GENERAL SPECIFICATIONS

Service scaffolding with prefabricated elements.

The MULTI 4X scaffolding is in accordance with:

The **NF EN 12810** standard, which defines façade scaffolding with prefabricated components.
The **NF EN 12811** standard, which defines temporary building site equipments.
The **Decree n°2004-924 dating from September 1st, 2004** dealing with the use of temporary height-work equipment which modifies labour legislation and the decree n°65-48 dating from January 8th, 1965.
The **order dating from December 21st 2004** dealing with scaffolding tests and modifying the annex to the order dating from December 22nd, 2000, dealing with conditions and approval clauses of organisms that check conformity tests of work equipment.

The scaffolding is equipped with floors on each level and has a maximum height of 24 meters, with a floor level charged at 100% and an extra floor level charged at 50%.

The scaffolding's maximal height is 24m according to the EN12810 and EN12811 standards.

The pieces of the MULTI 4X scaffolding are compatible with the F3000's.
(Browse the D040359 user manual)

CARACTÉRISTIQUES TECHNIQUES

MULTI 4X LARGEUR 0,83M :

Longueurs des travées :
3m / 2,5m / 2m / 1,5m / 1m / 0,83m

MULTI 4X LARGEUR 1M :

Longueurs des travées :
3m / 2,5m / 2m / 1,5m / 1m

CLASSES DE CHARGE DE SERVICE :

Classes de l'échafaudage MULTI 4X selon sa largeur, sa longueur de travée, les planchers dont il est équipé, et si il est recouvert ou non recouvert.

Légende des tableaux :
NR : Non recouvert
R : Recouvert

		Classe de l'échafaudage					
	Longueur de travée	Plancher acier Largeur 0,36m		Plancher aluminium Largeur 0,36m		Plancher mixte aluminium-bois Largeur 0,72m	
		N R	R	N R	R	N R	R
Largeur de travée 0,83m	3m	4	4	3	3	4	4
	2,5m	4	4	3	3	5	5
	2m	5	5	4	4	5	5
	1,5m	6	6	6	6	6	6

		Classe de l'échafaudage			
	Longueur de travée	Plancher acier Largeur 0,30m		Plancher aluminium Largeur 0,30m	
		N R	R	N R	R
Largeur de travée 1m	3m	4	4	3	3
	2,5m	4	5	4	4
	2m	5	5	5	5
	1,5m	6	6	6	6

DONNÉES DE CALCUL

ECHAFAUDAGE NON RECOUVERT :

Bâtiment ouvert à 10%
Coefficient de force aérodynamique :
Cf = 1,3
Coefficient d'emplacement :
Cs = 0,333
Coefficient de plénitude :
φB = 0,9

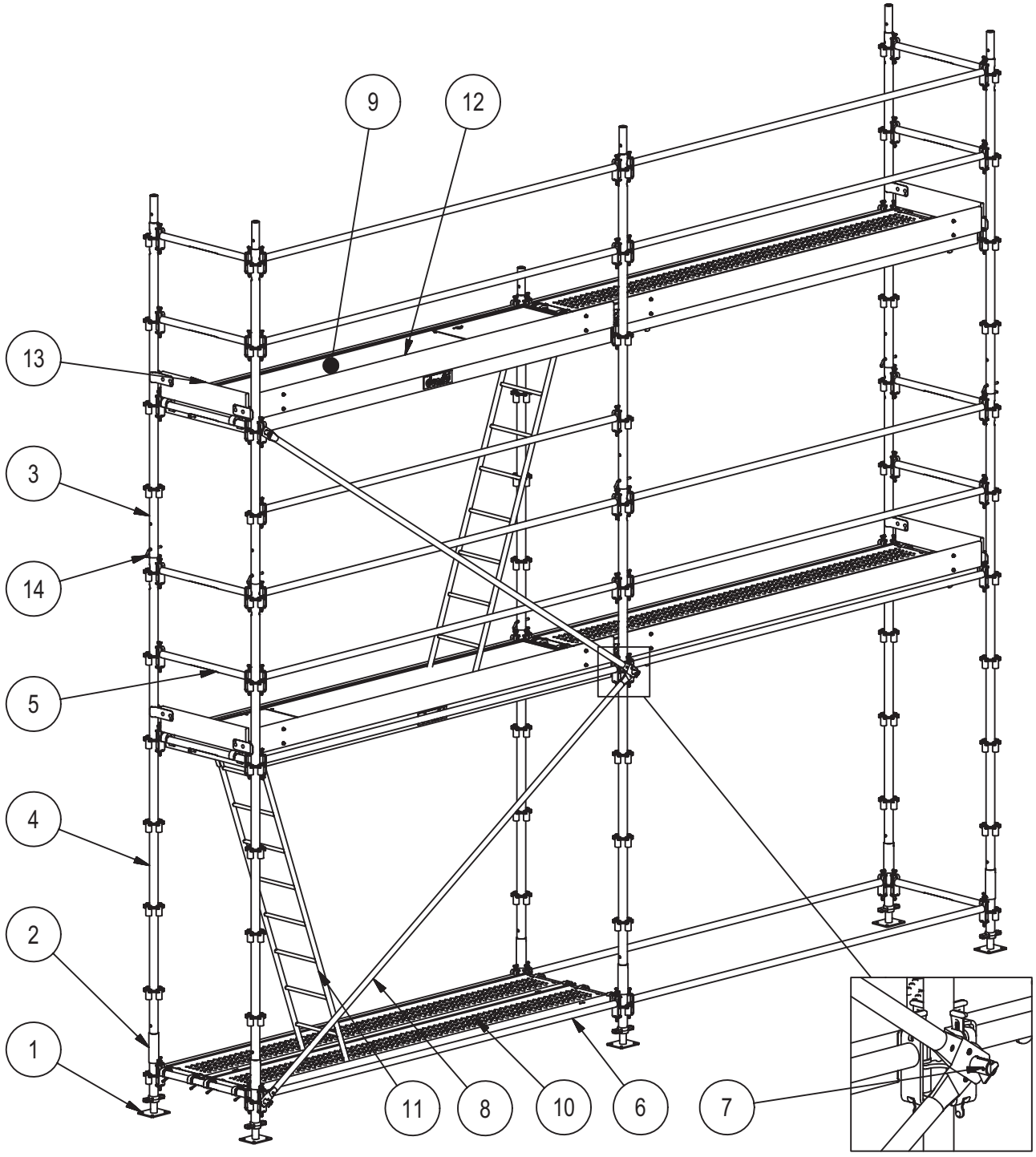
ECHAFAUDAGE RECOUVERT :

Filet avec une porosité de 50%
Bâtiment ouvert à 10%
Coefficient de force aérodynamique :
Cf = 0,7
Coefficient d'emplacement :
Cs = 0,333
Coefficient de plénitude :
φB = 0,9

Ces valeurs sont établies par le comité de la marque NF échafaudages.

MULTI 4X - VERSION LISSES - LARGEUR 0,83M

La version lisses existe aussi en largeur 1m.

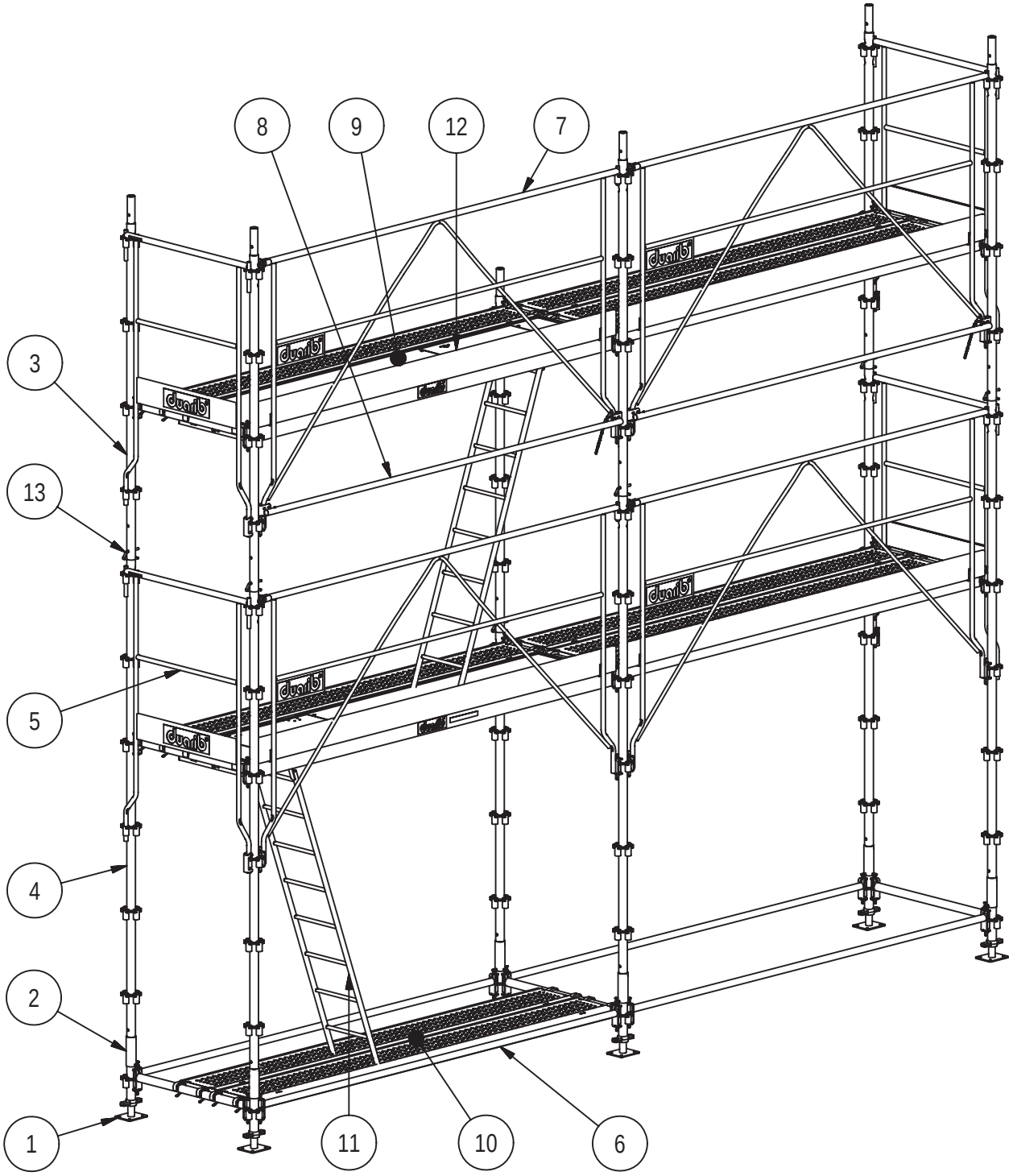


PRINCIPAUX COMPOSANTS :

1 -	Semelle à vis réglable sur 0,41m	21.905
2 -	Montant de départ	50.033
3 -	Montant de 1m	50.035
	Montant de 2m	50.036
4 -	Montant de 3m	50.037
5 -	Longeron/Lisse de 0,83m	50.045
6 -	Longeron/Lisse de 3m	50.053
7 -	Etrier de diagonale	50.040
8 -	Diagonale verticale 3mx2m	50.065
9 -	Plancher alu-bois à trappe 3mx0,72m	50.122
10 -	Plancher acier galva 3mx0,36m	50.095
11 -	Echelle d'accès de 2m	28.202
12 -	Plinthe latérale de 3m	50.133
13 -	Plinthe d'extrémité de 0,83m	50.138
14 -	Goupille F3000 (lot de 20)	46.080

MULTI 4X - VERSION EXM - LARGEUR 1M

La version EXM existe aussi en largeur 0,83m.



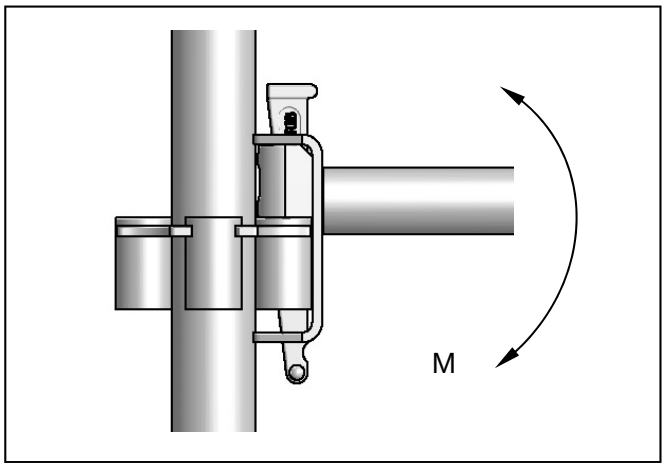
PRINCIPAUX COMPOSANTS :

1 -	Semelle à vis réglable sur 0,41m	21.905
2 -	Montant de départ	50.033
3 -	Montant de 1m	50.035
	Montant de 2m	50.036
4 -	Montant de 3m	50.037
5 -	Garde-corps EXM de 1m	20.925
6 -	Longeron/Lisse de 3m	50.053
7 -	Garde-corps EXM de 3m	20.912
8 -	Lisse de protection de 3m	20.913
9 -	Plancher alu-bois à trappe 3mx0,6m	50.126
10 -	Plancher acier galva 3mx0,3m	50.100
11 -	Echelle d'accès de 2m	28.202
12 -	Plinthe pour garde-corps EXM	31.205
13 -	Goupille F3000 (lot de 20)	46.080

DONNÉES DE CALCUL

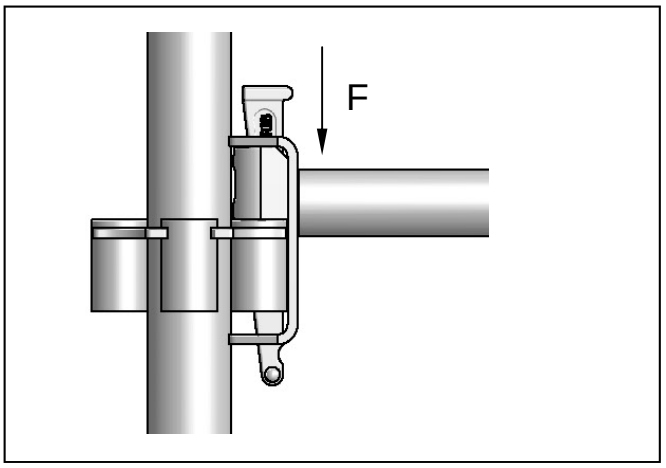
CHARGES D'UTILISATION MAXIMUM DANS LE NOEUD :

Moment de flexion



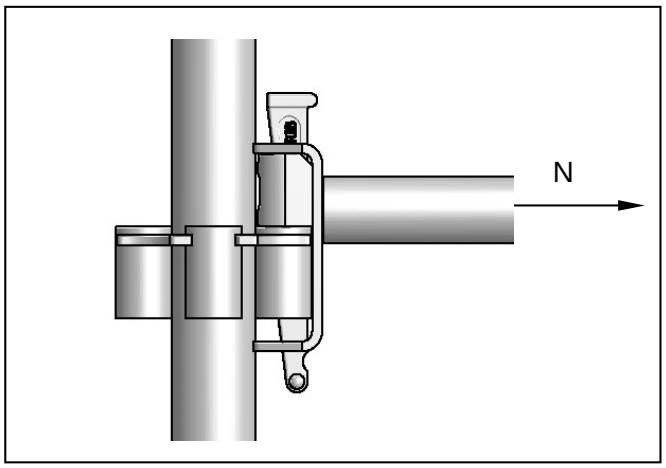
M_{max} = 40 daN.m

Effort tranchant



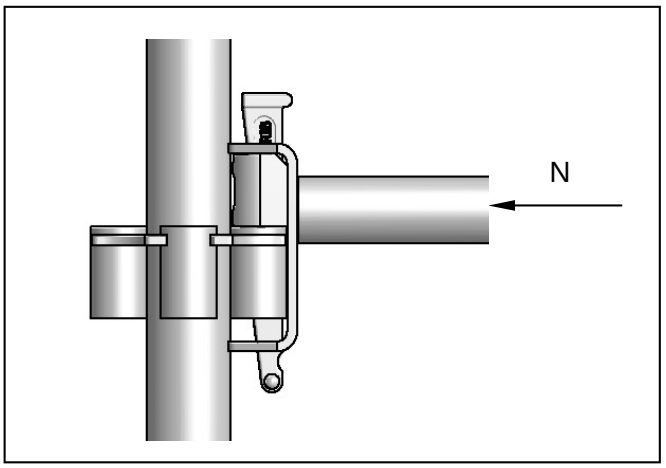
F_{max} = 1350 daN

Effort de traction



N_{max} = 2010 daN

Effort de compression



N_{max} = 2900 daN

SECURITY MEASURES

- Perform all the operations with a qualified staff member following the sequence order described in this user manual, the labour legislation and the current laws, particularly the decree dating from December 21st, 2004, dealing with scaffolding tests as well as the decree dating from September 1st, 2004, dealing with scaffolding use.

- You must wear Personal Protective Equipment (PPE). The fitters must wear helmets with chin straps, security boots and gloves. They must have access to a harness and a tether.

- Make sure the work area is far from any materials and bare conductive plugged-in material, i.e. 3m on top of the length of the handled piece if the tension is below 50,000 volts, or 5m on top of the length of the handled piece is the tension is over 50,000 vols.

- Only use components manufactured by DUARIB listed in this user manual.

- Make sure to perform regular tests and checks according to the current regulation.

- Only go up or down the scaffolding through the trap doors in the floors.

- Do not adapt any ladder or any other accessory on the floor to raise the scaffolding's height.

- Do not jump on the floors.

- Do not clutter access spans.

- Assemble the scaffolding's components according to the user manual.

If the scaffolding differs from the assembly described in this user manual:

- An erecting guide, user manual and dismounting guide has to be established and resistance and stability must be calculated by a competent person. These documents have to be preserved on the work site.

- Or contact the DUARIB Company.

ALLOWABLE PRESSURES

The scaffolding's fulcrums have to be strong enough to withstand descending charges proper to the structure and its own exploitation load.

ON THE GROUNDS:

Type of ground	Allowable pressure Ap (daN/cm²)
Fine sand (grain < 1mm)	0,5 to 2
Coarse sand (grain 1 to 3mm)	2 to 3
Sand and gravel	3 to 4
Marl or soft clay	0.4 to 0.8
Marl or semi-hard clay	1.5 to 3
Marl or hard clay	3 to 4
Rock with few fractures and not disaggregate	10 to 30

ON THE MATERIALS:

Material	Allowable pressure Ap (daN/cm²)
Bitumen	0,5 daN/cm²
Standard rubble	6 daN/cm²
Solid bricks	12 daN/cm²
Stone	15 daN/cm²
Reinforced concrete	45 daN/cm²

Source: November 20002 SFE Verification guide

WEDGES

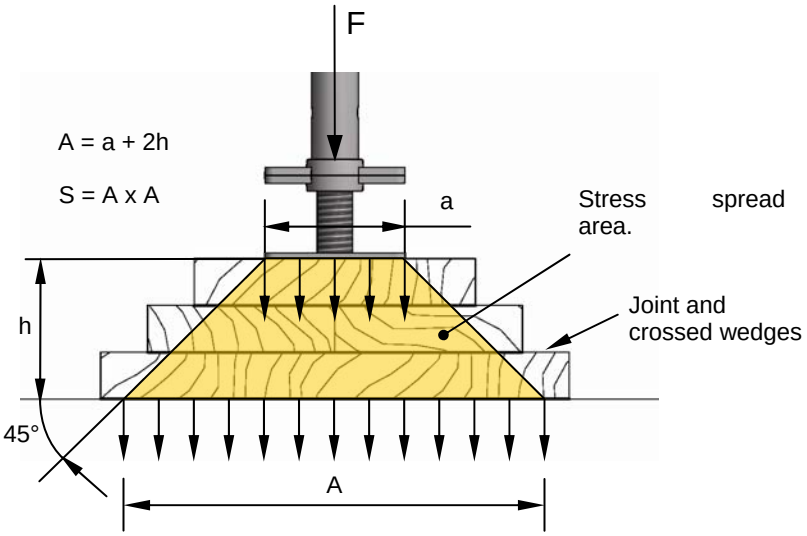
Wedges are destined to spread the weight of the scaffolding with load and weather pressures.
The support surface is linked to these loads and to the type ground.
It is paramount to systematically set wedges according to the loads and the type of ground.

F: jackscrew work load (daN)
a: jackscrew's support side (cm)
A: side of the wedge's surface (cm)
h: wedge height (cm)
S: wedge surface (cm²)
AP: allowable pressure of the ground (daN/ cm²)

You must check that the wedge's surface is superior to the jackscrew work load, divided by the allowable pressure of the ground:

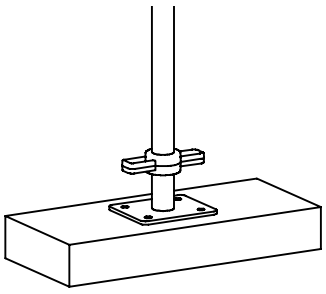
$$S > \frac{F}{p_{adm}}$$

If this is not the case, widen the supporting surface by adding an extra wedge.

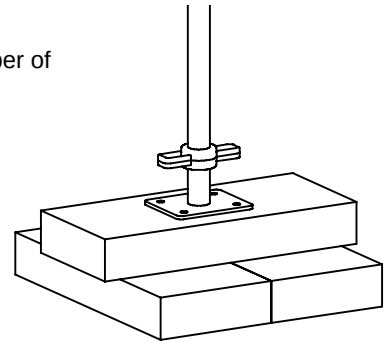


TWO SUGGESTED EXPAMPLES OF WEDGES WITH TIMBER:

One timber wedge
One piece of timber of
Length = 0,5m
(0,5 x 0,22)

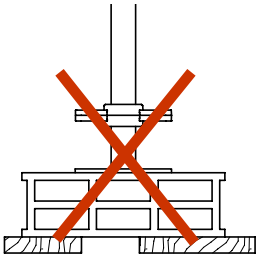


Two timber wedge
Three pieces of timber of
Length = 0,5m
(0,5 x 0,22)

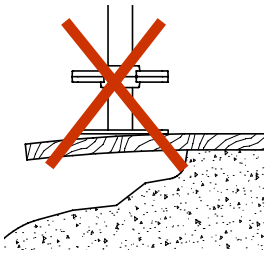


Nail the wedges together, and nail the jackscrews on the wedges as well.

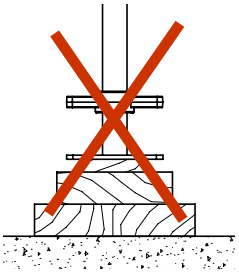
FORBIDDEN WEDGES:



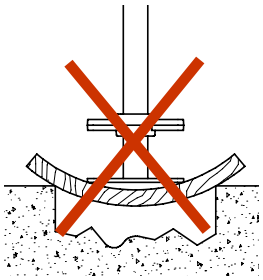
Wedges with hollow bodies.



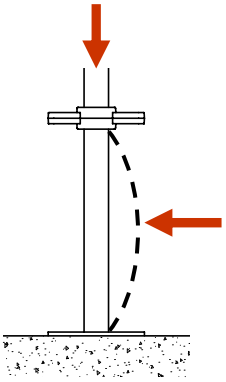
Bad support basis.



Excessive stacking of wedges.



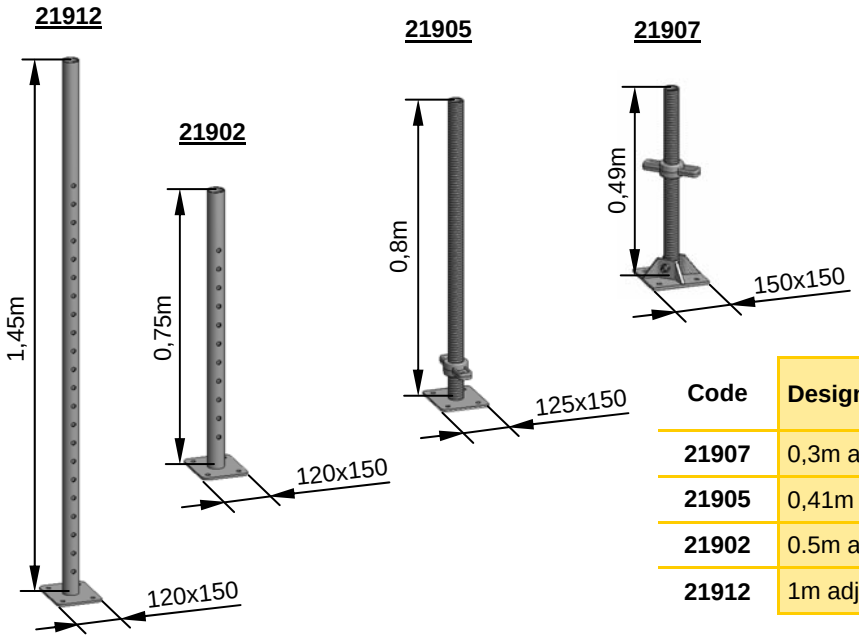
Setting up above an empty space is dangerous as this will bend the board, even break it.



Jackscrew is too open. (risk of buckling)

JACKSCREWS

Jackscrews allow leveling the scaffolding.

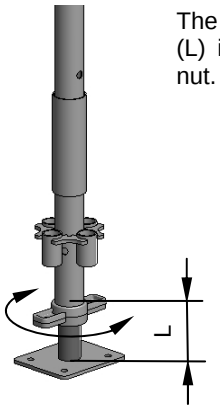


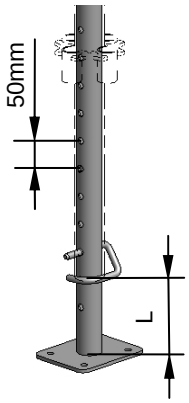
Code	Designation	Weight (kg)
21907	0,3m adjustable and swivel jackscrew	4,2
21905	0,41m adjustable jackscrew	4,1
21902	0.5m adjustable base tube	2,8
21912	1m adjustable base tube	4,8

Assembling jackscrews

JACKSCREWS:

The jackscrew's height (L) is set by turning a nut.

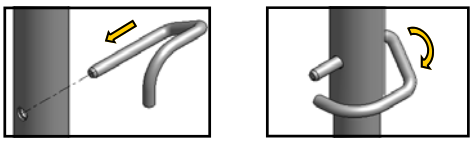




BASE TUBES:

The base tube's height (L) is set every 50mm by a pin (21000)

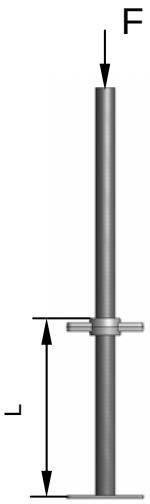
PINS:



Maximum allowable load

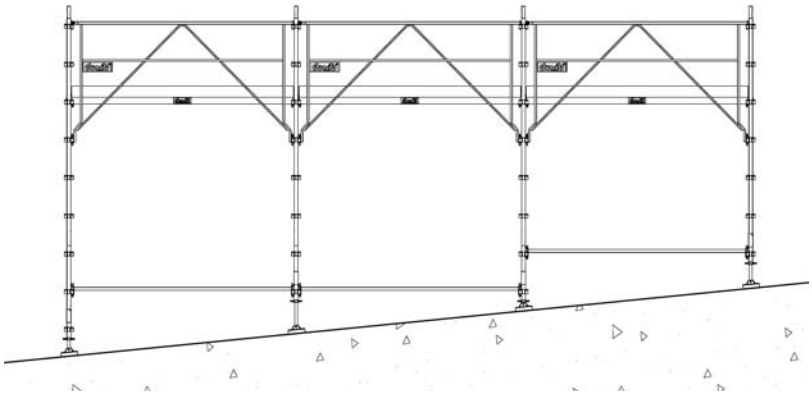
Code	Designation	Maximum adjustment L (m)	Maximum*load F (daN)
21907	Swivel jackscrew	0,3	5125
21905	Jackscrew	0,41	3600
21902	Base tube	0,5	1350
21912	Base tube	1	1350

Loads are indicated with the jackscrew/tube position while being deployed.



Example on how to start with a difference in level

This assembling works only for 1 in a 10 gradient slopes.

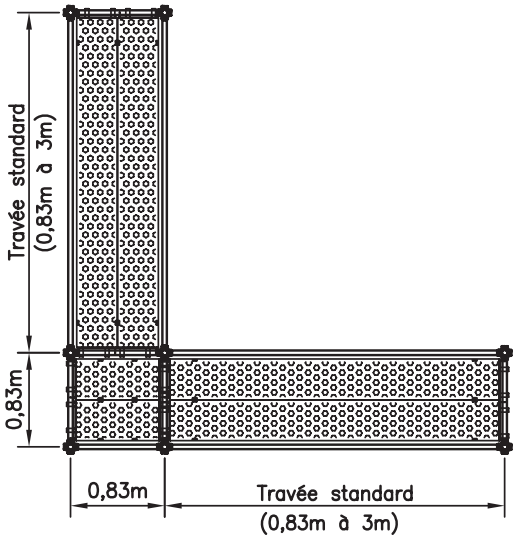


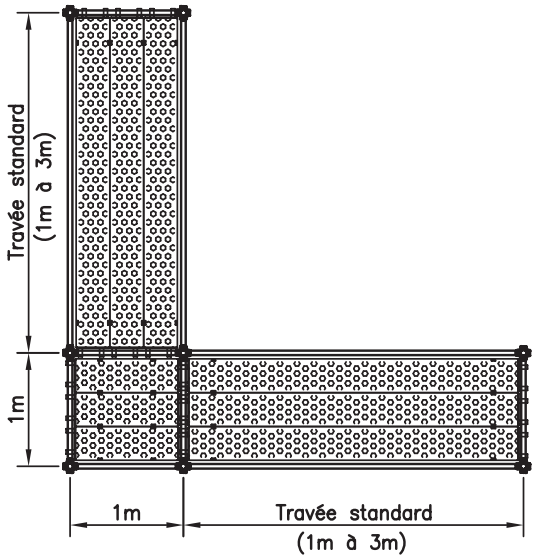
Nail the base on the wedge

For slopes that are superior to 1 in a 10 gradient, flat and horizontal basis have to be set and the starting elements must be bound together. A calculation note is mandatory.

RIGHT ANGLES

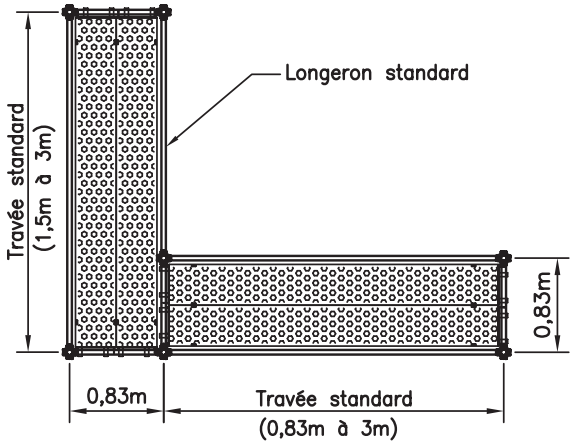
Assembling right angles with 4 uprights

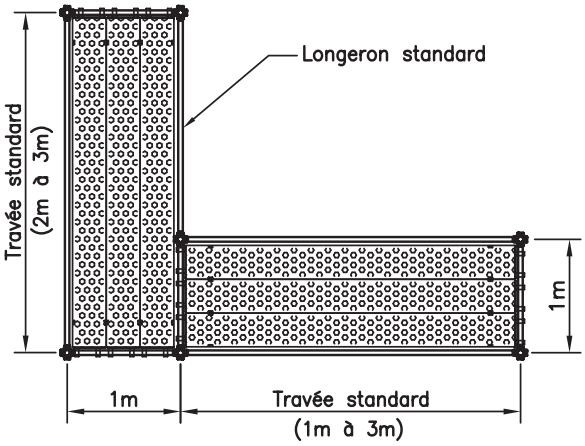




Note de traduction :
Travée standard (texte vertical & horizontal)= Standard span
0,83m à 3m (texte vertical & horizontal) = 0.83m to 3m
1m à 3m (texte vertical & horizontal) = 1m to 3m

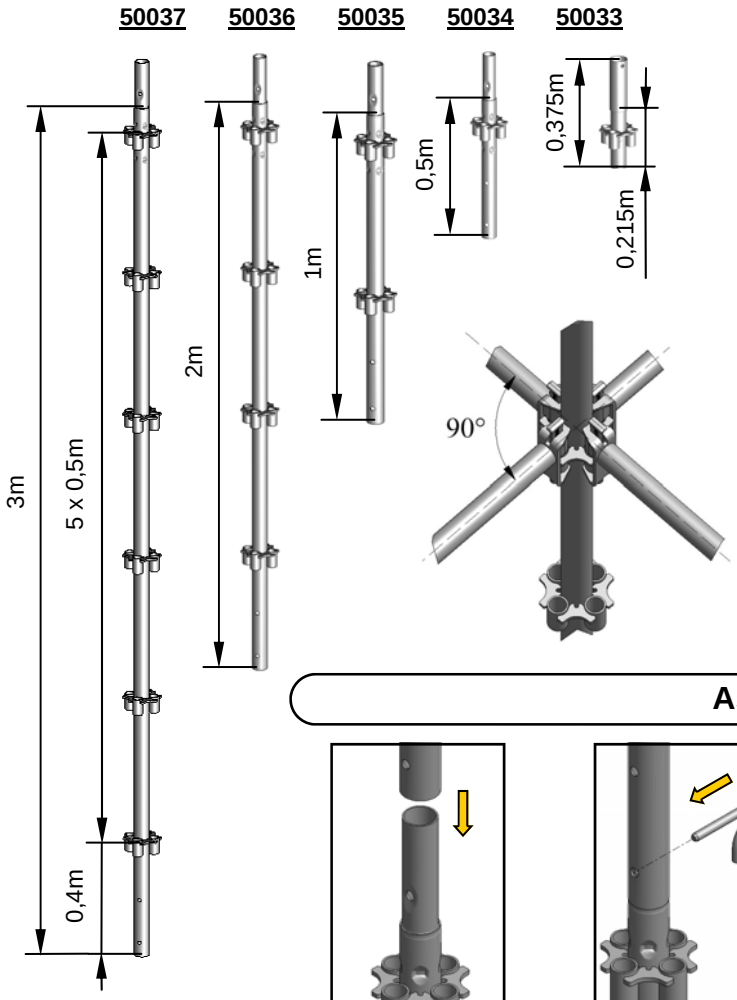
Assembling right angles with 3 uprights





Note de traduction :
Travée standard (texte vertical et horizontal) = Standard span
Longeron standard (texte horizontal) = Standard girder
1,5m à 3m (texte vertical) = 1.5m to 3m
2m à 3m (texte vertical) = 2m to 3m
0,83m à 3m = 0.83m to 3m
1m à 3m = 1m to 3m

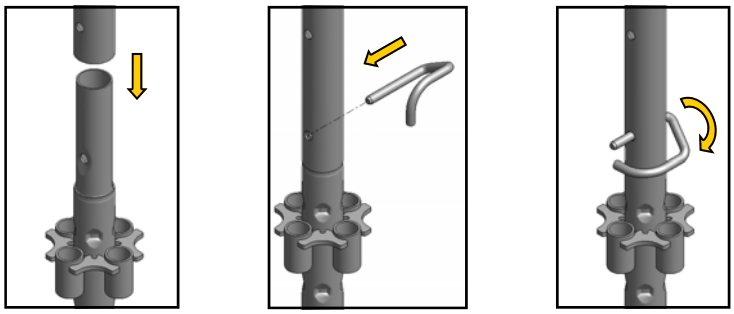
THE UPRIGHTS



The uprights have a coupler every 0,5m. This coupler allows for assembling elements by cottering, every 90°.

Code	Designation	Weight (kg)
50033	Starting upright	2
50034	0,5m upright	2,8
50035	1m upright	4,7
50036	2m upright	8,6
50037	3m upright	12,5

Assembling uprights

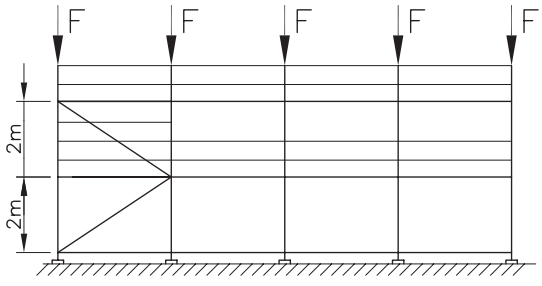


Use the cotter (21000) to lock the uprights.

Allowable compressive load

For a scaffolding structure built with rails and intermediate rails or with EXM mounting/exploiting handrails with floors every 2m at each level, with a 0,83m and 1m width according to the NF EN 12810 and NF EN 12811standards.

Allowable compressive load by upright F (daN)	**1350**



Allowable tensile load

The uprights must be bonded with an 8-8 quality M10 bolt with brake nut. This application is for hanging scaffolding for example.

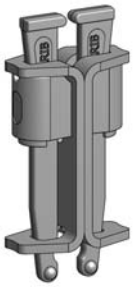
Allowable tensile load by upright F (daN)	**1450**

REINFORCED UPRIGHTS

To be used in configurations allowing to transfer more important strains. The height of the double or triple uprights will be decided according to the needs of the site.

Code	Designation	Weight (kg)
50170	Double stirrup with cotters	1,3
50176	Triple stirrup with cotters	2,1

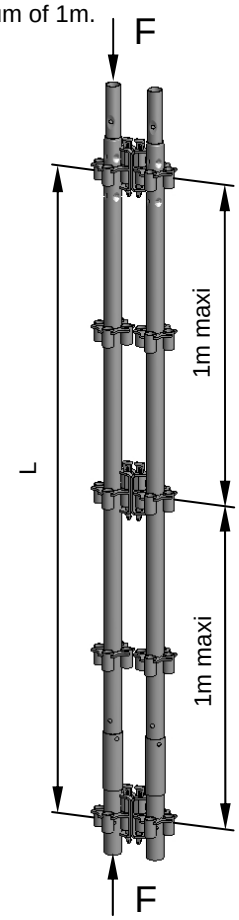
50170



Assembling double uprights

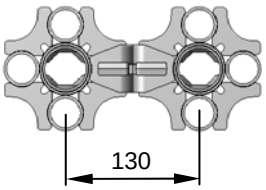
BASIC SCHEMATICS:

Double or triple uprights are linked together with stirrups which are separated from each other by a maximum of 1m.

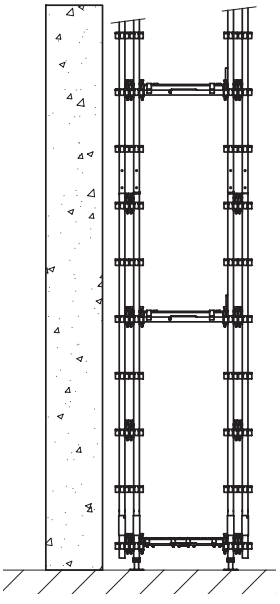


DOUBLE UPRIGHTS:

The double upright with stirrups allows reinforcing the uprights in façade scaffoldings.



DOUBLE UPRIGHTS EXAMPLE:



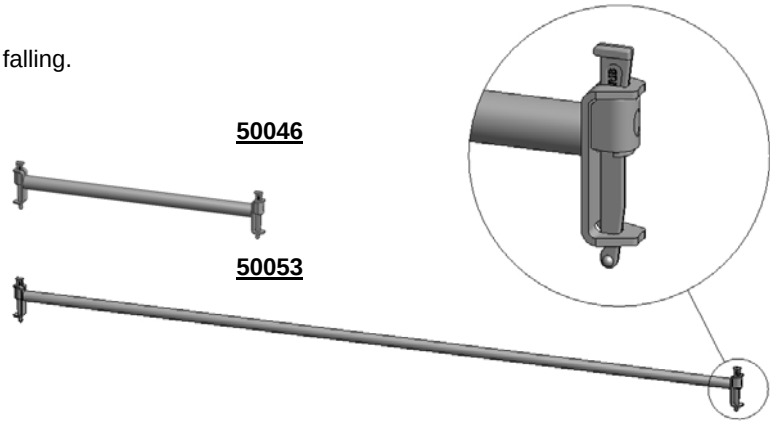
Allowable compressive load

Maximum allowable load by upright(daN)		
Double uprights		
L = 2m	L = 2.5m	L = 3m
3655	2316	1766

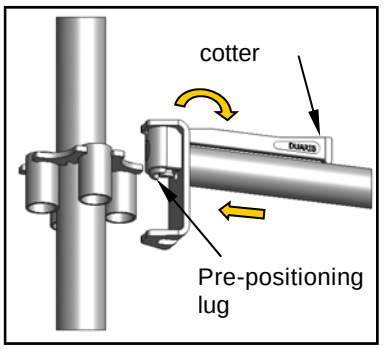
GIRDERS AND RAILS

Girders link uprights together.
Rails are horizontal elements that prevent users from falling.

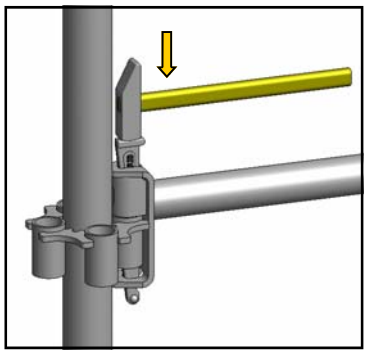
Code	Designation	Weight (kg)
50041	0,3m girder / rails	1,7
50042	0.46m girder / rails	2
50043	0.67m girder / rails	2,4
50044	0.7m girder / rails	2,5
50045	0.83m girder / rails	3,4
50046	1m girder / rails	4,2
50047	1.17m girder / rails	3,5
50048	1.5m girder / rails	4,1
50049	1.67m girder / rails	4,5
50050	2m girder / rails	5,1
50051	2.17m girder / rails	5,5
50052	2.5m girder / rails	6,1
50053	3m girder / rails	7,1



Girder and rails assembly



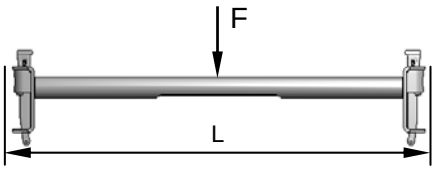
Take out the cotters. On one extremity, insert the pre-positioning lug on the coupler. Then insert the other extremity of the girder.

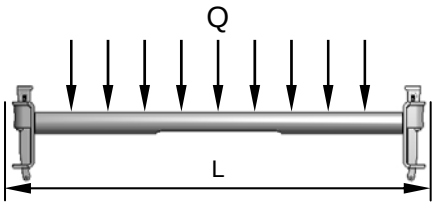


Hit the cotter at each extremity with a hammer.

Maximum allowable load

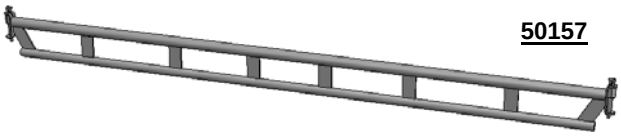
Code	Length L (m)	Point load F (daN)	Distributed load Q (daN/ml)
50041	0,3m		7900
50042	0,46m		3150
50043	0,67m		1350
50044	0,7m		1230
50045	0,83m		900
50046	1m	450	900
50047	1,17m	310	400
50048	1,5m	235	235
50049	1,67m	210	185
50050	2m	170	125
50051	2,17m	155	105
50052	2,5m	130	80
50053	3m	100	50





REINFORCED GIRDERS

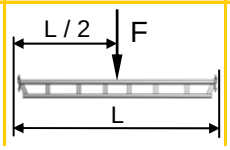
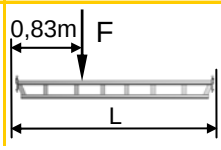
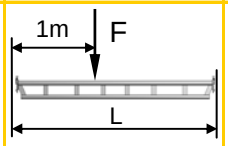
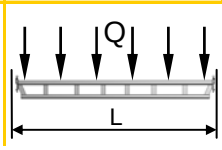
Floors are set on reinforced girders.



50157

Code	Designation	Weight (kg)
50054	1,5m reinforced girder	10,2
50055	2m reinforced girder	13,7
50056	2.5m reinforced girder	16,3
50057	3m reinforced girder	19,8

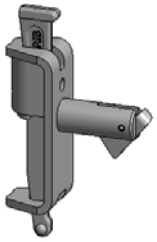
Maximum allowable load

Code	Length L (m)	Point load F (daN)			Distributed load Q (daN/ml)
		Centred	at 0,83m	at 1m	
50054	1,5	1060	970	955	1165
50055	2	1030	895	1030	810
50056	2,5	830	720	695	545
50057	3	750	700	730	435
					

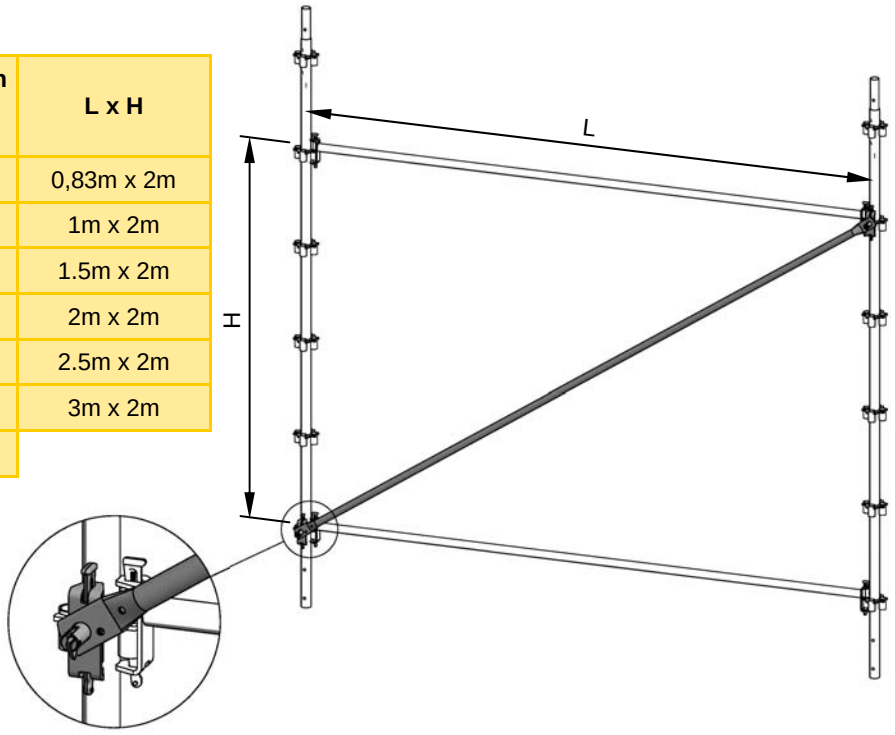
BRACES

Braces allow to wind-brace scaffoldings.

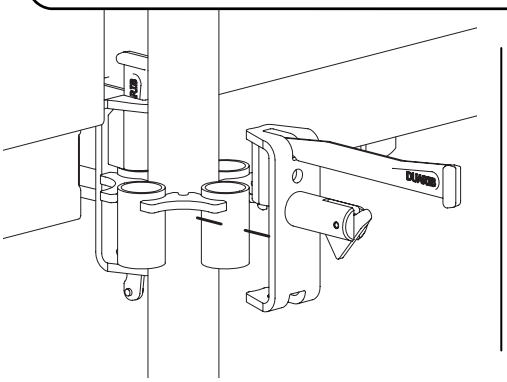
Code	Designation	Weight (kg)	L x H
50060	Brace's length: 2.165m	4,3	0,83m x 2m
50061	Brace's length: 2.236m	4,4	1m x 2m
50062	Brace's length: 2.5m	4,9	1.5m x 2m
50063	Brace's length: 2.828m	5,5	2m x 2m
50064	Brace's length: 3.202m	6,2	2.5m x 2m
50065	Brace's length: 3.606m	6,8	3m x 2m
50040	Brace's stirrup	0,9	



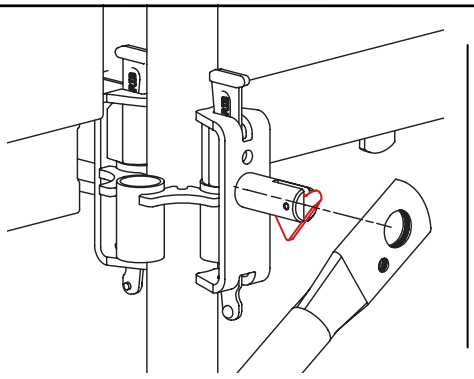
50040



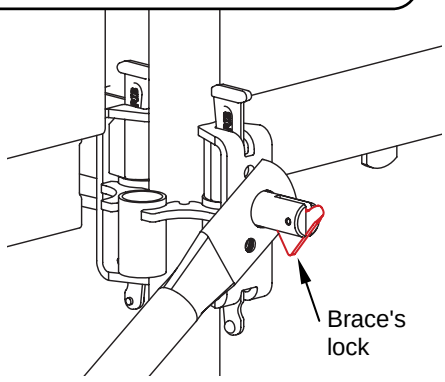
Assembling braces



Level the brace's stirrup (50040) with the floors. Hit the cotter with a hammer.



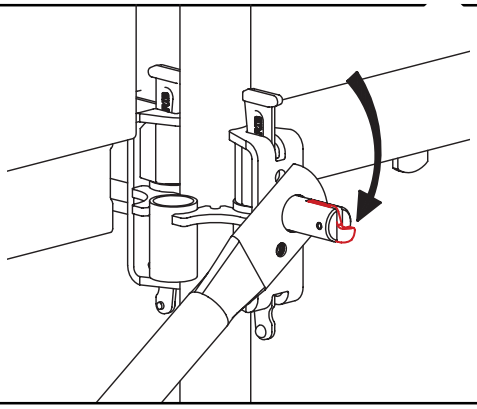
Thread the brace on the stirrup's axis, the nut folds away automatically.



You can fit 2 braces on the same stirrup.

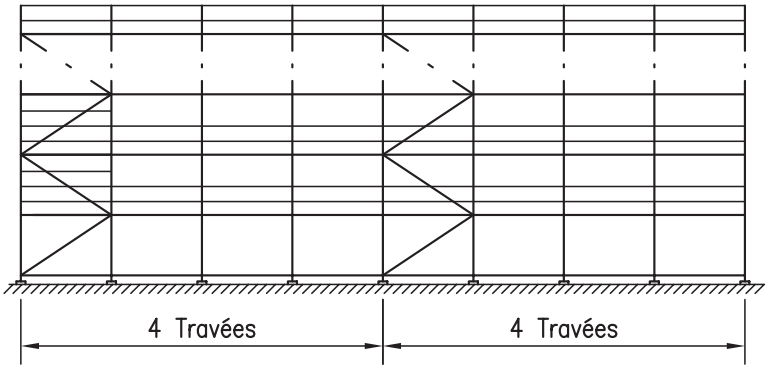
Make sure the lock comes back to its locked-up position.

Dismantling braces



To dismantle the brace, switch the lock down (the lock is in a horizontal position). Hold the lock in this position and remove the brace(s).

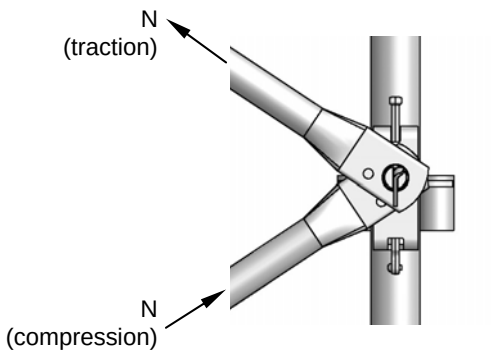
Configuring braces



RAIL VERSION:
Braces must wind-brace 4 spans for each floor level.

EXM VERSION:
With the EXM handrails, each span is wind-braced, so you do not need to add braces.

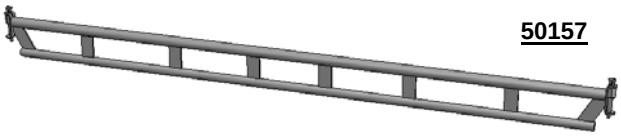
Acceptable maximum load



Code	L x H	Length in mm	N_{max} in daN (traction)	N_{max} in daN (compression)
50060	0,83m x 2m	2165	2120	665
50061	1m x 2m	2236		625
50062	1.5m x 2m	2500		505
50063	2m x 2m	2828		400
50064	2.5m x 2m	3202		313
50065	3m x 2m	3606		247

REINFORCED GIRDERS

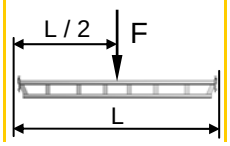
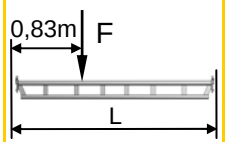
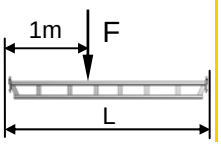
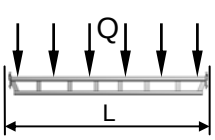
Reinforced girders support floors and allow picking up vertical loads again.



50157

Code	Designation	Weight (kg)
50054	1,5m reinforced girder	10,2
50055	2m reinforced girder	13,7
50056	2.5m reinforced girder	16,3
50057	3m reinforced girder	19,8

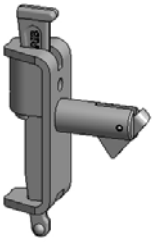
Maximum allowable load

Code	Length L (m)	Point load F (daN)			Distributed load Q (daN/ml) Centered
		Centered	at 0,83m	at 1m	
50054	1,5	1060	970	1,5	1060
50055	2	1030	895	2	1030
50056	2,5	830	720	2,5	830
50057	3	750	700	3	750
					

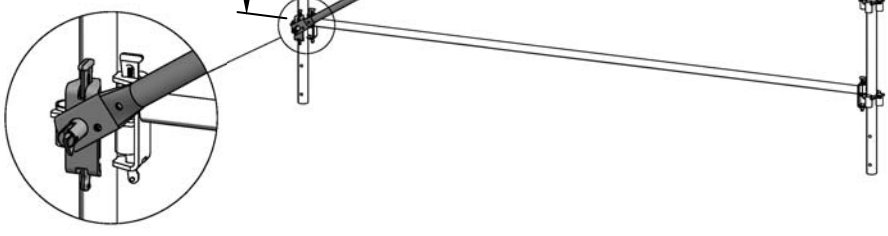
BRACES

Braces allow to wind-brace scaffoldings.

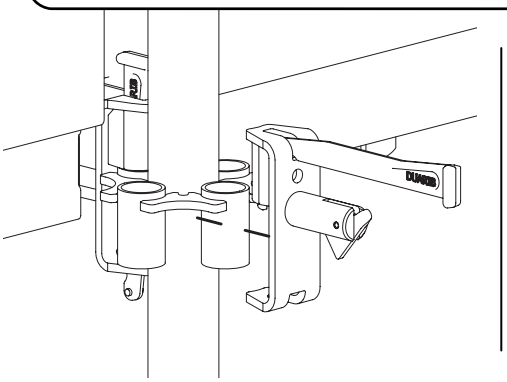
Code	Designation	Weight (kg)	L x H
50060	Brace's length: 2.165m	4,3	0,83m x 2m
50061	Brace's length: 2.236m	4,4	1m x 2m
50062	Brace's length: 2.5m	4,9	1.5m x 2m
50063	Brace's length: 2.828m	5,5	2m x 2m
50064	Brace's length: 3.202m	6,2	2.5m x 2m
50065	Brace's length: 3.606m	6,8	3m x 2m
50040	Brace's stirrup	0,9	



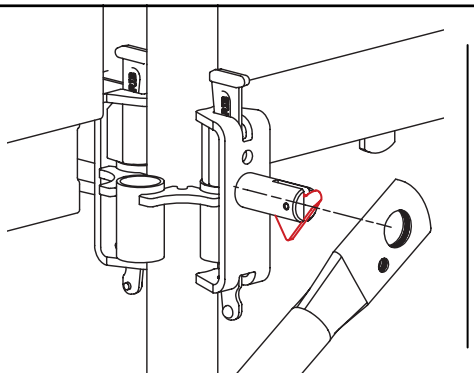
50040



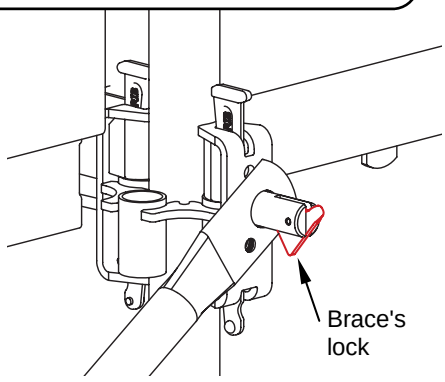
Assembling braces



Level the brace's stirrup (50040) with the floors. Hit the cotter with a hammer.



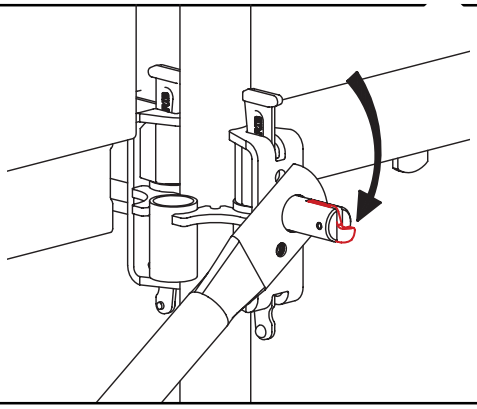
Thread the brace on the stirrup's axis, the nut folds away automatically.



You can fit 2 braces on the same stirrup.

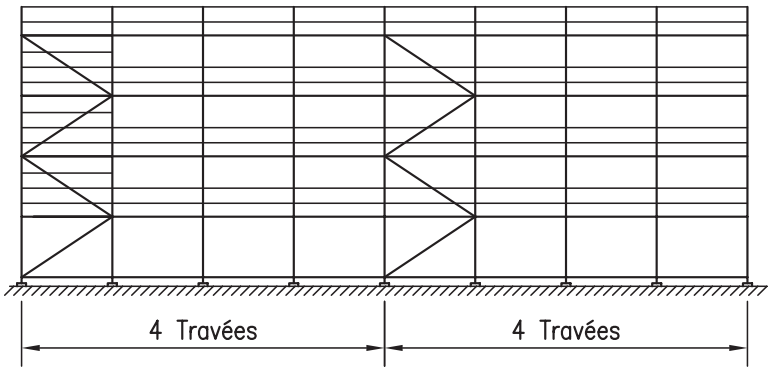
Make sure the lock comes back to its locked-up position.

Dismantling braces



To dismantle the brace, switch the lock down (the lock is in a horizontal position). Hold the lock in this position and remove the brace(s).

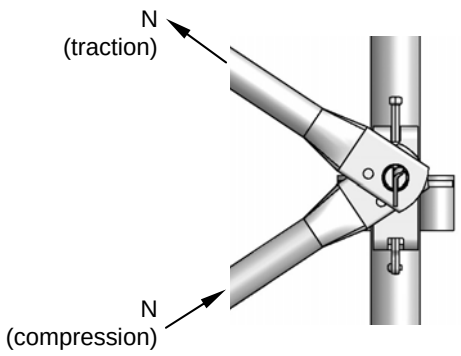
Configuring braces



RAIL VERSION:
Braces must wind-brace 4 spans for each floor level.

EXM VERSION:
With the EXM handrails, each span is wind-braced, so you do not need to add braces.

Acceptable maximum load



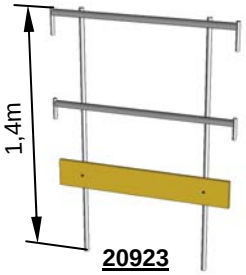
Code	L x H	Length in mm	N_{max} in daN (traction)	N_{max} in daN (compression)
50060	0,83m x 2m	2165	2120	665
50061	1m x 2m	2236		625
50062	1.5m x 2m	2500		505
50063	2m x 2m	2828		400
50064	2.5m x 2m	3202		313
50065	3m x 2m	3606		247

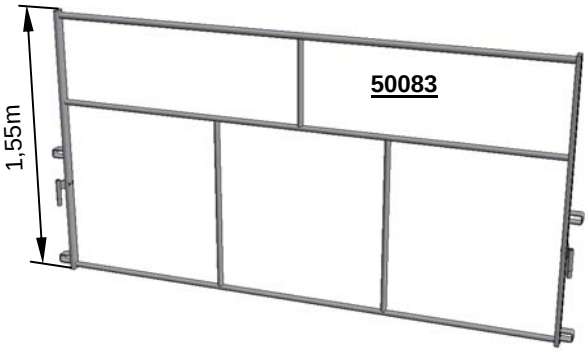
HANDRAILS

A handrail is a protective element that prevents people from falling from a floor's height.

TEMPORARY ASSEMBLY HANDRAILS:

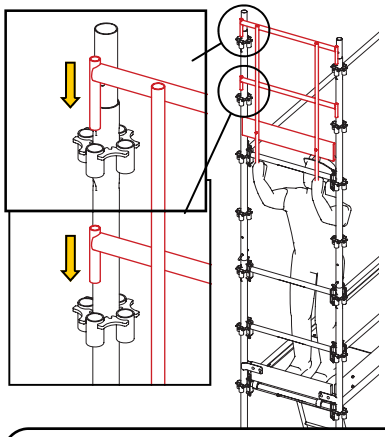
A temporary assembly handrail allows protection against height falls during the assembly. It allows mounting rails safely.





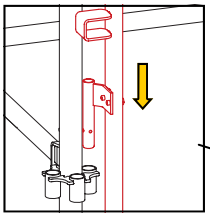
Code	Designation	Weight (kg)
20922	0,83m assembly handrail	6,6
20923	1m assembly handrail	7,3
50080	1.5m assembly handrail	5,8
50081	2m assembly handrail	7,2
50082	2.5m assembly handrail	8
50083	3m assembly handrail	8,7

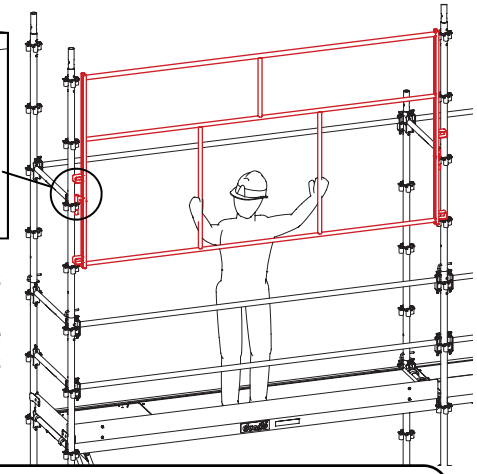
0,83m / 1m handrails assembly



Insert the upper side of the handrail, then the lower side.

1,5m/2m/2,5m/3m handrails assembly



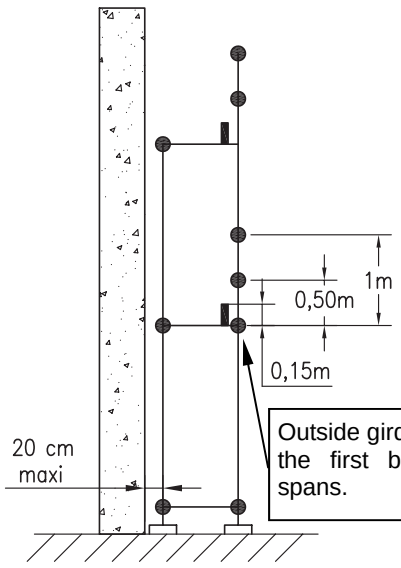


Set the handrails against the uprights, and then insert the anchors in the couplers on each side.

Girders / rails assembly

The assembly handrails are installed, the floor level is secured. Assemble the girders and rails on the spans and access spans according to the below schematics.

SPAN

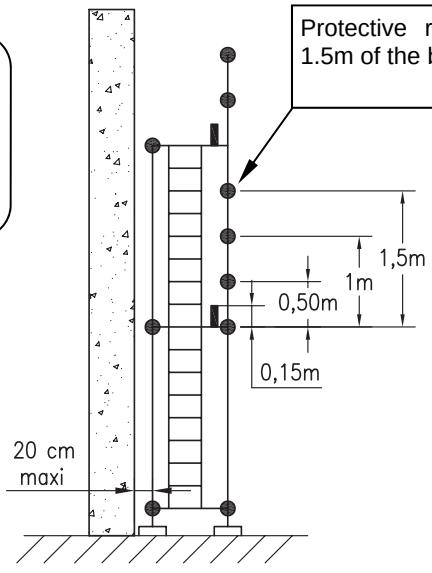


If the scaffolding is placed at more than 20cm of the façade, you must plan an inside protection (rail, intermediate rail, protective toe-board and rail for the access span).

- Symbolizes a girder / rail
- Symbolizes a skirting

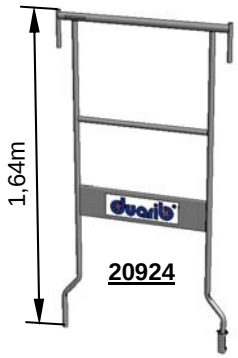
Outside girder at the same level as the first board on all the soft spans.

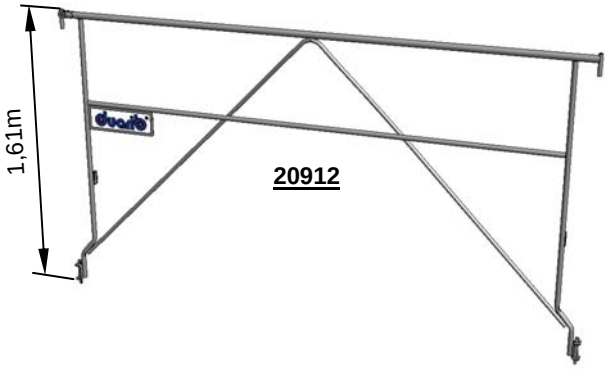
ACCESS SPAN



ASSEMBLY AND EXPLOITING HANDRAILS:

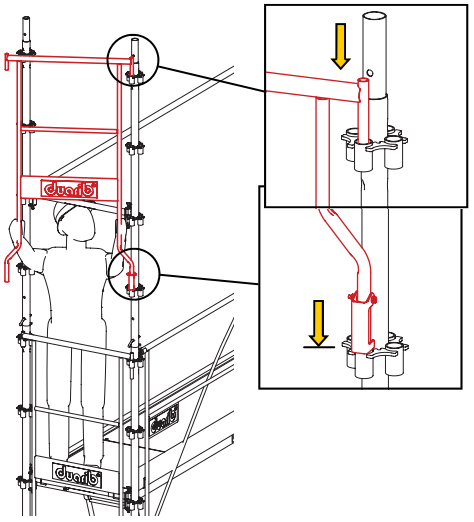
An assembly and exploitation handrail (EXM) makes sure workers are protected from falling during the assembly phase and while working on the scaffolding.



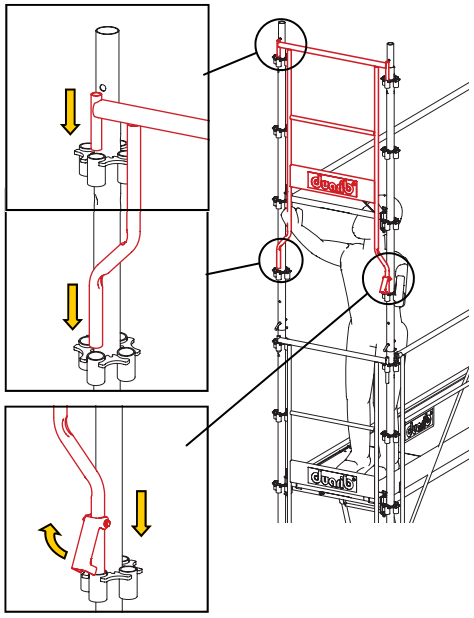


Code	Designation	Weight (kg)
20924	0,83m EXM handrail	6,2
20925	1m EXM handrail	6,9
20920	1.5m EXM handrail	9,3
20916	2m EXM handrail	11
20914	2.5m EXM handrail	12,2
20912	3m EXM handrail	13,5

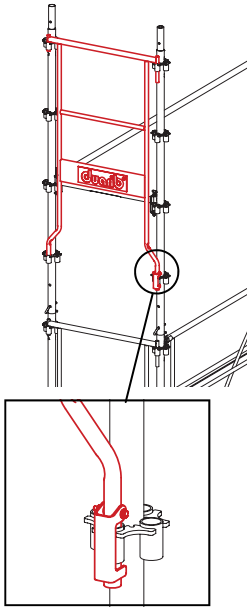
Assembling a 0,83m / 1m EXM handrail



1 Fit the upper part, on the side of the lock. Set the handrail on the coupler, making sure the lock is on.

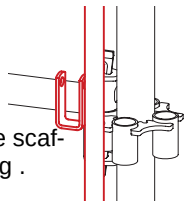


2 Set the handrails against the upright. Open the lock and fit the other side of the handrail.



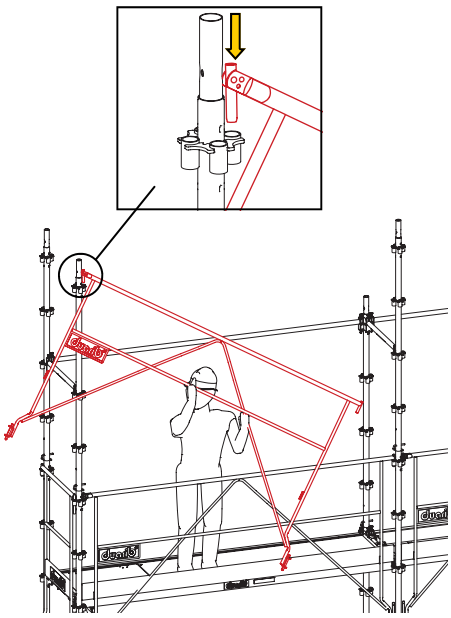
3 Make sure the lock is on.

Assembling a 1,5m/2m/2,5m/3m EXM handrail

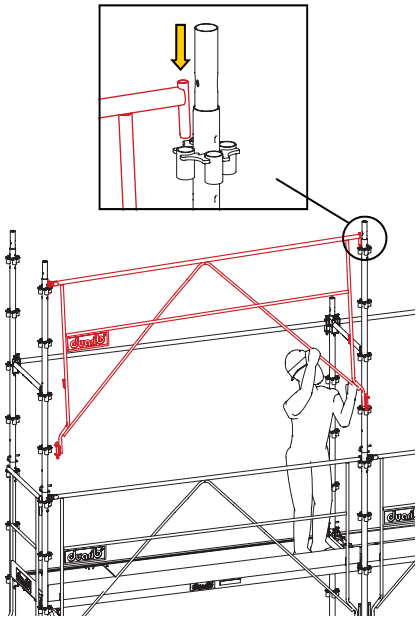


Inside the scaf-folding .

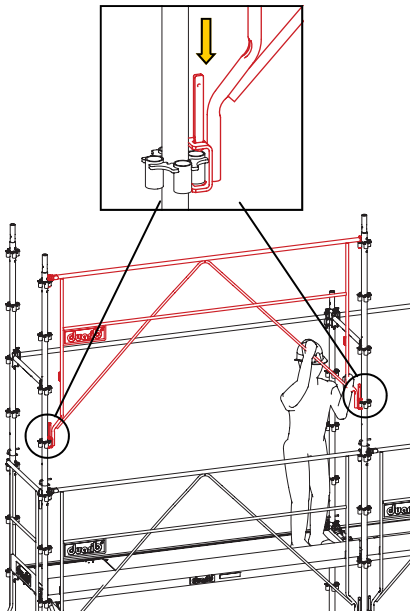
The U-shaped piece that will support the toe-board must be inside the scaffolding.



1 Fit the joint side in.



2 Fit the other side in.



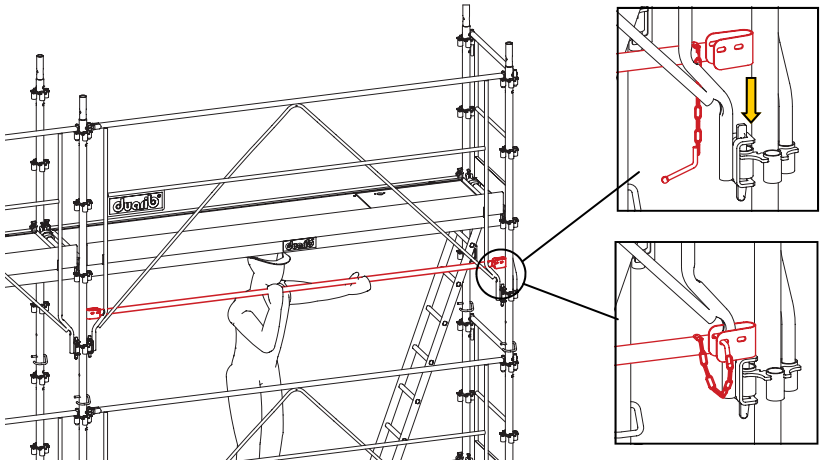
3 Lock the cotters manually.

Protective access rails for the EXM 1,5m / 2m / 2,5m / 3m handrail

20913

Code	Designation	Weigh t (kg)
20921	1,5m protective rail	3
20917	2m protective rail	3,8
20915	2.5m protective rail	4,7
20913	3m protective rail	5,6

Assembling protective rails



1 Set the U-shaped piece of the protective rail on the pin stirrup of the EXM handrail on one side, then the other.

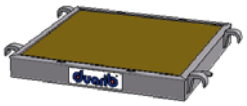
2 Lock with a pin on each side.

FLOORS

ALU-WOOD FLOORS:

0,72m wide alu-wood floors			
Code	**Length x width**	**Load class**	**Weight (kg)**
50112	0,83m x 0,72m	6	8,4
50113	1m x 0,72m	6	9,7
50114	1,5m x 0,72m	6	13,7
50115	2m x 0,72m	6	17,7
50116	2,5m x 0,72m	5	21,4
50117	3m x 0,72m	4	25,1

50112



50117

0,72m wide alu-wood floors with trap door			
Code	**Length x width**	**Load class**	**Weight (kg)**
50118	1.5m x 0.72m	6	14,8
50119	2m x 0.72m	6	18,8
50120	2.5m x 0.72m	5	22,6
50122	3m x 0.72m	4	26,5
50121	3m x 0.72m + access ladder	4	29,7

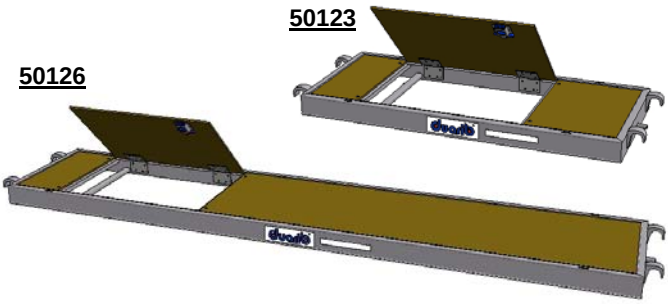
50118

50121

0.6m wide alu-wood floors with shifted trap door			
Code	**Length x width**	**Load class**	**Weight (kg)**
50123	1,5m x 0,6m	6	12,9
50124	2m x 0,6m	6	17
50125	2,5m x 0,6m	5	20,6
50126	3m x 0,6m	4	24

50123

50126

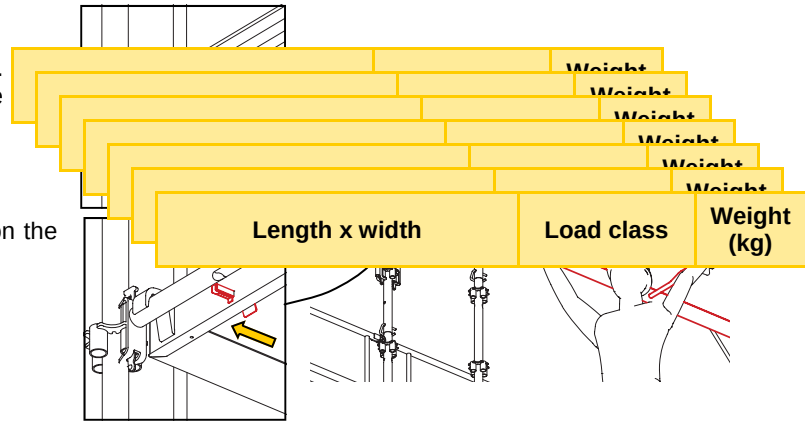


Alu-wood floors assembly

1 Handle the board by grabbing it by the crosspieces. Place the floor's hooks at the same level as the girders.

2 Unlock the anti-lifting and insert the floor's hooks on the girder on each side of the floor.

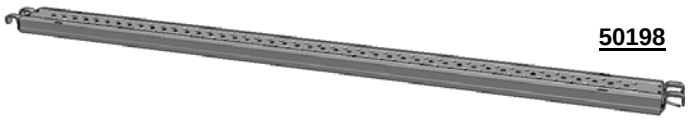
3 Check that the anti-lifting is locked.



STEEL FLOORS:

0,2m wide steel floors			
Code	**Length x width**	**Load class**	**Weight (kg)**
50193	0,83m x 0.2m	4	7,3
50194	1m x 0.2m	4	8,5
50195	1.5m x 0.2m	5	10,9
50196	2m x 0.2m	6	13,6
50197	2.5m x 0.2m	6	16,3
50198	3m x 0.2m	6	19
0.3m wide steel floors			
50096	1m x 0.3m	6	8,1
50097	1.5m x 0.3m	6	10,8
50098	2m x 0.3m	6	13,8
50099	2.5m x 0.3m	5	16,4
50100	3m x 0.3m	4	19
0.36m wide steel floors			
50090	0,83m x 0.36m	6	6,8
50091	1m x 0.36m	6	9,1
50092	1.5m x 0.36m	6	12
50093	2m x 0.36m	5	15,5
50094	2.5m x 0.36m	4	18,4
50095	3m x 0.36m	4	21,3

50198



50100

50095

ALU FLOORS :

0,3m wide alu floors			
Code	**Length x width**	**Load class**	**Weight (kg)**
50107	1m x 0.3m	6	5
50108	1.5m x 0.3m	6	6,4
50109	2m x 0.3m	5	8
50110	2.5m x 0.3m	4	9,4
50111	3m x 0.3m	3	10,7
0.36m wide alu floors			
50101	0,83m x 0.36m	6	5,6
50102	1m x 0.36m	6	5,9
50103	1.5m x 0.36m	6	7,5
50104	2m x 0.36m	4	9,4
50105	2.5m x 0.36m	3	11
50106	3m x 0.36m	3	12,6

50111

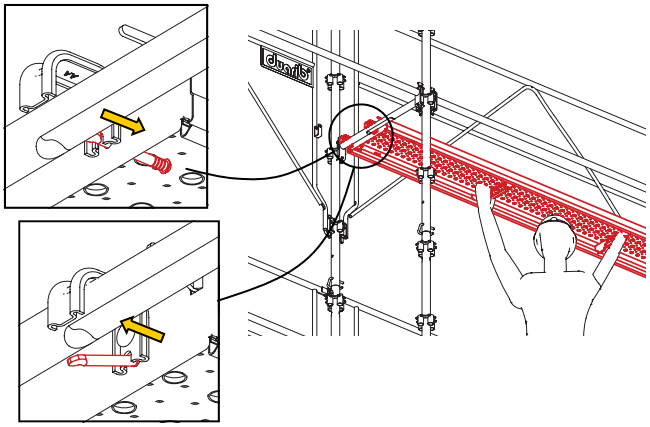
50106

Assembling steel and alu floors

1 Unlock the anti-lifting and hold the floor by grabbing it by the crosspieces.

2 Set the floor's hooks on the girders on each side.

3 Lock the anti-lifting.

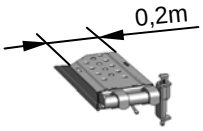


Maximum load for floors according to their class

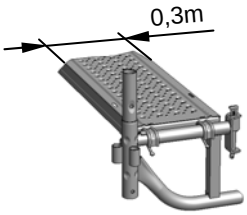
Load class	Load evenly spread in daN/m²	Load centred on a 500x500mm surface in daN
1	75	150
2	150	150
3	200	150
4	300	300
5	450	300
6	600	300

FLOOR LAYOUT

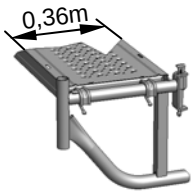
0,2m width



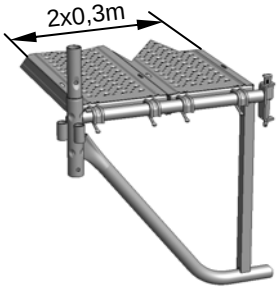
0,4m width



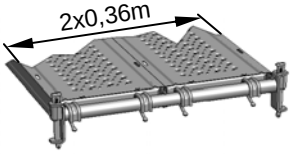
0,46m width

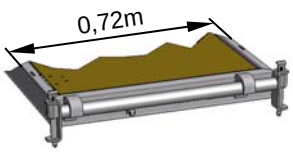


0,7m width

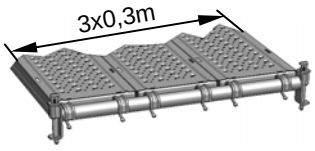


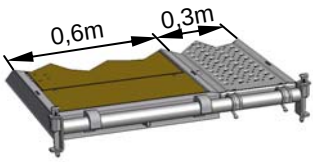
0,83m width



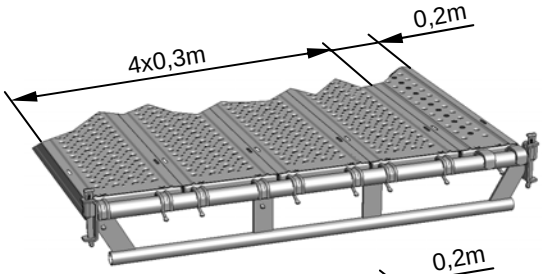


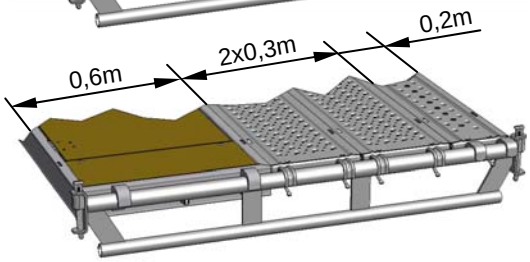
1m width



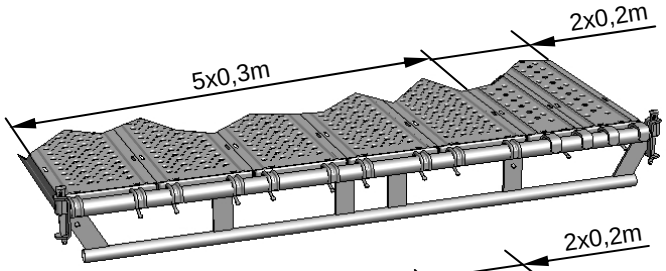


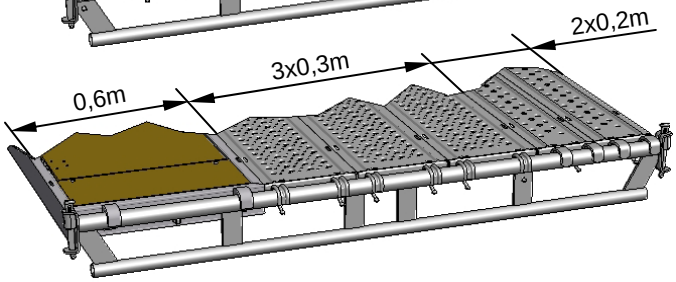
1,5m width





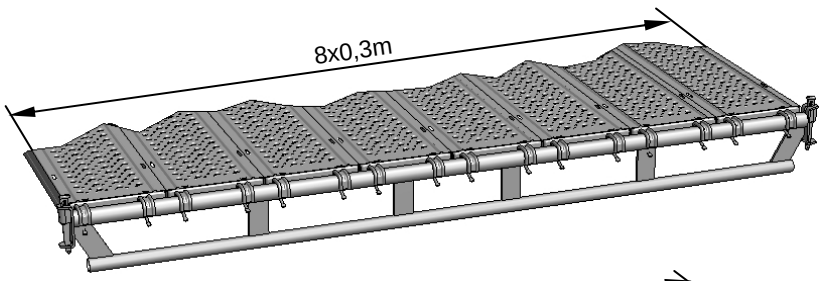
2m width

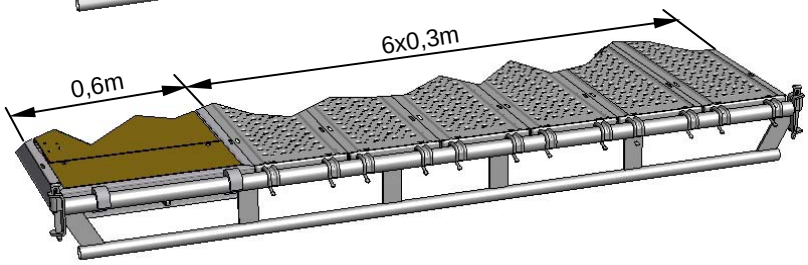




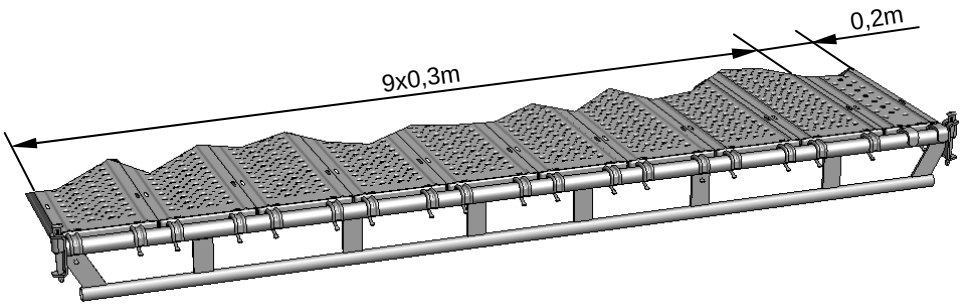
Floor width	Versions
0.2m	steel
0,3m	steel or alu
0.36m	steel or alu
0.6m	alu-wood with trap-door
0.72m	alu-wood with or without trap-door

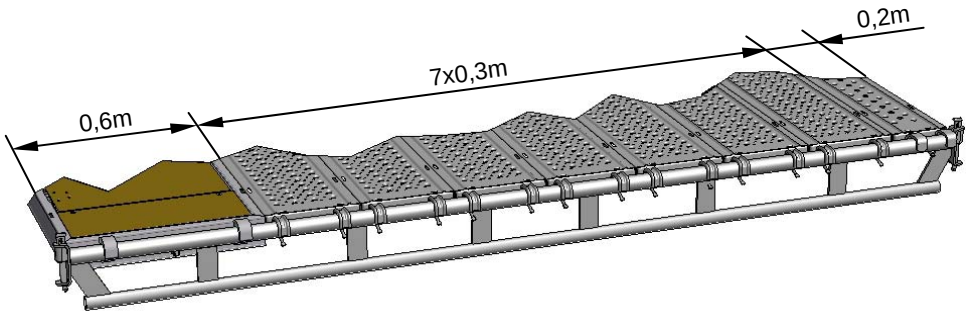
2,5m width

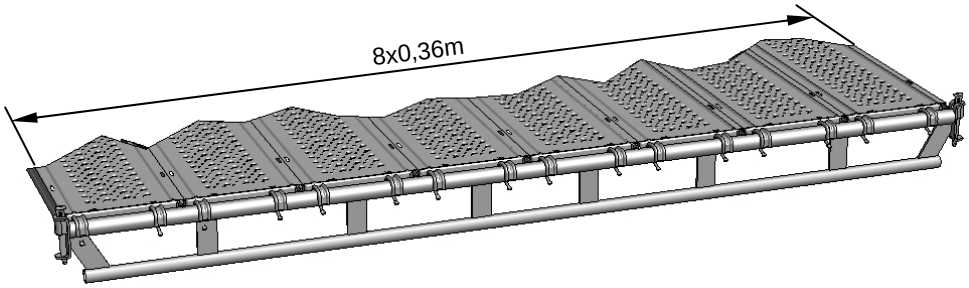


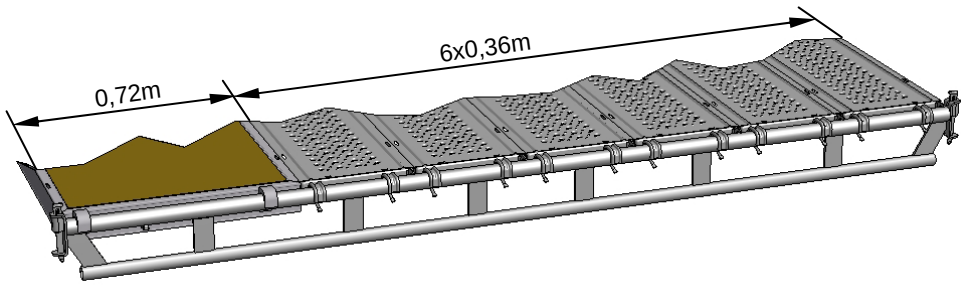


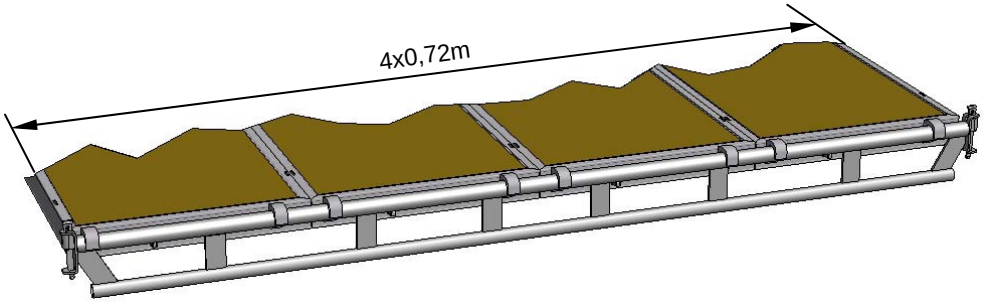
3m width







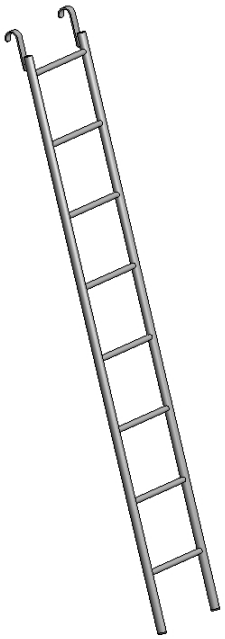




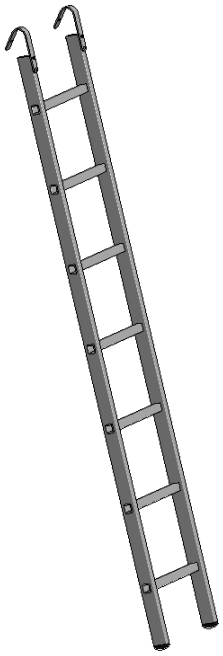
LADDERS

Ladders are fixed to alu-wood trap door floors on the access spans.

28202



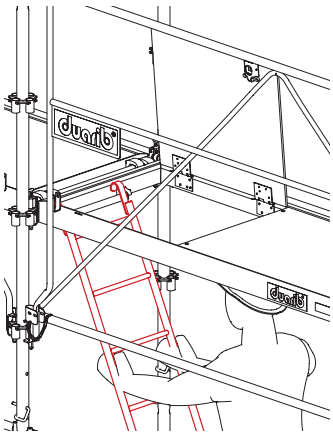
20513



Code	Designation	Weight (kg)
28202	2m galvanized steel access ladder	7
20513	2m aluminium access ladder	3,7

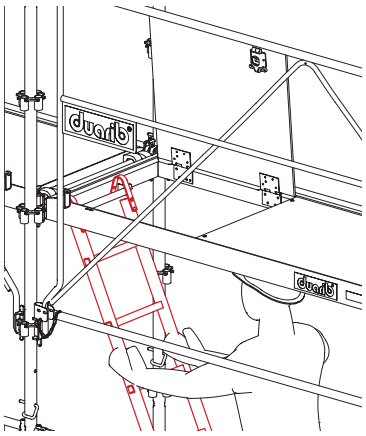
Ladder assembly

THE STEEL LADDER:



Keep the floor's door trap open and fix the ladder on the floor's span.

THE ALUMINIUM LADDER:



Maximum allowable load

The ladders' maximum allowable load is set at 150daN.

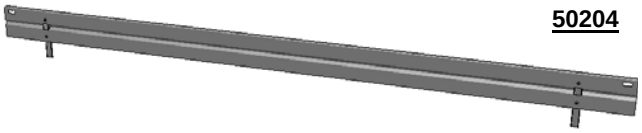
TOE-BOARDS

Toe-boards protect from height falls and from object falls.

CUT-OFF STEEL TOE-BOARDS:

Code	Designation	Weight (kg)
50199	0,83m cut-off steel toe-board	1,7
50200	1m cut-off steel toe-board	2
50201	1.5m cut-off steel toe-board	3
50202	2m cut-off steel toe-board	4
50203	2.5m cut-off steel toe-board	5
50204	3m cut-off steel toe-board	6

50204

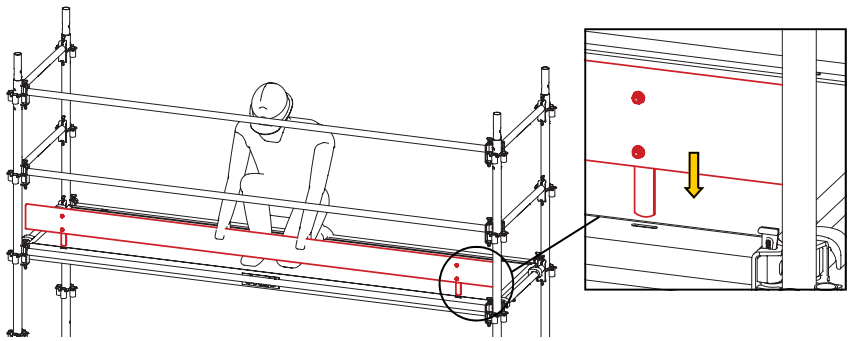


LATERAL WOODEN TOE-BOARDS:

Code	Designation	Weight (kg)
50128	0,83m lateral wooden toe-board	1,8
50129	1m lateral wooden toe-board	2,1
50130	1.5m lateral wooden toe-board	2,9
50131	2m lateral wooden toe-board	3,7
50132	2.5m lateral wooden toe-board	4,5
50133	3m lateral wooden toe-board	5,3

50133

Cut-off steel and wooden toe-boards assembly

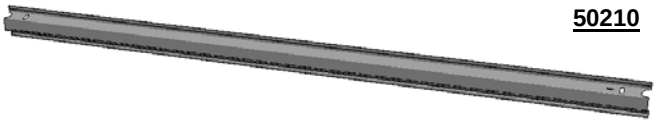


Insert the toe-board in the openings provided on the floor.

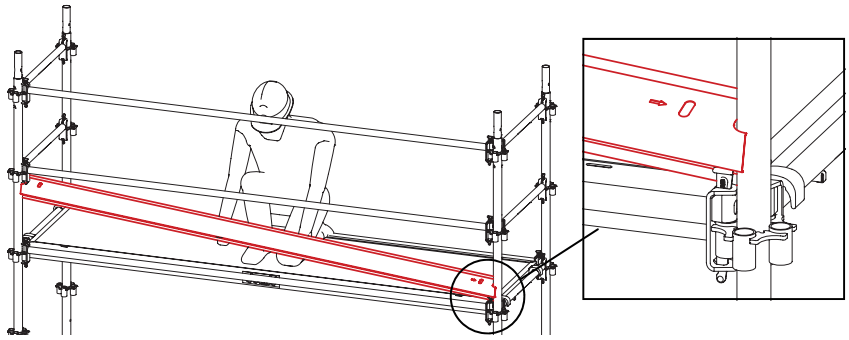
STEEL AXIS TOE-BOARDS:

Code	Designation	Weight (kg)
50205	0,83m steel axis toe-board	1,3
50206	1m steel axis toe-board	1,6
50207	1.5m steel axis toe-board	2,4
50208	2m steel axis toe-board	3,2
50209	2.5m steel axis toe-board	4
50210	3m steel axis toe-board	4,8

50210



Assembling steel axis toe-boards

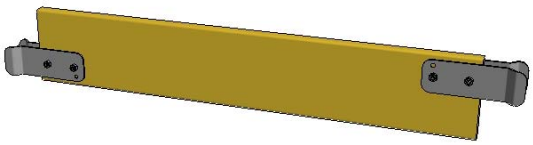


Fit the toe-board, starting with the side that has an arrow drawn on it.

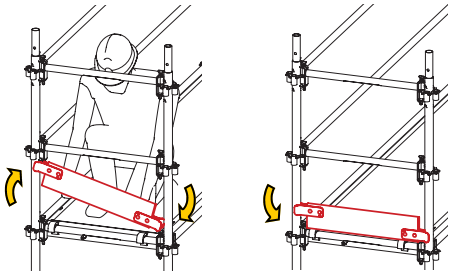
WOODEN EXTREMITY TOE-BOARD:

Code	Designation	Weight (kg)
50134	0,3m wooden extremity toe-board	1,4
50135	0.46m wooden extremity toe-board	1,6
50136	0.67m wooden extremity toe-board	2
50137	0.7m wooden extremity toe-board	2,1
50138	0.83m wooden extremity toe-board	2,2
50139	1m wooden extremity toe-board	2,5

Toe-boards with 2 fixed extremities



Assembling wooden extremity toe-boards

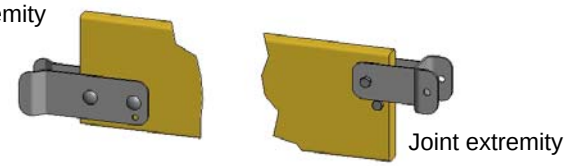


Rotate the toe-board and fit it between the uprights, starting with the lower extremity.

JOINT WOODEN EXTREMITY TOE-BOARDS:

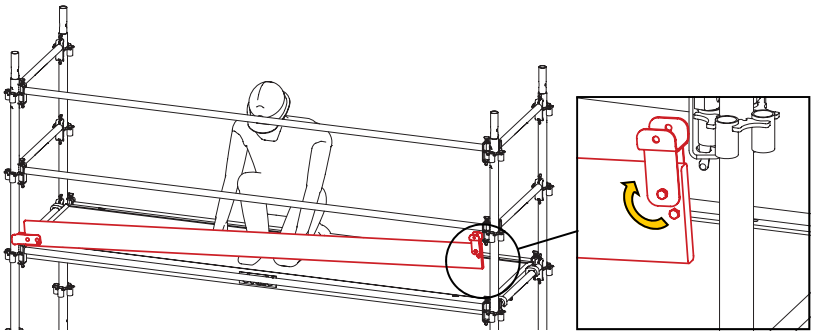
Code	Designation	Weight (kg)
50140	1.17m wooden extremity toe-board	2,5
50141	1.5m wooden extremity toe-board	3,1
50142	1.67m wooden extremity toe-board	3,4
50143	2m wooden extremity toe-board	4
50144	2.17m wooden extremity toe-board	4,2
50145	2.5m wooden extremity toe-board	4,7
50146	3m wooden extremity toe-board	5,5

Fixed extremity



Joint extremity

Assembling wooden extremity toe-boards



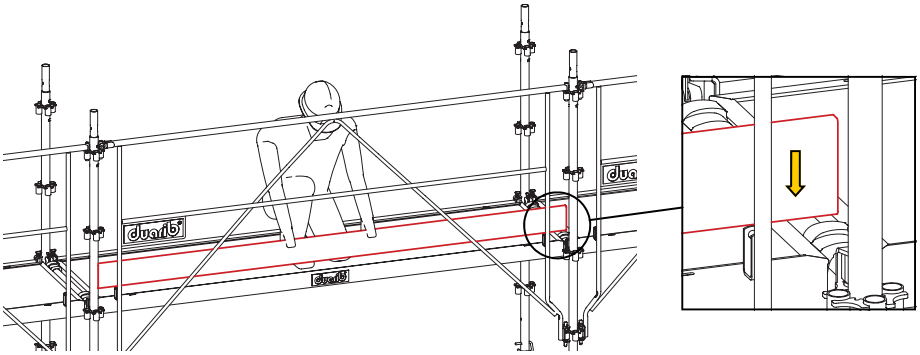
Fit the fixed extremity on the upright. Rotate the joint extremity 90°, align the toe-board with the upright and rotate the extremity once again 90° to lock the toe-board.

EXM HANDRAILS TOE-BOARDS:

Code	Designation	Weight (kg)
31200	1,5m flat EXM toe-board	2,4
31207	2m flat EXM toe-board	3,1
31203	2.5m flat EXM toe-board	3,8
31205	3m flat EXM toe-board	4,6

31205

EXM handrail toe-board assembly



Fit the toe-board in the U-shaped fixations situated at each extremity of the EXM handrail.

WALK-AROUND ELEMENTS

Walk-around elements allow going over protruding features on a façade, like a balcony for example.

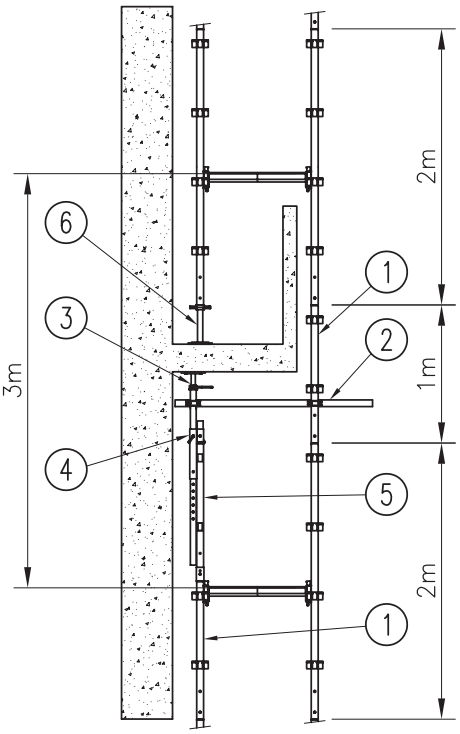
21921

22041

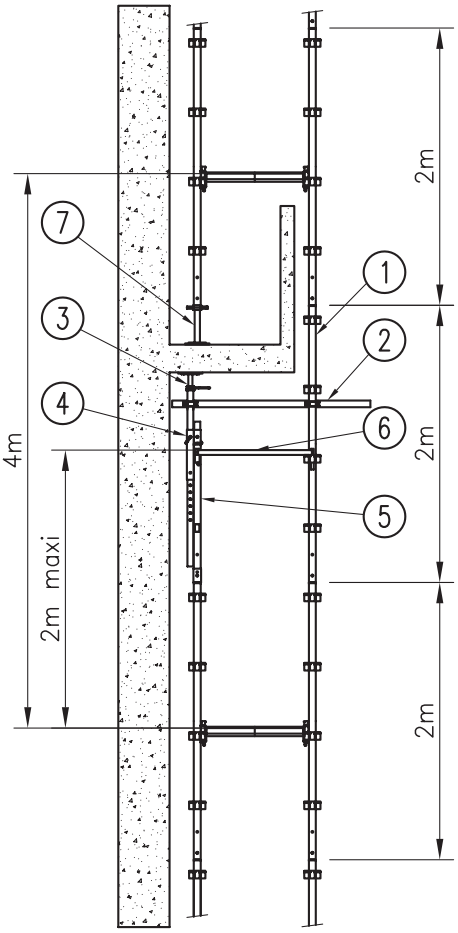
Code	Designation	Weight (kg)
21921	Walk-around jack	6
22041	Jack support	1,1

Walk-around element assembly

1ST EXAMPLE:
3m space between boards.



2ND EXAMPLE:
4m space between boards.



Main components

	Designation	Code
1	1m upright	50035
2	Ø48.3 galvanized pipe + 2 orthogonal bracket	- 50890
3	Walk-around jack	21921
4	Jack support	22041
5	1m starting pole	21612
6	Jackscrew	21905

Main components

	Designation	Code
1	2m upright	50036
2	Ø48.3 galvanized pipe + 2 orthogonal bracket	- 50890
3	Walk-around jack	21921
4	Jack support	22041
5	1m starting pole	21612
6	F3000 extremity rail	21170
7	Jackscrew	21905

NOTE:
All the walk-around elements must be locked with cotters (21000).
Please, contact us if you need a different assembly plan.