failure of the energy supply to the service brake shall not result in a total loss of braking and shall enable a controlled stop.	The service brake is hydraulic powered, when the supply fails, the truck can be stopped safely.	P
4.3.3	Stand-on and pedestrian controlled trucks		-
	Stand-on and pedestrian-controlled trucks shall be equipped with a brake system that will automatically engage upon release of the brake actuating control by the operator. This system may serve as the service and parking brake.	Not such type truck	N
4.4	Manual control actuators		-
4.4.1	General		-
4.4.1.1	Consistency with the truck motions		-
	Movement of these controls shall be consistent with the motions of the truck being operated, wherever practicable. They shall be confined within the plan view outline of the truck or tiller.	The controls are consistent with the truck motions and are confined within the plan view outline of the truck.	P
4.4.1.2	Multiple operators		-
	If additional operating positions are fitted, e.g. for more than one operator, the operation of these controls shall only be possible from one operating position at a time, except the emergency disconnect switch, which shall be operable from all positions.	Only one operator on this truck.	N
4.4.1.3	Multiple operating positions		-
	If more than one operating position is fitted for a single operator, the use of the controls of one operating position shall preclude the use of the controls of other operating positions, except the emergency disconnect switch, which shall be operable from all positions.	Only one operating position on this truck.	N
4.4.2	Travel and braking controls		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4.4.2.1	General		-
	The motion of the speed operating control shall be designed in a way that an increase in the movement of the control increases the travel speed. When the control is released, it shall return to the neutral position of the control actuator.	The increase in the action of the speed pedal increases the travel speed. When the control is released, its action returns to neutral.	P
4.4.2.2	Sit-on trucks		-
	Trucks with pedal operated travel and braking controls shall comply with ISO 21281.	The travel and braking pedals comply with EN ISO 21281:2005.	P
4.4.2.3	Stand-on trucks	Not such type truck	-
	The requirements for travel and braking controls for a stand-on truck are as follows.		-
	a) Travel control function − Where a tiller is used it shall be fitted with control devices for travel direction and speed; − Where a steering wheel or similar control is used the controls for travel direction and speed shall be positioned in close proximity to the steering control.		N
	The Service brake function shall be engaged: − automatically when the tiller is released if they are operated by the tiller; − automatically when the travel-control is released if they are operated by the travel-control; − automatically when releasing the pedal if the brake function is foot operated; − when activating the hand actuator if the brake function is hand operated.		N
	b) On trucks with elevating operator platform of up to 1 200 mm means shall be provided to prevent travel, while the platform is elevated more than 500 mm unless the controls are elevated with the platform.		N
4.4.2.4	Pedestrian controlled trucks	Not such type truck	-
	The requirements for pedestrian-controlled trucks are as follows.		-
	a) The tiller shall be fitted with control devices for travel direction and speed.		N
	b) When the tiller is released, it shall automatically return to its upper rest position, cut off traction power in the travel direction and engage the brake.		N
	c) When the tiller is in its lowered position, the traction power in the travel direction shall be cut off and the brake shall be engaged.		N
	d) The tiller shall be fitted with a device to energize the direction of travel away from the operator until pressure on the device is relieved, or that stops the truck by applying the brakes, if the head of the tiller in its operating position comes into contact with a solid body (e.g. the operator's body).		N

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4.4.2.5	Differential locking	No such device is designed for the trucks	-
	It shall be possible to unlock the differential when the truck is moving.		N
	For trucks fitted with a pedal-operated differential lock, depression of the pedal shall lock the differential and shall be released when releasing the pedal.		N
4.4.2.6	Additional operation from outside the truck	This truck is not used for this situation.	-
	If travel control from outside the truck is provided for the operator of sit-on or stand-on trucks and tractors, when operated from the outside the travel speed shall be limited to 6 km/h. These controls may be attached to the truck or a remote control may be provided, and the operating system shall be made operable by means of a separate switch or automatically when the operator leaves the normal operating position.		N
	a) General 1) If the control actuator is released, the drive unit shall switch off automatically and the brake shall be engaged automatically. Simultaneous operation from the operating positions shall be excluded. 2) Controls fitted at the outside of the truck shall be secured against unintentional activation.		N
	b) Additional requirements for cable-connected remote controls 1) The length and layout of the cables shall allow the operator to operate from outside of the area of hazard of the truck and have visibility of the path of travel. It shall not be possible for the cable to become entangled with the wheels. 2) On a portable control panel, the control elements, with the exception of the emergency stop, shall be guarded against unintentional operation. The portable control panel shall be fitted with an emergency stop device in accordance with ISO 13850.		N

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	c) Additional requirements for cableless control 1) The transmission range shall be adequate to allow the operator to operate from outside the area of hazards of the truck and have visibility in the path of travel. 2) On the portable control panel, the control elements for operation, with the exception of the emergency stop, shall be guarded against unintentional operation. 3) The reliability level shall be at least 10 9 and the Hamming distance shall be 2. The remote control shall be in accordance with ISO 13849-1, performance level (PL) c. 4) The truck shall stop automatically when outside of the operator's direct view (90°) and/or out of range of the remote control. 5) No control interference shall be possible when more than one truck is operating under remote control at the same time.		N
	d) Additional requirements for trucks with trailer coupling 1) The controls (e.g. rear touch device) shall be arranged so that the operator does not have to step between the truck and the trailer in order to operate them. 2) The rear touch device shall be secured against unintentional operation. 3) During operation of the rear touch device, the travel speed of the truck shall not exceed 2,5 km/h.		N
4.4.2.7	Additional operation from alongside pedestrian-controlled and stand-on trucks (coasting)	Not this kind of truck.	-
	The additional operation of pedestrian-controlled and stand-on trucks while the operator is walking alongside the truck shall only be possible with the truck's fork arms trailing.		N
	The additional operation of such trucks while the operator is walking alongside the truck, and the use of low-lift order-picking trucks provided with a system that allows for operation while walking alongside the truck, are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.		N
4.4.3	Steering controls		-
4.4.3.1	Steering direction		-
	The following applies.		
	a) For stand-on or sit-on trucks, when travelling in the forward direction, clockwise rotation of the steering wheel, or equivalent movement of the steering control, shall steer the truck to the right;	The clockwise rotation of the steering wheel steers the truck to the right when driving forwards.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	b) For trucks with an operator control position rotatable by more than 90°, or having duplicated control positions, in order to facilitate the operator facing in the opposite direction, clockwise rotation of the steering wheel, or equivalent movement of the steering control, shall steer the truck to the right as viewed from the new position — i.e. the steering control sense is reversed beyond 90° to facilitate the operator facing in the opposite direction.	No rotating operator seat or duplicated control positions are provided for three trucks	N
	c) Trucks with continuous 360° steering, i.e., the steering/drive wheel can move through 360° to propel the truck in the direction selected by the steering control, shall operate in the same sense as a) when travelling in the forward direction;	Not this kind of truck.	N
	d) For pedestrian operated trucks fitted with a tiller, when travelling in the forward direction, clockwise movement of the tiller shall steer the truck to the right;	Not this kind of truck.	N
	e) Exceptionally, when requested by the user, end-control trucks may be equipped with “reverse steering” — i.e. clockwise rotation of the steering control will steer the truck to the left. Such trucks should be clearly identified.	Not this kind of truck.	N
4.4.3.2	Failure of power supply		-
	In the event of an interruption of the power supplied to the steering system (including a dead motor or engine) it shall be possible to maintain the path being steered until the truck is brought to a controlled stop.	When the power fails, the path being steered can be maintained.	P
4.4.4	Load handling controls		-
4.4.4.1	Controls		-
	Controls shall return to the neutral position when released and stop the corresponding load movement.	The control for loading is always return to neutral, unless it is under the intended operation of operator	P
	When single levers are used to control a function on trucks other than reach trucks with retractable mast or forks, the lever closest to the operator shall control lifting and lowering, the second closest lever should control the tilt function, the third closest lever should control the side shift and the fourth closest lever should be for auxiliary functions.	The levers on this truck are so arranged.	P
	When single levers are used to control a function on reach trucks with a retractable mast or forks, the lever closest to the operator shall control lifting and lowering, the second closest lever should control the displacement of the mast or forks, the third closest lever should control the tilt function, the fourth closest lever should control side shift and the fifth closest lever should be for auxiliary functions.	Not this kind of truck.	N

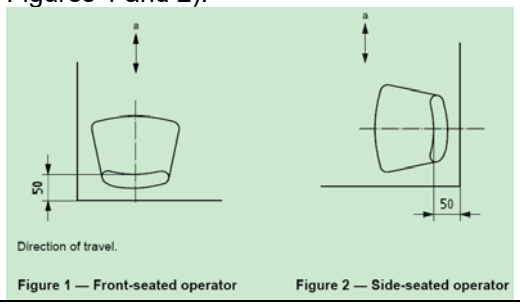
EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Trucks equipped with attachments which hold the load by power (e.g. paper clamp) shall feature control(s) with a secondary action to prevent unintentional release of the load.	No attachments on this truck.	N
4.4.4.2	Manual lift systems	No such lift system	-
	The hand power forces and the layout of controls of manually operated lifting systems shall comply with ISO/DIS 3691-5.		N
4.4.5	Multi-function controls	No such controls	-
	Where a control is designed and constructed to perform more than one function, each separate function shall be clearly marked. Each control function shall return to the neutral position when released and stop the corresponding load movement.		N
4.4.6	Controls for automated functions	No such controls	-
	The controls for automated functions shall comply with ISO 24134.		N
4.4.7	Marking		-
	Graphic symbols used for marking controls shall comply with 6.3.1.4.	See clause 6.3.1.4.	P
4.5	Power systems and accessories		-
4.5.1	Exhaust and cooling systems		-
4.5.1.1	Exhaust system		-
	The exhaust system shall be designed in accordance with 4.7.6 and such that engine exhaust is directed away from the operator position.	The engine exhaust is directed away from the operator position and designed according to 4.7.6.	P
	Materials used in the vicinity of exhaust systems shall be non-flammable and shall be chosen and protected such that they are not adversely affected by heat from the exhaust system.	The materials are non-flammable and protected appropriately.	P
4.5.1.2	Cooling system		-
	The air flow through the cooling system shall be arranged in a manner to avoid discomfort to the operator.	No cooling system for the operator on this truck.	N
4.5.2	Fuel tank		-
4.5.2.1	Tank isolation		-
	If a fuel tank is within or adjacent to the engine compartment and excessively high temperatures can occur, the tank and/or filling arrangement shall be isolated from the electrical and exhaust systems by suitable protection, e.g. a separate enclosure or baffles.	The fuel tank is far from the engine compartment and no high temperature can occur.	N

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The tank location and facilities for filling shall be such that spillage or leakage will not drain into the engine or operator's compartment or onto electrical or exhaust system parts.	The spillage or leakage will not affect these components.	P
4.5.2.2	Fuel spillage		-
	Fuel spillage shall not be possible under normal operating conditions.	No fuel spillage under normal conditions.	P
4.5.3	Access to engine and other compartments		-
4.5.3.1	Engine cover		-
	An enclosed engine compartment shall satisfy fan guarding requirements when the manufacturer's recommended routine maintenance is performed with the engine off. If a fan can start (e.g. temperature switch) when the engine is off, the fan shall be guarded. A safety warning sign shall be provided, and included in the instruction handbook (see 6.2). Warnings shall comply with 6.3.3.4.	The engine is in an enclosed compartment with cover. The fan is guarded and warning sign is provided. 	P
	Access from underneath is considered guarded if the access ground clearance is less than 600 mm between the underside of the truck and level ground.	No access underneath is provided.	N
4.5.3.2	Unintentional closure		-
	Where unintentional closure could cause injury, access covers (i.e. traction battery or engine covers) shall be provided with means for preventing unintentional closure. Those means shall be permanently affixed to the truck or stored in a safe place on the truck.	A supporting bar is provided to support when the engine cover is opened. 	P
4.5.4	Liquefied petroleum gas (LPG)-powered trucks	Not this kind of truck.	-
4.6	Systems for lifting and tilting		-
4.6.1	Lift chains		-
	The truck or mast manufacturer shall have on record a certificate from the chain manufacturer giving the breaking load of the chains used.	Refer to test reports of chains.	P
	When the lifting mechanism includes a chain or chains, the truck manufacturer shall only use leaf or roller chains.	Leaf chains are used on this truck.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	These shall provide a minimum factor, K1, when supporting the maximum capacity load and assuming no friction in the mast structure, which is given by the following equation: $K_1 = (L_c \times n)/(R + w)$	See the calculation notes.	P
	Pulley diameters shall be in accordance with the chain manufacturer's instructions.	Pulley diameters are more than three times the pitch of the chains.	P
4.6.2	Mechanical lifting system	No such system.	-
4.6.2.1	General		-
	The lifting system shall comply with the requirements of 4.6.3.3.		N
4.6.2.2	Failure of lifting/lowering mechanism		-
	In the event of failure of the lifting/lowering mechanism or its parts (e.g. gearwheel, chainwheel, or spindle,) it shall not cause the elevated load or operator's platform to fall.		N
4.6.2.3	Lowering speed		-
	The lowering speed of the lifting mechanism with its rated load shall not exceed 0, 6 m/s.		N
4.6.3	Hydraulic lifting and tilting system		-
4.6.3.1	Hydraulic lifting system		-
	The hydraulic lifting system shall be designed in a way that, with the hydraulic fluid at normal operating temperature, the mast substantially vertical and carrying rated capacity load, the descent of the load caused by internal leakage in the first 10 minutes shall not exceed: 100 mm for trucks up to and including 10 000 kg rated capacity. 200 mm for trucks over 10 000 kg rated capacity.	5 mm tested during the first 10 min.	P
4.6.3.2	Lowering speed limitation		-
	A device shall be incorporated in the lift circuit which, in the event of a failure of the hydraulic circuit — excluding the hydraulic lift cylinder(s) — shall restrict the rate of descent of the lifting mechanism with its rated load to 0,6 m/s maximum. The device shall be fitted directly at the lifting cylinder(s).	Tested 0,2 m/s.	P
4.6.3.3	Limitation of stroke		-
	The lift assembly shall be fitted with a positive means to prevent over-travel. In addition, positive means (e.g. mechanical stop) shall be provided to prevent the fork carrier and moving elements of the mast structure from unintentionally disengaging from the upper end of the mast.	Two over travel blocks are provide.	P
4.6.3.4	Hydraulic tilting systems		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The internal leakage rate of the complete hydraulic tilting system (i.e. cylinder, valve, etc.) with the oil at normal operating temperature shall allow no more than 5° forward movement of the mast in 10 minutes from the vertical mast position when the rated load is at a height of 2 500 mm or, in the case of trucks with lift heights of less than 2 500 mm, at their maximum lift height. The average tilting speed allowed by internal leaks shall not exceed 0, 5°/min for trucks with a maximum forward tilt of less than 5°.	2° tested during the first 10 min. The average tilting speed is 0.2° /min.	P
4.6.3.5	Mast tilt and carriage isolation		-
	For ride-on trucks, mast tilt and carriage movement shall not be possible through operation of the primary load-handling control when the operator is not in the normal operating position.	The control and speed pedal need to be operated at the same time for these operating.	P
	Isolation of attachment movement is subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011.	No attachment on this truck.	N
4.6.4	Hydraulic system		-
4.6.4.1	Hydraulic circuit		-
	Hoses, piping and connections subjected to internal pressure shall be capable of withstanding, without bursting or permanent deformation, a pressure equal to at least three times the operating pressure.	See the test reports of these components.	P
	Pipes and hoses shall be located and, if necessary, restrained, so that deterioration, sharp edges and other damage-causing sources are minimized.	These hazards are avoided on this truck for pipes and hoses.	P
4.6.4.2	Pressure controls		-
	All hydraulic systems shall include a device which prevents the pressure in the system from exceeding a preset level. The device shall be so designed and fitted that unintentional loosening or adjustment is avoided and so that a tool or key is required to alter the pressure setting.	The pressure limitation valve is provided and which is set by manufacture, any adjustment is only can be done by broken the lead sealing.	P
4.6.4.3	Failure of energy supply to hydraulic circuit		
	In the case of a fault or interruption of the supply of energy, the design of the hydraulic system shall be such that it does not allow any uncontrolled motion of equipment or attachment.	The pump can not work as a hydraulic motor in case of a fault or interruption of the supply of energy	P
4.6.4.4	Fluid purification		-
	The hydraulic system(s) shall be protected against the risk of contamination of the hydraulic fluid e.g. by means of magnet(s), filter(s).	Hydraulic oil filter is provided.	P
4.6.5	Load handling and stacking attachments	No attachments on this truck.	-

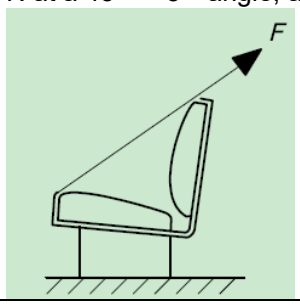
EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4.6.5.1	Unintentional displacement or detachment		-
	Means shall be provided to prevent the unintentional lateral displacement or unintentional detachment of attachments from the truck.		N
	Movement of the attachment and its parts shall be mechanically limited at the extreme positions.		N
4.6.5.2	Malfunction in the power supply system		-
	Attachments, which hold the load by power, shall be designed in such a way that the maximum load they are intended to handle is automatically retained for at least 10 minutes when the truck's manual controls are in the neutral position or in the event of a malfunction in the power supply system for the attachment.		N
4.6.5.3	Hydraulic system for attachment		-
	If an attachment has its own separate hydraulic system, it shall comply with 4.6.4.		N
4.6.5.4	Combined hydraulic systems		-
	If an attachment has a hydraulic system which is connected to the truck hydraulic system, the two systems shall be compatible and the combined systems shall comply with 4.6.4.		N
4.6.5.5	Attachment for lifting freight containers		-
	An attachment for lifting freight containers shall be equipped with indicator lights according to ISO 15871. The attachment shall have a device(s) to prevent unintentional dropping of a container. Means shall be provided to prevent lifting of the container unless all interface mechanisms are fully engaged and locked. If multiple containers are lifted at the same time, the same requirements are valid for all containers. Travel speed shall be restricted to a maximum of 10 km/h if the container is not locked to the attachment in a manner that will prevent unintentional drop (e.g. lifting with grapple arms).		N
4.6.5.6	Fork arms		-
4.6.5.6.1	Solid-section fork arms shall be manufactured and tested in accordance with ISO 2330, except with respect to safety factors. The safety factors are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-8.	See the test report of fork arms.	P
4.6.5.6.2	The total capacity of all fork arms fitted to a truck shall not be less than the actual capacity of the truck.	See the test report of fork arms.	P
4.6.5.6.3	Means shall be provided to prevent unintentional lateral displacement of the fork arms on the fork carrier.	The dismounting block is provided on the fork carrier.	P
4.6.5.6.4	Fork-arm extensions shall be designed to prevent accidental disengagement from the fork arms, and shall be in accordance with ISO 13284.	No fork-arm extensions on this truck.	N

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4.6.5.7	Fork carriers		-
	Hook-on type fork carriers shall be in accordance with ISO 2328.	The fork carrier is in accordance with ISO 2328:2007.	P
4.7	Operator position		-
4.7.1	Dimensions		-
	The operator's seat or standing position shall be so located that the operator has sufficient room while operating the truck so as to remain within the plan view outline of the truck. The dimensions shall be of suitable and ergonomic shape to accommodate at least a 5th percentile to a 95th percentile of the population, as shown in ISO 3411:2007, Figures 1 to 3, within the plan view outline of the truck. The seat shall not extend beyond the plan view outline of the truck.	The operator has enough room which is greater than the dimensions showed in the Figures. See the drawings of the operator position.	P
	The minimum distance from the top edge of the seat back to the plan view outline shall be 50 mm (see Figures 1 and 2).  Figure 1 — Front-seated operator Figure 2 — Side-seated operator	The distance is 200 mm.	P
	For stand-on pedestrian- and centre-controlled ride-on trucks employing a tiller, the tiller steering control movement may extend beyond the plan view.	No tiller on this truck.	N
4.7.2	Operator access and egress		-
4.7.2.1	General		-
	Trucks shall be designed to permit safe and easy access and egress and to minimize the risk of slipping, falling and tripping. Steps, running boards and hand holds (grab handles, fixed parts of the truck structure, etc.) shall be provided above a step height of 350 mm to give three-point contact at all heights (i.e. one hand and two feet or two hands and one foot). Step width, instep clearance and toe clearance shall comply with ISO 2867.	See the drawing of access and the following clauses.	P
4.7.2.2	Steps		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Steps shall have slip-resistant surfaces or covering (e.g. expanded metal, abrasive coating). The first step shall be not more than 550 mm from the ground and succeeding steps shall be 250 mm to 350 mm, preferably at equal intervals.	For FD10/15/18 Two steps are provided. The first step height from ground is 300 mm, the second one is 200 mm. step width complies with ISO 2867:2011. See the drawings for the access. For FD20/25/30/35 Two steps are provided. The first step height from ground is 475 mm, the second one is 200 mm. step width complies with ISO 2867:2011. See the drawings for the access For FD/40/45/50 Three steps are provided. The first step height from ground is 340 mm, the second one is 315 mm, the third one is 280 mm. step width complies with ISO 2867:2011. See the drawings for the access. For FD50/60/70/80 Three steps are provided. The first step height from ground is 445 mm, the second one is 270 mm, the third one is 270 mm. step width complies with ISO 2867:2011. See the drawings for the access.	P
4.7.2.3	Compartment floor		-
	The compartment floor frequented by the operator, steps and walkways shall have a slip resistant surface, e.g. ribbed mats, abrasive coating, expanded metal.	Ribbed mats surface are provided for such areas.	P
4.7.2.4	Walkways	No such construction	-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Walkways more than 2 000 mm from the ground shall have guard rails. The guard rails have a height of 1 000 mm to 1 100 mm and shall be capable of withstanding, without permanent deformation, a force of 900 N applied in a horizontal direction from inside to outside.		N
4.7.2.5	Hand holds		-
	For access to, and egress from, the normal operating position with a floor height above 300 mm, hand hold(s) shall be provided; these may be part of the truck structure. The clearance dimension for a hand hold shall be at least of 45 mm width, 130 mm length and diameter of 15 mm (see Figure 3).	Hand-hold is provided. The width is 80 mm, length is 260mm or 280 mm, diameter is 22 mm. 	P
4.7.3	Platform	No such construction	-
4.7.3.1	General		-
	Operator's stand-on platforms on pedestrian and stand-on end-controlled trucks shall be dimensioned in accordance with 5.7.1 and be capable of withstanding a compression force corresponding to 2,5 times the mass of the laden truck applied along the longitudinal axis of the truck with the outermost projection of the platform against a flat vertical surface. For the purpose of this requirement, the operator's platform includes any surrounding reinforcement or parts of the truck which provide resistance to crushing of the platform except for pedestrian controlled stand on trucks employing a tiller.		N
4.7.3.2	Platforms overhanging the truck chassis		-
	Platforms overhanging the truck chassis on tiller operated stand-on trucks, capable of travelling more than 6 km/h, shall, in addition to 5.7.3.1, be provided with a guard at either the sides or the front of the platform. The guards shall be capable of withstanding a horizontal force of 900N acting from inside to outside applied in line with the centre of the operator's standing position without permanent deflection. The side guards shall be at a minimum height of 700 mm above the platform in its protective position. Travelling more than 6km/h shall only be possible when the platform is pivoted down and guards are in their protective position.		N
4.7.3.3	Pedestrian controlled trucks with foldable platform		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Operator's stand-on platforms, which are fitted to pedestrian controlled trucks and overhang the truck's chassis may be capable of being folded or pivoted to an upright position when the operator leaves the platform, this may be done automatically.		N
	For platforms which do not act automatically, devices shall be provided to prevent the truck manoeuvring or travelling unless the operator is standing on the platform or the platform is in its upper rest position.		N
4.7.3.4	Stand-on platforms		-
	Operators stand-on platforms which are built within the plan view outline of pedestrian controlled trucks where the operator stands to the side of the motor housing, shall be equipped with an additional grab rail for operator stability when riding. This grab rail shall be capable of withstanding a horizontal force of 900 N applied in line with the operator's standing position, without permanent deformation. For this configuration of pedestrian controlled trucks the requirements of 5.7.3.2 do not apply.		N
4.7.3.5	Fixed operator's stand-on platforms		-
	Fixed operator's stand-on platforms located at heights more than 1 200 mm shall be equipped with guard rails or other equally effective means of protection on all sides. Where guard rails are fitted they shall comprise top rails, intermediate rails, and toe boards to a height of not less than 900 mm or more than 1 100 mm measured from the upper surface of the top rail to the platform, the toe boards having a minimum height of 100 mm. The means shall be capable of withstanding without permanent deformation a force of 900 N applied in a vertical downwards direction and in a horizontal direction from inside to outside and shall not be capable of opening outwards.		N
4.7.3.6	Trucks with foldable platforms and foldable side guards		-
	On trucks with side guards and platforms of the folding or pivoting type as described in 5.7.3.2 and 5.7.3.5, travelling movement shall only be possible when the side guard or platform is in a protective position or an inactive rest position. No travelling movement is allowed with the platform or side guard in an intermediate position.		N
4.7.4	Operator's seat		-
	The seat shall be designed and located to provide easy access to the controls, shall provide a position for the truck operator in accordance with ergonomic principles and shall meet the following requirements.	Can provide ready access to the controls and comfortable position.	P
	a) If the seat has a facility allowing fore and aft adjustment this shall be possible without using tools;	It can be adjusted by manual	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	b) If a weight adjustable seat is fitted to reduce vibration transmitted to the operator, the adjustment shall accommodate operator weights of 55 kg to 110 kg. Manual adjustment of the weight mechanism shall be possible without using tools;	The seat is not weight-adjustable type.	N
	c) If a seat has a facility allowing it to swivel about a vertical axis, this shall be possible at all seat adjustment positions without unintentional operation of controls;	Not such type seat.	N
	d) The seat mounting shall withstand the forces which may occur during operation e. g. braking forces, as well as the forces brought by the operator restraint defined in 4.7.8;	The mounting construction has enough mechanical strength	P
	e) The requirements of a) to d) also apply to additional operator's seats;	No additional operator's seat.	N
	f) When using an auxiliary seat on a stand-on industrial truck a padded seat surface and backrest is sufficient. If the operating space of the stand-on operator is restricted, the auxiliary seat shall be capable of being folded or pivoted.	Not stand-on truck.	N
	g) The seat anchorage to the battery cover or engine cover of sit-on counterbalanced trucks, as well as the latching method of the cover to the truck chassis, shall have sufficient strength in the event of a backwards tip-over of the truck from a loading dock. The seat anchorage shall be able to withstand a force of 2 250 N at a 45° +-5° angle, as shown in Figure 4. 	During the test, the seat anchorage is able to withstand this force.	P
4.7.5	Protection from road wheels and objects thrown up by the wheels		-
4.7.5.1	Ride-on trucks		-
	In the normal operating position, the operator shall be protected against contact with the truck wheels and against objects thrown up by the wheels (e.g. mud, gravel, debris). The protection device for the steered wheels need only cover the wheels when in a straight-line position.	All wheels are guarded properly	P
4.7.5.2	Pedestrian controlled trucks	Not such type truck	-
	The operator in the normal operating position shall be protected against contact with the drive and stabilizing wheels. The position of these wheel protections shall be in accordance with Figure 5.		N
4.7.6	Protection from burning		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	All parts of the truck within reach of the operator in the normal operating position or when getting into or leaving their operating position shall be insulated or shielded so that the surface temperature, generated by heat sources in the truck, of bare meta painted or plastic parts 83 °C. The temperature of the air at the heater outlet, where fitted, shall not exceed 60 °C.	All such surfaces are insulated or shielded so that no accessible surface temperature can exceed 60 ^{0}C.	P
4.7.7	Protection against crushing, shearing and trapping		-
4.7.7.1	General		-
	Parts which move relative to one another and are within reach of the operator in the normal operating position shall be adequately guarded. If hazards still exist, those shall be identified in 6.2 and, if possible, on the truck in accordance with 6.3.3.4.	No such dangerous situation for any normal operation.	P
	Fixed guards and their mounting systems and fixed and/or removable guard systems are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011.	Regional requirements are taken into account.	P
4.7.7.2	Minimum distances		-
	Parts separated by the following minimum distance shall satisfy the adequately guarded requirements of 5.7.7.1: a) Places where only the operators fingers can be trapped: min 25 mm; b) Places where only the operators hands or feet can be trapped: min 50 mm; c) Places where the operators arms or legs can be trapped: min 100 mm.	No such dangerous situation for any normal operation.	P
	Moving parts that need to be in contact with, or move in close proximity to, one another shall be guarded. Any openings in such guarding shall be small enough to prevent an 8 mm diameter probe from passing through them. If such hazards still exist, they shall be identified on the truck in accordance with 6.3.3.4.	No such parts on the truck.	N
4.7.7.3	Attachments	No attachments	-
	Crushing and shearing hazards to the operator in the normal operating position associated with attachments, except at the load supporting points, shall also meet the relevant requirements of 4.7.7.1. If such hazards still exist, they shall be identified according to 6.2 and on the attachment by a warning sign in accordance with 6.3.3.4.		N
4.7.7.4	Foot protection		-
	Trucks with a side-facing seated or standing operator shall be so built that when travelling, the operator cannot unintentionally place his feet outside the confines of the truck; or, alternatively, the truck shall be equipped with a traction cut off (e.g. dead-man switch), enabled whenever an operator's foot is not in the safeguarded position.	Not this kind of truck.	N

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
4.7.8	Operator restraint		-
	Sit-on counterbalanced lift trucks with a rated capacity up to and including 10 000 kg and sit-on, single side-loading trucks shall have a restraint device, system or enclosure intended to reduce the risk of entrapment of the operator's head and/or torso between the truck and the ground in the event of a tip-over.	The seat belt is provided; refer to test report of seat belt.	P
	Such means shall not unduly restrict the operation of the truck, e.g. the operator's access, egress, and/or visibility. Warnings and instructions on the purpose, use and action to be taken in the event of a tip-over, so as to reduce the risk associated with the operator's head impacting a solid surface, shall be provided on the truck and described in the instruction handbook (see 6.2).	The seat belt does not unduly restrict the operation. The seat is anchored in frame reliably and the seat belt is used. There is description how to do in the event of a tip over in the instruction manual.	P
	If a restraint system with a belt is used, this system shall be in accordance with ISO 24135-1.	See the test report of seat belt.	P
	Operator restraint requirements for sit-on counterbalanced trucks are subject to regional requirements, additional to the requirements of this part of ISO 3691, including requirements for counterbalanced lift trucks having a centre control, sit-on, non-elevating operator and a rated capacity up to and including 10 000 kg, and sit-on, single side-loading trucks. See ISO/TS 3691-8.	Regional requirements are taken into account.	P
4.7.9	Additional operator positions		-
	Additional operator position(s) shall comply with the requirements as specified in 4.7.1 through 4.7.8.	No additional operator position.	N
4.8	Stability	The test is performed and passed.	P
4.9	Protective devices		-
4.9.1	Overhead guard		-
4.9.1.1	General		-
	Ride-on trucks with a maximum lift height more than 1 800 mm above the floor shall be fitted with an overhead guard complying with ISO 6055 to protect the operator from falling objects.	Overhead guard is tested and complies with ISO 6055:2004.	P
	Trucks with an elevating operator position up to and including 1 200 mm that feature a lift height of the load of more than 1 800 mm above the operator platform shall be fitted with an overhead guard complying with ISO 6055 to protect the operator from falling objects.	Not this kind of truck.	N
4.9.1.2	Additional fitting against falling small objects		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The overhead guard specified in 4.9.1.1 shall, when handling a load above 1 800 mm lift height, be constructed in such a manner that it can be provided with an additional fitting making it possible in those special cases to increase the protection of the operator against falling small objects.	The opening on the guard can protect from small falling objects.	P
4.9.1.3	Pedestrian controlled trucks with foldable platform		-
	Pedestrian-controlled trucks with a foldable platform as specified in 4.7.3.3 shall be provided with means to prevent lifting over 1 800 mm from the floor when the side guards are in their protective position. This does not apply if an overhead guard as specified in 4.9.1.1 is fitted on the truck.	Not this kind of truck.	N
4.9.2	Load backrest extension		-
4.9.2.1	Provision for load backrest extension		-
	Trucks fitted with fork arms with a lift height of more than 1 800 mm shall be designed so that they can be fitted with a load backrest extension.	The load backrest extension is provided.	P
4.9.2.2	Size of openings		-
	Load backrest extensions, if provided, shall have height, width, and size openings sufficient to minimize the possibility of the load falling toward the mast when the mast is in a position of maximum rearward tilt.	The dimensions of the load backrest extension are enough.	P
	The size of openings in the load backrest extension, if provided, shall not exceed 150 mm in one of the two dimensions.	The max. dimension of the opening is: - FD50/60/70/80: 150 mm - FD30/35/40/45/50: 133 mm - FD20/25: 144 mm - FD10/15/18: 134 mm	P
4.9.3	Warning device		-
	Trucks shall be equipped with an operator controlled audible warning device.	The horn is provided. 	P
4.9.4	Wheels with split wheel rims for inflatable tyres		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	When split wheel rims are used with pneumatic tyres, the truck shall be provided with means to prevent the user from separating the halves of the wheel before removing it from the axle. Information on the proper means of removing the tyre from the wheel shall be provided in the instruction handbook (see 6.2).	Cage protector is provided to prevent this situation. 	P
4.9.5	Traction battery compartment	No traction battery.	-
4.9.5.1	Unauthorized access		-
	On trucks with a nominal battery voltage exceeding 120 V d.c., if a lockable cover is not present on the battery enclosure, facilities shall be provided to enable the battery compartment to be secured so as to prevent unauthorized access to the battery.		N
4.9.5.2	Metal cover		-
	A metal cover for a battery compartment or battery enclosure shall have either		N
	a) sufficient strength and rigidity, in conjunction with an air spacing of at least 30 mm provided between it and the battery terminals, so that the battery terminals are not short-circuited when a 980 N force is applied to any area 300 mm 300 mm of the cover, or		N
	b) an air space reduced to a minimum of 10 mm, provided covers or live parts of the battery are insulated in such a way that disintegration and/or displacement of the insulation is prevented.		N
4.9.5.3	Non-metallic cover		-
	For non-metallic covers of battery compartments, the following applies.		N
	a) The cover shall have a burn rating of V0 or V1 in accordance with IEC 60695-11-10.		N
	b) The cover shall comply with an impact test of 136 J, the impact being produced by dropping a steel sphere having a diameter of 100 mm and mass of 4,11 kg from a height of 3,3 m. If the battery is located under an overhead guard, the impact may be reduced to 68 J, produced by dropping a steel sphere having a diameter of 100 mm and mass of 4,11 kg from a height of 1,65 m. There shall be no live parts exposed or impact that causes physical damage to the battery.		N
	c) If metallic parts project into the battery compartment, then 4.9.5.2 applies.		N
4.9.5.4	Ventilation		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The compartment and enclosure that houses a battery shall be provided with means for ventilation that reduce the likelihood of accumulation of explosive hydrogen-air mixture during truck operation.		N
	When openings are positioned such that gases can escape freely, these shall be located away from the operator's position. Ventilation openings are usually satisfactory if they provide a cross-section, in square millimetres, equal to half the number of cells, multiplied by the rated capacity in Ampere-hours. This level of ventilation is not intended to cover the charging condition.		N
4.9.5.5	Resistance to electrolyte		-
	The battery enclosure, in accordance with ISO 20898, shall be resistant to the chemical effects of the electrolyte.		N
4.9.6	Battery restraint devices	Not battery powered truck.	-
	On battery powered trucks, means shall be provided to retain the battery from moving more than 15 mm in a horizontal direction.		N
	In addition, on ride-on type trucks — where the displacement of the traction battery may pose a risk of injury to the operator due to a tip-over — a battery-restraint device(s) shall restrict the battery displacement to no more than 100 mm into the space normally occupied by the operator or from moving more than 100 mm in a lateral direction beyond the limits of the battery compartment. A tip-over may be simulated by allowing a static truck to fall free from its critical balance point impacting on a horizontal plane. A complete truck is not required for this test, but all battery compartment related parts shall be fitted. The movement of the battery shall not interfere with the operator's egress from the truck.		N
	The battery housing shall be constructed, located and the battery installed so as to avoid electrolyte being spilled onto the operator in the event of tip-over and/or to avoid the accumulation of vapours in places occupied by the operator.		N
	The battery cover, if any, of a compartment that is an integral part of the truck, or a separate enclosure such as a tray and cover, shall be secured.		N
4.9.7	Starter battery requirements		-
	The starter battery on engine powered trucks shall be restrained from movement.	The battery is fixed in the compartment.	P
4.10	Visibility/Lighting		-
4.10.1	Visibility		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Requirements for all round visibility from unladen trucks up to and including 10 000 kg rated capacity shall be in accordance with ISO/DIS 13564-1.	The visibility complies with ISO 13564-1:2012.	P
	For visibility with load, see instruction given in 7.2.2.	See clause 7.2.2.	P
4.10.2	Lighting		-
	Ride-on trucks shall be so designed that it is possible, referring to the manufacturer's instructions, to equip them with travel lights, working lights and signal lights.	The truck is designed possible to fit these lights.	P
4.11	Environmental conditions		-
4.11.1	Operator's cab	No operator’s cab	-
4.11.1.1	General		-
	If a cab is fitted in lieu of an overhead guard it shall comply with 4.9.1.		N
4.11.1.2	Fire resistance		-
	All material and components of the cab shall be fire resistant with a maximum burning speed of 250 mm/min when the standard test piece is tested in accordance with ISO 3795.		N
4.11.1.3	Ventilation		-
	If a totally enclosed cab is fitted, provision shall be made for efficient ventilation.		N
4.11.1.4	Heater, demister, and defroster		-
	If a totally enclosed cab is fitted with a heater/demister the air intake should be connected to a fresh air inlet; recycling of the air is permissible. The heater shall be securely fixed. The heater shall be so designed that the requirements of 5.7.6 can be met. Demist/defrost capability shall be provided for the windscreen and rear window.		N
4.11.1.5	Wipers and washers		-
	Wind screen wiper(s) and washer(s) shall be fitted to allow the operator a clear view of the operating area. Wiper(s) and washer(s) for the rear screen may be omitted if the truck is driven predominantly in the forward direction e.g. tow tractors. Wiper(s) and washer(s) may be omitted if the truck only operates within an enclosed area. If glass is used in the window apertures it shall be toughened or laminated.		N
4.11.1.6	Access and an emergency exit		-
	The cab shall have an access and an emergency exit complying with ISO 2867. The emergency exit, which may be a window, shall allow escape in a different direction to the normal exit.		N
4.11.1.7	Storage of the instruction handbook		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Provision shall be made for the storage of the instruction handbook which does not obstruct the normal operating position.		N
4.11.1.8	Additional operator's position		-
	If an additional operator's position is equipped within a cab, it shall meet the requirements of 4.11.1.1 to 4.11.1.6.		N
4.11.2	Noise emissions		-
	Noise emissions are subject to regional requirements. See ISO/TS 3691-7:2011.	See the instruction manual.	P
4.11.3	Vibration		-
	Whole-body vibrations transmitted to the operator are subject to regional requirements. See ISO/TS 3691-7:2011.	See the seat vibration test report and the instruction manual.	P
4.11.4	Electromagnetic compatibility (EMC)		-
	EMC is subject to regional requirements. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.	It is declared by manufacture according the assessment of similar truck.	P
4.11.5	Transport		-
4.11.5.1	Location for lifting and/or slinging points		-
	When a truck can be lifted without disassembling, locations for lifting and/or slinging points shall be provided and shall be indicated on the truck and/or in the instruction handbook (see 6.2).	The locations for slinging points are marked. See the instruction manual. 	P
	When individual assemblies of the truck can be removed for normal operation and/or transport, then lifting and/or slinging points shall be provided and these shall be indicated on the assemblies and/or in the instruction handbook.	No this requirements for individual assemblies.	N
	Slinging points for transportation of the truck shall be arranged such that there is no possibility of sudden movement.	No possible of sudden movement.	P
4.11.5.2	Tie-down points		-
	Tie-down points for transportation of the assembled truck shall be provided and indicated on the truck or in the instruction handbook (see 6.2).	The locations of tie-down points are marked. See the instruction manual.	P
4.11.5.3	Slinging of removable attachments		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Locations for slinging of removable attachments shall be provided as stated in the instruction handbook.	No removable attachments.	N
4.12	Devices for towing		-
	Trucks used for towing trailers shall be fitted with towing or coupling devices designed, constructed and arranged to reduce hazards of connection and disconnection and to prevent accidental disconnection during use.	This truck is not used for towing trailers.	N
5	Verification of safety requirements and/or protective measures		-
5.1	General		-
	The manufacturer shall have verification that the requirements of this standard have been incorporated into the design and manufacture of the truck. Either one or a combination of the following shall achieve this: a) By design e. g. verification of drawings and documents, or calculation; b) By measurements e. g. tests of travelling and lowering speed or lift and tilt leakage; c) By visual examination e.g. no permanent deformation after tests, verification of the marking of the truck ; d) By further tests.	See the technical files. See the clauses above and blow.	P
5.2	Structural test		-
	These tests are to be performed on a sample which is representative of series production. The structural components of the truck and its attachments shall carry static loads of 1,33 Q1 and 1,33 Q2 for 15 minutes each. − Q1 is the rated capacity at the standard lift height and standard load centre distance in accordance with the information on the capacity plate. − Q2 is the actual capacity at maximum lift height in accordance with the information on the capacity plate.	FD18/FD25/FD35/FD45/ FD80 are selected as the representative of series production.	P
	The truck shall be on substantially level ground with the mast in the substantially vertical position and may be anchored to prevent tip over.		-
	The loads may be applied at the corresponding height by means independent of the truck. The test shall not result in any visual permanent deformation or damage.	Tested for 15 min and no any deformation or crack.	P
5.3	Functional verification		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Functional verification shall be carried out on each truck to verify that it is able to perform the tasks for which it was designed. These tests shall be done according to manufacturer's instructions. They shall be performed by trained persons either operating and testing the truck according to the manufacturer's instructions or simulating these tests by any method giving equivalent effect and producing substantially the same result.	Each truck will be checked by manufacture before ship out.	P
	Each truck shall be inspected to make sure that the travelling, braking, steering, load handling controls and combined functions, if any, are appropriately identified and operate correctly. The correct operation of warning devices, safety devices, and lighting, if any, shall also be checked.	Each truck will be checked by manufacture before ship out.	P
6	Information for use		-
6.1	General		-
	Each truck and removable attachment shall be supplied to the user with an instruction handbook(s), covering operating and regular servicing and addressing all identified hazards, printed in the language(s) of the country in which the truck is to be used, where required by national law. See also ISO 12100:2010, 6.4.5.	Property instruction manual is supplied.	P
	There is no need for the workshop and parts handbooks intended for use by specialized personnel employed by the manufacturer or his authorized representative to be supplied with each truck, and these can be printed in the language of the country where the truck is to be used, as required by national law. In other cases, the instructions shall be in a language agreed between the truck supplier and purchaser.	See the parts manual.	P
6.2	Instruction handbook		-
6.2.1	Truck/attachments		-
	The instruction handbook(s) shall include, as applicable, at least the following information:		-
	a) name and address of the manufacturer or authorized representative; b) designation of type, e.g. counterbalanced, side-loading truck; c) description of the truck and accessories; d) attachments supplied with the truck and their assembly precautions; e) details of use of a removable load backrest extension; f) details for the installation of a fire extinguisher, if required by the application of the truck; g) admissible wheel rims and tyres with inflation pressures for pneumatic tyres; h) description of safety devices and warning labels.	See the instruction manual.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Instructions on truck/attachments are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011.	Regional requirements are taken into account.	P
6.2.2	Operation of truck		-
	The instruction handbook(s) shall include, as applicable, at least the following information:		
	a) intended uses of the truck and attachments, and examples of hazardous misuse; b) training requirements for the operator; c) function of operating controls and displays; d) pre-shift checks before the truck is put into operation; e) instructions for adjustment of the operator's seat; f) instructions for operation with/without cab, with/without doors; g) instructions for access and egress; h) instructions for safe handling by the operator, e.g. when changing attachments or moving fork arms; i) requirements of the ground/floor where the truck is to be used; j) instructions for starting, driving and stopping the truck;	See the instruction manual.	P
	k) instructions for handling loads, warning about the hazards due to the action of wind forces; l) instructions when operating on a gradient; m) instructions for towing the truck; n) instructions for parking the truck; o) warning of risks during the use of the truck and its attachments, including crushing and shearing hazards; p) climatic conditions in which the truck is designed to operate;	See the instruction manual.	P

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	q) information about the direction of turning of the truck in relation to rotation of the steering wheel for end-controlled trucks; r) information about operating the truck with loads causing insufficient visibility; s) information on the use of any visual aid that may be provided; t) information and conditions for the use of the drawbar; u) instructions when operating a rear touch device; v) information or instructions on action to be taken in the event of a malfunction; w) information for operation of the truck by a remote control device, e.g. visibility; x) the normal operating conditions as defined by the manufacturer, i.e. those for which the truck has been designed and the manner in which the truck will be used; y) instructions on the use of the operator-restraint device, system or enclosure, and guidance on the operator's behaviour in the event of a tip-over; z) information about lighting of the working area; and reach trucks, between parts of the environment and the truck during travelling forward;	See the instruction manual.	P
	aa) the procedure for movement of inoperative trucks; bb) instructions against operating truck with guarding removed; cc) lift height for travelling; dd) crushing and shearing hazards for the operator of pedestrian-controlled trucks featuring foldable platforms ee) instructions to the operator of a stand-on end-control truck to step off and away from the truck in the event of a tip-over or off-dock accident; ff) information and instructions for using attachments, e.g. load bearing clamp. gg) information or instructions regarding modification of the truck, which can introduce hazards or risks not considered by manufacturers and can invalidate the existing truck risk assessments.	See the instruction manual.	P
	Instructions on the operation of the truck are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011.	Regional requirements are taken into account.	P
6.2.3	Details for battery-powered trucks	Not such type truck.	-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The instruction handbook(s) shall include, as applicable, at least the following information: a) specification of approved batteries and on-board battery chargers; b) procedure for safe handling of batteries, including installation, removal and secure mounting on the truck; c) warning of risks of accumulation of hydrogen under covers; d) battery charging procedures and instructions; e) service mass of battery and ballast when required.		N
6.2.4	Details for internal-combustion-engine powered trucks		-
	The instruction handbook(s) shall include at least the following information: a) approved fuels; b) procedure for safe handling of fuels; c) procedure for refuelling; d) warning of the effect of exhaust emissions in confined spaces; e) warning of the effect of exhaust emissions for the operator.	See the instruction manual.	P
6.2.5	Service and maintenance		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	The instruction handbook(s) shall include, as applicable, at least the following information: a) training and qualifications needed for service and maintenance staff; b) safe procedure for the identification, detection and correction of faults; c) instructions for changing tyres or wheels; d) instructions for verification that markings, e.g. decals, are in place and legible; e) instructions for de-energizing of stored energy components; f) access to maintenance while working at height; g) servicing operations for which no specific skills are required; h) use of approved spare parts; i) drawings and diagrams necessary for truck service and maintenance; j) instructions for disposing of waste material (e.g. oils and battery); k) type and frequency of inspections and maintenance operations, with particular attention to the replacement and durability of wear and serviceable parts, emissions, and to the user's logbook (e.g. filter, brakes, chains, hydraulic hoses); l) instructions for removing and reattaching guarding; m) instructions for regular verification of seat belt related to 1) cut or frayed straps, 2) worn or damaged hardware, including anchor points, 3) buckle or retractor malfunction, 4) loose stitching.	See the instruction manual.	P
6.2.6	Transportation, commissioning and storage		-
	The instruction handbook(s) shall include, as applicable, at least the following information: a) mass and overall dimensions of the truck and dismantled parts for transport, commissioning and storage; b) procedures for transporting, including loading and unloading; c) procedure for truck reassembly and mounting of attachments; d) functional tests on completion of commissioning; e) procedure for movement of inoperative trucks; f) procedure for prolonged shut down and storage of trucks.	See the instruction manual.	P
	Transportation, commissioning and storage are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7.	Regional requirements are taken into account.	P
6.2.7	Truck modification		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
6.2.7.1	Unauthorized truck modification is not permitted. The text of 6.2.7.3 shall be included in the instruction handbook and the workshop handbook.	See the instruction manual.	P
6.2.7.2	Except where provided in 6.2.7.3, no modifications or alterations to a powered industrial truck, which could affect, for example, capacity, stability or safety requirements of the truck, shall be made without the prior written approval of the original truck manufacturer, its authorized representative, or a successor thereof. This includes changes affecting, for example, braking, steering, visibility and the addition of removable attachments. When the manufacturer or his successor approves a modification or alteration, the manufacturer or successor shall also make and approve appropriate changes to the capacity plate, decals, tags and operation and maintenance handbooks.	See the instruction manual.	P
6.2.7.3	Only in the event that the truck manufacturer is no longer in business and there is no successor in the interest to the business, may the user arrange for a modification or alteration to a powered industrial truck, provided, however, that the user a) arranges for the modification or alteration to be designed, tested and implemented by an engineer(s) expert in industrial trucks and their safety, b) maintains a permanent record of the design, test(s) and implementation of the modification or alteration, c) approves and makes appropriate changes to the capacity plate(s), decals, tags and instruction handbook, and d) affixes a permanent and readily visible label to the truck stating the manner in which the truck has been modified or altered, together with the date of the modification or alteration and the name and address of the organization that accomplished those tasks.	See the instruction manual.	P
6.3	Marking		-
6.3.1	Information plate		-
6.3.1.1	Trucks		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Trucks shall be marked legibly and indelibly (e.g. weather-proofed, profiled letters) with at least the following details: a) name and address of the manufacturer or his authorized representative; b) designation of series or type and compliance with the requirements of this part of ISO 3691; c) serial number and year of manufacture; d) unladen mass of the truck in working order and without removable attachments, and without battery in the case of battery-powered trucks, but with fork arms or integral attachments, the actual mass being permitted to vary from the stated mass by up to 5 % or 1 000 kg, whichever is the lower of the two; e) actual capacity at maximum lift height with load centre distance; where a secondary lift is fitted to a truck, the capacity at maximum lift shall be determined with the secondary mast fully elevated; f) actual capacities at other lift heights and load centre distances, if applicable; g) actual capacity with each removable attachment fitted at the manufacturer's authorized lift height(s) and load centre(s), these actual capacities being easily readable by the operator in the normal operating position; h) on battery-powered trucks, the authorized maximum and minimum battery mass and the system voltage; i) if fitted, the maximum supporting force on the towing point connection, in newtons; j) if fitted, the drawbar pull on the towing point connection, in newtons; k) the nominal power in kilowatts, e.g. marked on the engine or electric motor.	See the nameplate and the load chart of the truck.	P
	Marking requirements are subject to regional requirements, additional to the requirements of this part of ISO 3691. See ISO/TS 3691-7:2011 and ISO/TS 3691-8.	Regional requirements are taken into account.	P
6.3.1.2	Removable attachments		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	Removable attachments shall be marked legibly and indelibly (e.g. weather-proofed, profiled letters) with at least the following details: a) name and address of the attachment manufacturer or his authorized representative; b) model or type; c) serial number and year of manufacture; d) mass of attachment, which may vary from the stated figure by up to 5 % or 200 kg, whichever is the lower of the two; e) distance of the centre of gravity of the attachment from its mounting face on the truck; f) rated capacity; g) in the case of hydraulically or pneumatically operated attachments, the maximum operating pressure recommended by the attachment manufacturer; h) load centre, if applicable; i) lost load centre distance; j) the instruction “The capacity of the truck and attachment combination shall be complied with”.	No removable attachments on this truck.	N
6.3.1.3	Tractors		-
	Tractors shall be marked legibly and indelibly (e.g. weather-proofed, profiled letters) with at least the following details: a) name and address of the manufacturer or the authorized representative; b) designation of series or type; c) unladen mass of the tractor in working order without battery for battery-powered tractors; the mass may vary from the figure shown by up to 5 % or 1 000 kg, whichever is the lower; d) serial number and year of manufacture; e) on battery-powered tractors, the authorized minimum and maximum battery mass and the system of voltage; f) the nominal power in kilowatts, e.g. marked on the engine or electric motor; g) the maximum supporting force on the tow-hook, in newtons; h) the drawbar pull, in newtons, and the period of time during which this pull can be exerted.	Not such type of machinery.	N
6.3.1.4	Marking of controls		-
	Controls shall be legibly and indelibly marked (e.g. weather-proofed, profiled letters) with graphic symbols indicating the function(s), except where these are obvious, e.g. accelerator pedal. Each symbol shall be affixed on, or in close proximity to, the control to which it applies. Control symbols shall comply with ISO 3287, for existing symbols.	The markings are indelibly and legibly, with graphic symbols indicating the function, comply with ISO 3287.	P
6.3.2	Information plate for trucks operating in special conditions		-

EN ISO 3691-1:2015 + A1:2020			
Clause	Requirement - Test	Result - Remark	Verdict
	If a truck is designed to operate in special conditions (see 4.1.1. and 4.8.2), the manufacturer shall provide, where appropriate, and in addition to the information provided in the instruction handbook, an information plate on the truck identifying those special conditions of use, including capacity if different from the capacity during normal operation (see 4.1.2).	Not such type of truck.	N
6.3.3	Other information		-
6.3.3.1	Marking for slinging of trucks		
	Locations for slinging shall be clearly indicated on the truck or shall be declared in the instruction handbook (see 6.2).	The slinging locations are clearly marked.	P
6.3.3.2	Pneumatic tyre inflation pressure		-
	The specified inflation pressures shall be clearly indicated on the truck.	The inflation pressures are clearly marked.	P
6.3.3.3	Filling points		-
	Filling points for fuel and hydraulic fluid shall be clearly indicated on the truck in accordance with ISO 3287.	The filling points are clearly marked in accordance with ISO/DIS 3287.	P
6.3.3.4	Warning signs		-
	Symbols giving warnings of remaining hazards shall be affixed to the truck and attachments on, or in close proximity to, the hazard concerned. On stored energy devices (see 4.1.6), a warning label and the method for removing any stored energy shall be affixed to that component and noted in the service handbook. Warnings shall be in accordance with ISO 15870.	The warnings are affixed to the truck close to the hazards concerned.	P
6.3.4	Languages		-
	If any of the information in 6.3.1 to 6.3.3 is in words, it shall be written in the language(s) of the country in which the truck is to be used, in accordance with national law. In other cases, the instructions shall be in a language agreed between the truck supplier and purchaser.	The language is according to the country the truck used.	P
6.3.5	Operator restraint		-
	Information or symbols giving instructions for the use of the operator restraint system or enclosure shall be easily readable by the operator in the normal operating position.	The symbol is displayed on the truck.	P

End of the test report