

AUDIT REPORT

IDENTIFICATION OF THE EQUIPMENT

Nature:	TSCS platform	
Manufacturer:	TSCS	
Type:	Modular	serial number:
Date of commissioning:	New, never used: 2010	in the factory:

NATURE OF THE AUDIT

- DEKRA MACM900 mission
- Assessment of the compliance to the NF P93-520 norm

REGULATORY STANDARDS

NF P93-520 norm

AUDIT CONDITIONS

Date of the audit:	11/01/10	
Carried out by:	Bruno MALZAC	Visa
Location of audit:	on site	
Operational status	functional equipment	

NOTICE OF COMPLIANCE

No non-compliance noted

Equipment compliant with the regulatory standards

Note of compliance to the NF P93-520 norm



Table of contents

1.	Compliance Evaluation	4
2.	Referential	4
3.	Scope of application	4
4.	Descriptions	4
4.1.	Height.....	7
4.2.	Casters:.....	7
4.3.	Adjustable legs:	7
4.4.	Articulated base plate:	7
4.5.	Floor:.....	7
4.6.	Pole and upright:.....	7
4.7.	Stringers and cross-members:	7
4.8.	Horizontal framework:.....	7
4.9.	Vertical framework:.....	7
4.10.	Bracing:.....	7
4.11.	Stabilizer:	7
4.12.	Angle:.....	8
5.	Measurements	8
6.	Requirements regarding materials	8
6.1.	Steel:.....	8
6.2.	Aluminum alloys:.....	8
7.	Construction layouts	9
7.1.	Floor.....	9
7.2.	Access to the floor	9
7.2.1.	inside access	9
7.2.2.	outside access	10
7.2.3.	Ladder:.....	10
7.3.	Floor protection.....	10
7.4.	Casters.....	10
7.5.	Stabilizer means	11
7.6.	Overall strength resistance of the mounted assembly	11
8.	Tests	11
9.	Test report	11
10.	Marking	11
11.	Anti-corrosive protection	12
12.	Technical note	12

1. Compliance Evaluation

2. Referential

NF P93-520 norm

3. Scope of application

The objective of the present document is to define and validate the conception and minimal characteristics of the TSCR product in order to validate:

- its resistance
- its distortion
- its stability

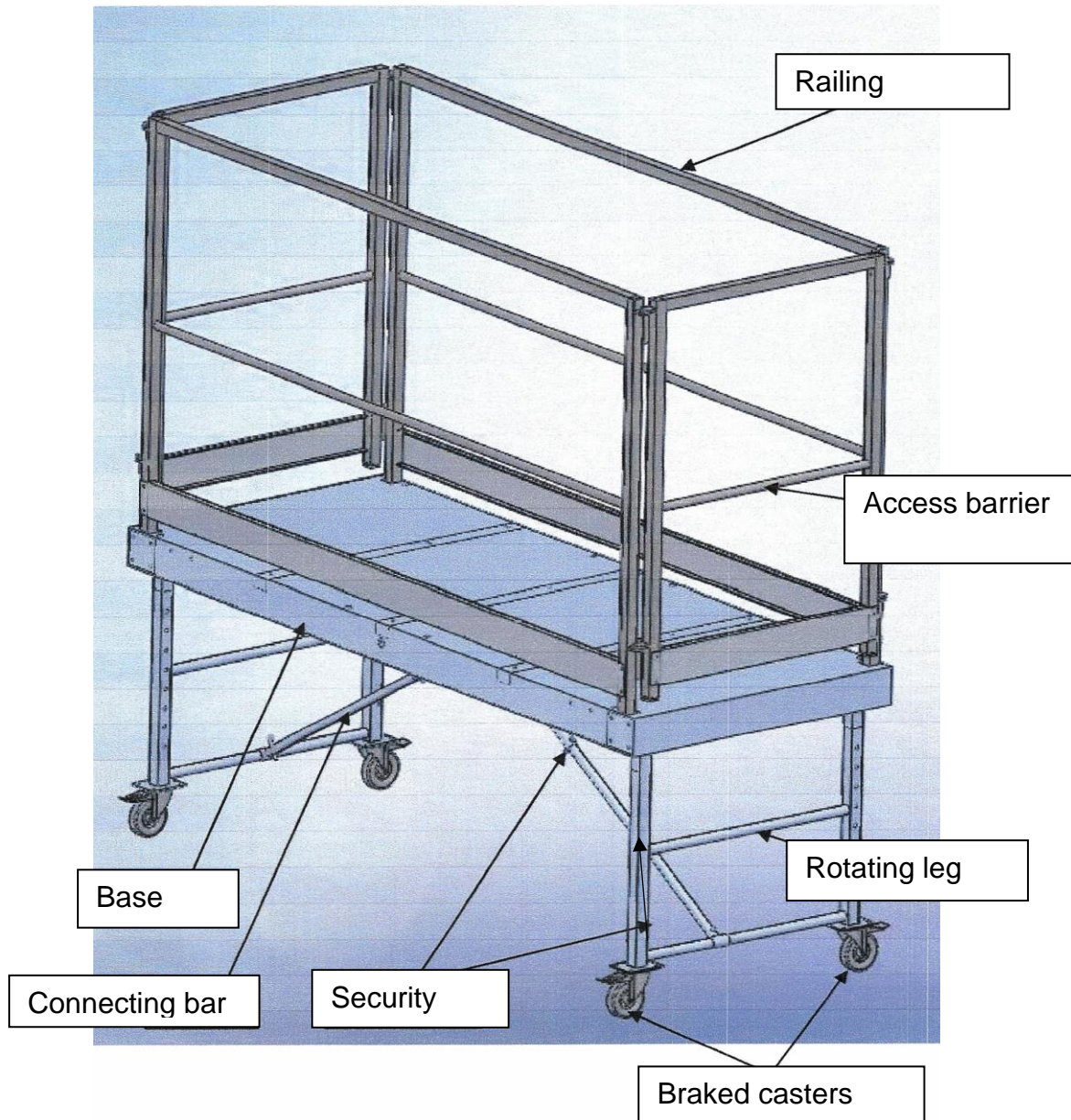
The TSCR equipment is, as described in the linked instruction manual:

- can be moved manually on a firm and leveled ground
- has its dimensions fixed upon conception
- is self-balanced
- presents only one work plate by module, height adjustable
- is equipped with 4 braked casters
- reaches a maximal height of work defined at 0.99m

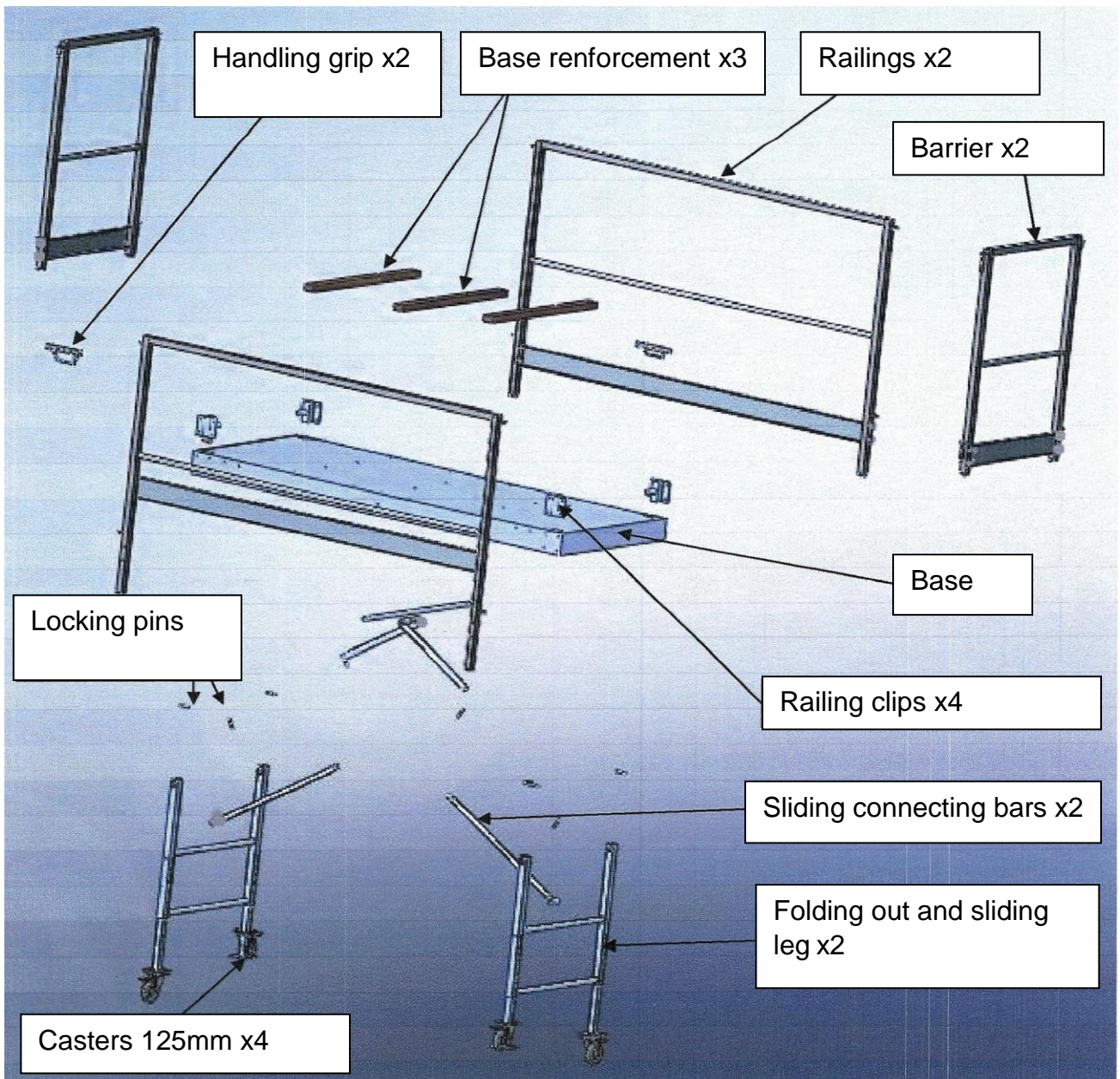
4. Descriptions

The platform is of a tubular type in aluminum alloy. The superior part of the platform is equipped with an aluminum base. The legs are equipped with braked casters and fold out on the thickness of the base to facilitate transport. The legs are immobilized by sliding connecting bars and locked thanks to safety pins. The height of the platform is adjustable up to 99cms thanks to sliding legs also locked with safety pins. The circumference of the base receives the railings and barriers which fit in storage made for this effect.

- Maximum load receivable: 250daN per base corresponding to 2 people
- handling casters of a diameter of 125 mm brake equipped on each caster



Assembled view of the platform



Exploded view of the platform

4.1.Height

The maximal setting height of the equipment is defined at 0.99m.

4.2.Casters:

The equipment is furnished with 4 rotating braked casters without any risk of accidental disassembly.

4.3.Adjustable legs:

The adjustable legs integrated to the structure allow a height adjustment.

4.4.Articulated base plate:

Non applicable.

4.5.Floor:

The floor is composed of one or several bases constituting a work surface.

4.6.Pole and upright:

Non applicable.

4.7.Stringers and cross-members:

The equipment includes horizontal load bearing elements.

4.8.Horizontal framework:

The equipment includes a flat rigid horizontal structure.

4.9.Vertical framework:

The equipment includes a flat rigid vertical structure.

4.10. Bracing:

Non applicable.

4.11. Stabilizer:

Stabilizers are integrated to the equipment in order to widen the sustentation polygon and to control tipping.

4.12. Angle:

The equipment includes a step on its width destined to access the work platform.

5. Measurements

The useful width in-between skirting board is superior to 0.45m.
A module's floor length is inferior to 2.50m.

Conclusion: compliant with the requirement of the norm

6. Requirements regarding materials

6.1. Steel:

The steels that are used on the load bearing elements of the equipment are chosen amongst the S235 shades minimum and are compliant with the NF EN 10219-1 and 2 norms. Certificates of conformity are associated to the provisioning of the steels.

Conclusion: compliant with the requirement of the norm.

6.2. Aluminum alloys:

The aluminum alloys that are used on the load bearing elements of the equipment are chosen amongst the 6060 T6 shades and are compliant with the EN 755-2 index 50-630-2 norm. A requirement is specified on the order form to insure the yield point $R_{p0.2} \geq 180$ MPa and $A\% > 8\%$.

Certificates of conformity are associated to the provisioning of the aluminums.

The thickness used for the tubes are ≥ 1.5 mm.

Conclusion: compliant with the requirement of the norm.

7. Construction layouts

7.1.Floor

- Checking of the deflection under an effort:

The compliance to this requirement is validated by finite element calculation thanks to the help of the COSMOS calculation code associated to SOLIDWORKS. The data stated in the « maximum deflection » line are derived from these calculations:

Loading graph:

Category	Uniform load	Distributed load 500x500mm	Distributed load 200x200mm
3	2000 N/m ²	1500 daN	1000 N
1/100 floor spans	19.91 mm	19.91 mm	19.91 mm

Maximum distortions calculated are inferior to 1/100 of the floor spans.

- Constituents of the floor:

The floor is constituted with an aluminum sheet, relief printed of a non-slip floor.

The floor is an integrated part of the bearing structure.

During the assembling of several modules, S235 steel connection components insure the rigidity of the set.

The floor does not include any opening of more than 25mm of width.

Conclusion: compliant with the requirement of the norm.

7.2. Access to the floor

Taking into account its conception, the access to the platform is on the smallest width of the equipment; thanks to bars mounted on the load bearing legs, which insures stability upon usage. Ground range on the first step is inferior to 400mm.

Conclusion: compliant with the requirement of the norm.

7.2.1. inside access

Non applicable.

7.2.2. outside access

Thanks to the access being on the smallest width of the platform, the conditions of stability of the equipment are insured.

The access door opens inwards the platform and closes itself automatically thanks to gravity.

Access to the floor is empty on a minimal width of 0.40m.

Conclusion: [compliant with the requirement of the norm.](#)

7.2.3. Ladder:

Non applicable.

7.3.Floor protection

The protection of the floor against falls from heights is insured thanks to a system of railing and skirting boards in compliance with the current regulation.

Railing resistance:

- a) The elastic arrow under a point load applied horizontally is inferior to 35mm
- b) Displacement in every location in relation to the initial position does not exceed 200mm for a point load applied vertically without break or disassembly.

Conclusion: [compliant with the requirement of the norm.](#)

7.4.Casters

The system is equipped with 4 rotating braked casters. The minimal diameter of the casters used is of 125mm. Braking provokes blockage of rotation and swiveling of the caster. Each caster can withstand a dynamic charge of 200daN or a total of 800daN for the 4 casters, which is equal to 4 times the nominal charge.

The casters used are in compliance with the DIN EN 12530 norm and to the tests described in the EN 12527 norm.

Conclusion: [compliant with the requirement of the norm.](#)

7.5. Stabilizer means

Means of stabilization are an integrated part of the structure and are equipped with adjustment systems insuring contact with the ground; these means allow to transmit the efforts of the structure to the ground.

The calculations and tipping tests were realized with a safety factor of 1.5 for an horizontal effort of 30daN applied to the level of the floor.

Conclusion: compliant with the requirement of the norm.

7.6. Overall strength resistance of the mounted assembly

The mounted assembly resists to a load 2.5 times heavier than the service load (2.5x200=500daN) evenly distributed on the floor surface.

Conclusion: compliant with the requirement of the norm.

8. Tests

The tests could not be validated and remain at the expense of the manufacturer in compliance with the normative recommendations.

Conclusion: we cannot adjudicate on this part of the norm.

9. Test report

Test report remains to be established after the tests.

Conclusion: we cannot adjudicate on this part of the norm.

10. Marking

Marking to be affixed.

Conclusion: we cannot adjudicate on this part of the norm.

11. Anti-corrosive protection

The steel elements, potentially subject to corrosion present an exterior protection with the paint.

Conclusion: compliant with the requirement of the norm.

12. Technical note

The technical note remains to be established after the tests