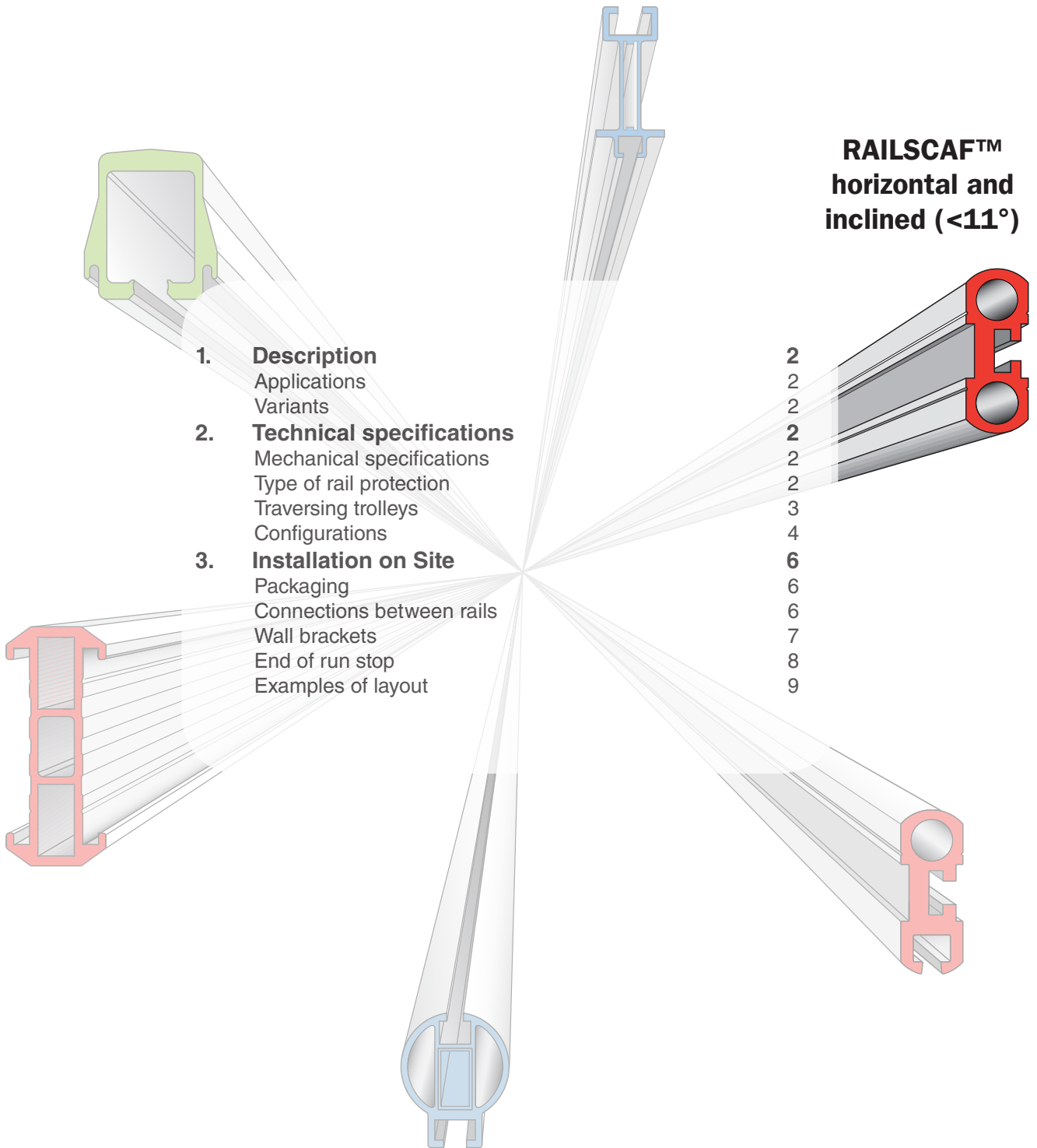


Tractel Secalt™ Monorails



1. DESCRIPTION

Applications

RAILSCAF™ is a system for maintenance of facades. It consists of a monorail fixed to the perimeter of the building, one or two trolleys running on the monorail and a cradle suspended from the trolley(s).

Advantages

- Rigid and aesthetic profile.
- Installation costs minimized by long span between brackets.
- Brackets for any type of facade.
- Trolleys are robust and reliable.
- Horizontal and vertical bending.
- Curves with small radius $R = 500$ mm.
- Slope angle up to 11° *.
- Combination with all cradles manufactured by Tractel Secalt™ (ALTA or SOLO) or SOLSIT work seats.

Variants

Types of trolleys:

- manual or powered trolley for horizontal applications,
- powered friction drive trolley on a sloping plane at 11° *.

* To slope up to 60° : see technical sheet T-631 climbing RAILSCAF™ with incorporated chain.

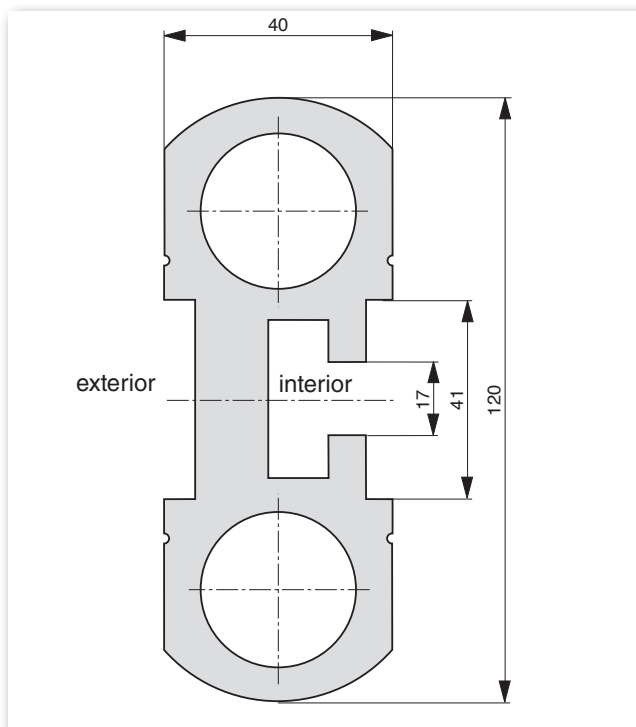


Fig. 1.- RAILSCAF™ profile, 120 x 40mm

2. TECHNICAL SPECIFICATIONS

Mechanical specifications

Maximum load per trolley	350 kg
Aluminium profile	120 x 40 mm.
Standard length	5,800 mm
Weight	6.05 kg/m
Minimum bending radius (external / internal)	$R = 500$ mm

The safety coefficient compared to the breaking strain of the rail, as well as the various connecting sections, is greater than 4. The distortion of the rail under a load of 350 kg is less than 1/250th of the span, i.e. less than 12 mm.

Type of rail protection

Protection by anodizing (optional)

Protection by anodizing protects against corrosion by creating a film of aluminium oxide, 20 microns thick.

The colors available are:

- Natural aluminium
- Gold
- Dark beige Eurocolor 2006
- Light Beige Eurocolor 2005
- Chestnut Eurocolor 2007
- Black Eurocolor 2008

Protection by powder coating (optional)

The colours available match the RAL range matt or gloss (sample on request).



RAILSCAF™ equipment complies with European Union directives and is manufactured under ISO 9001.

Traversing trolleys

The trolley consists essentially of a traversing roller (5) and a guide roller (6). The traversing roller is in nylon to prevent wear on the rail. The trolley casing is made of aluminium alloy.

Manual traversing trolley, follower or by rope

Generally a manual traversing trolley is sufficient, since the effort to traverse the cradle is low.

Main components of manual trolleys

- 1 Trolley
- 2 Pulley
- 3 Gear rope
- 4 Gear for traversing rollers
- 5 Traversing roller
- 6 Lower guide roller
- 7 Fall protection equipment
- 10 Fastening pin
- 10.1 Cotter pin
- 11 Rope retainer
- 13 RAILSCAF rail

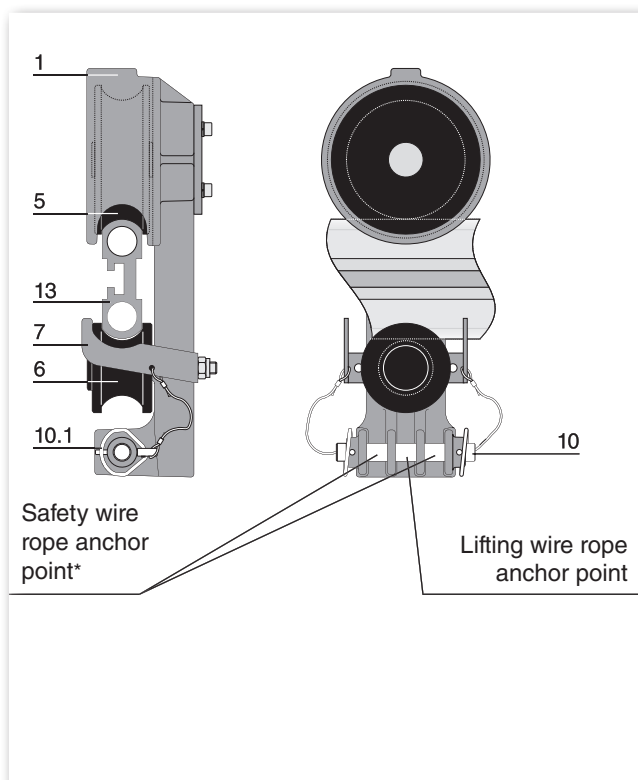


Fig. 2. - Plain trolley (follower)

Weight	6 kg
Code	54847

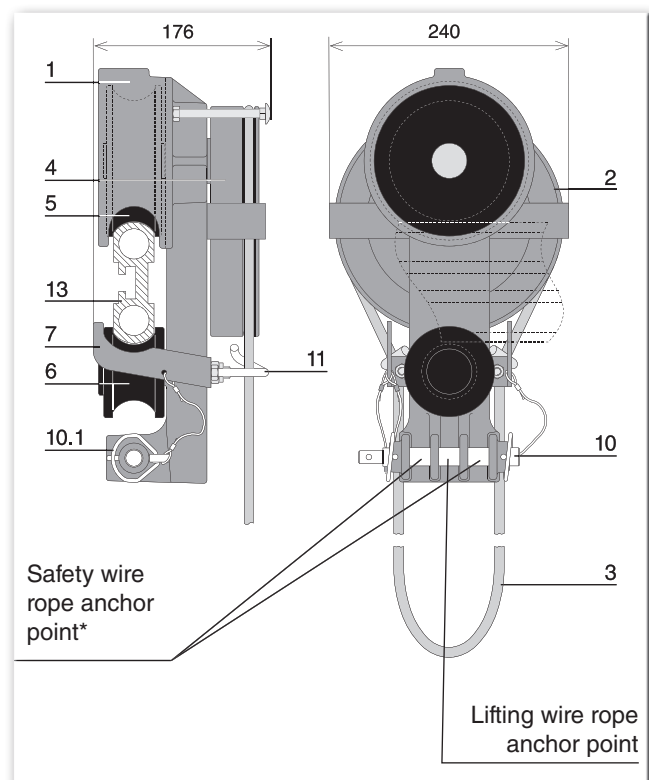


Fig. 3. - Manual gear trolley driven by rope

Weight	8.5 kg
Code	53147

* Fastening according to cradle type.

Powered trolley

Motorization is achieved by a completely closed gear motor, allowing use in tropical regions.

The power supply and control of the trolley(s) are performed from the control box of the cradle suspended from the trolley(s).

Main components of powered trolleys

- 1 Trolley
- 5 Traversing roller
- 6 Lower guide roller
- 6' Pressure roller
- 7 Fall protection
- 10 Docking pins
- 10.1 Cotter pin
- 13 RAILSCAF™ rail
- 14 Gear motor

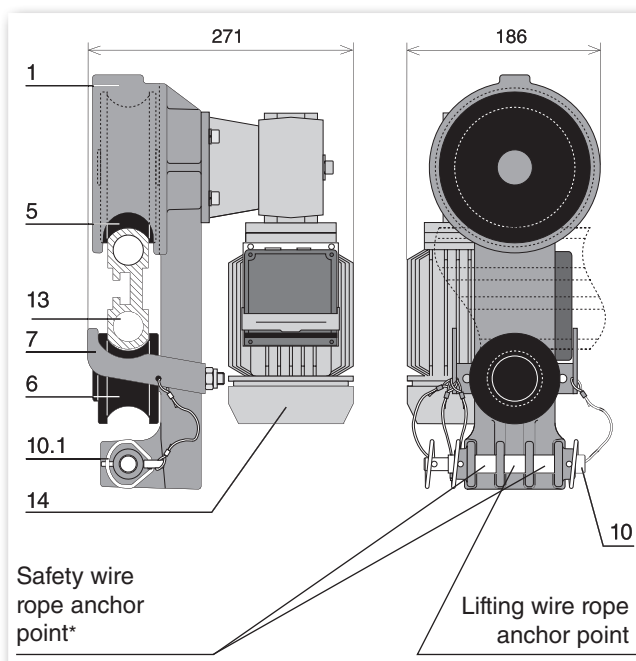


Fig. 5. - Powered trolley or horizontal traversing

Weight	12.3 kg
Speed	5m/min
Power supply	400V / 0.18 kW
Level of protection	IP55
Insulation class	F
Code	58607

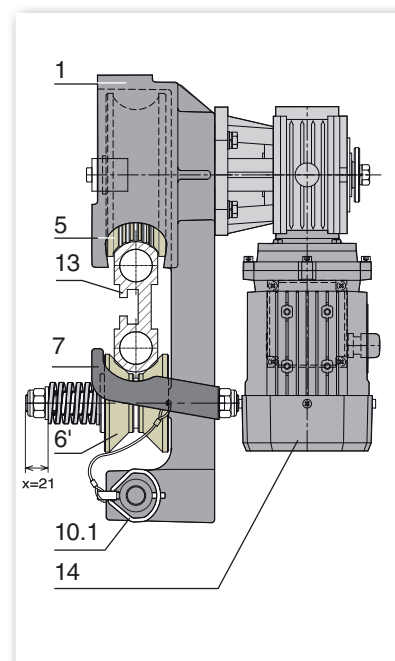


Fig. 4. - Powered climbing trolley - for traversing slopes <math><11^\circ</math>

Weight	16.3 kg
Speed	5 m/min
Power supply	400V / 0.25 kW
Level of protection	IP55
Insulation class	F
Code	48719

Configurations

Horizontal RAILSCAF™ configurations

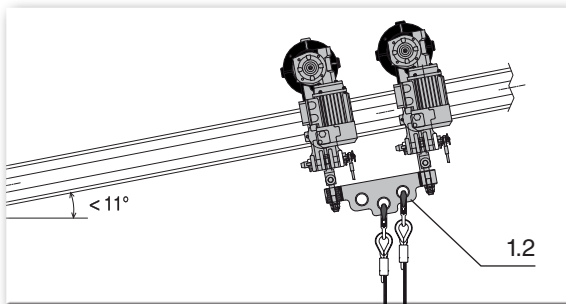
1. **SOLO cradle or SOLSIT powered work seat** suspended from a RAILSCAF™ trolley (manual using rope or powered).
2. **ALTA cradle with two suspensions** with two RAILSCAF™ trolleys (manual using rope or powered).

* Fastening according to cradle type.

Layouts on a sloping plane

Two powered friction drive trolleys coupled by a suspension stirrup, from which the cradle is suspended. In the event of one trolley failing, the second trolley serves as a safety brake and locks the equipment in position.

1. SOLO cradle suspended from a RAILSCAF™ double-trolley (slope <11 °)



Main components

- 1.2 Suspension stirrup
- 11 Connecting rod
- 11.1 Speed synchronization by two limit switches

Fig. 6. - Powered double-trolleys - on a sloping plane <math>< 11^\circ</math>

2a. ALTA cradle suspended from two RAILSCAF™ double-trolleys (slope <11 °)

For straight facades - maximum coverage of the facade.

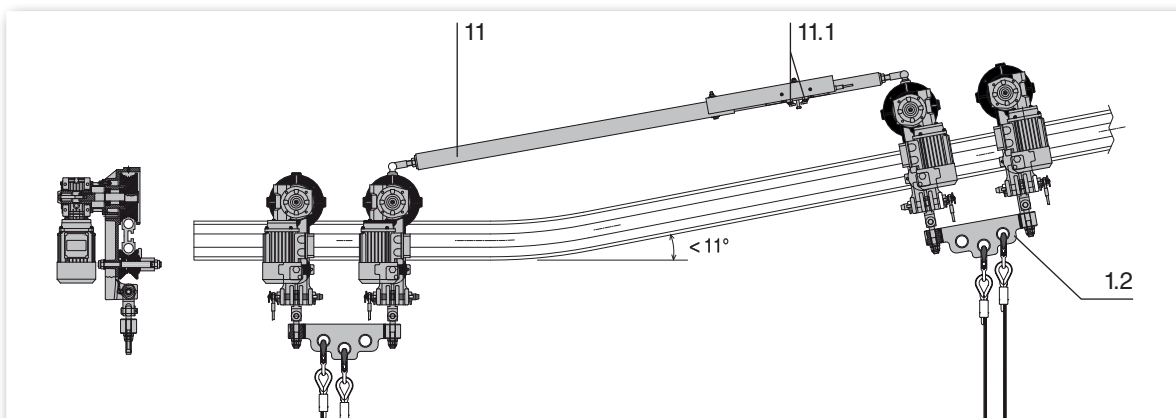
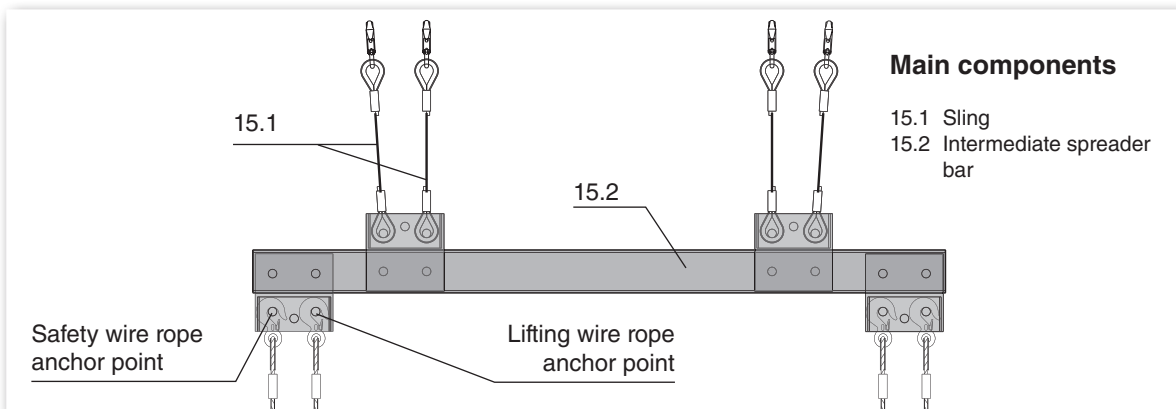


Fig. 7. - Two powered double-trolleys with connecting rod - on a sloping plane <math>< 11^\circ</math>

2b. ALTA cradle suspended from an intermediate spreader bar suspended from two double-trolleys

For facades with exterior angles - easy passage around the corners of the building.



Main components

- 15.1 Sling
- 15.2 Intermediate spreader bar

Fig. 8. - Intermediary lifting beam

3. INSTALLATION ON SITE*

Packaging

The rails are delivered on site in bars 5.80 m long and weighing ± 35 kg. Curves are pre-bent in the factory.

Connections between rails

All connections must be carried out at a maximum distance of 500 mm from the wall bracket.

Fixed connection

The standard connection between two rails is achieved by two aluminium $\varnothing 30 \times 245$ rods, fixed by 8 $\varnothing 3.7 \times 19$ nails.

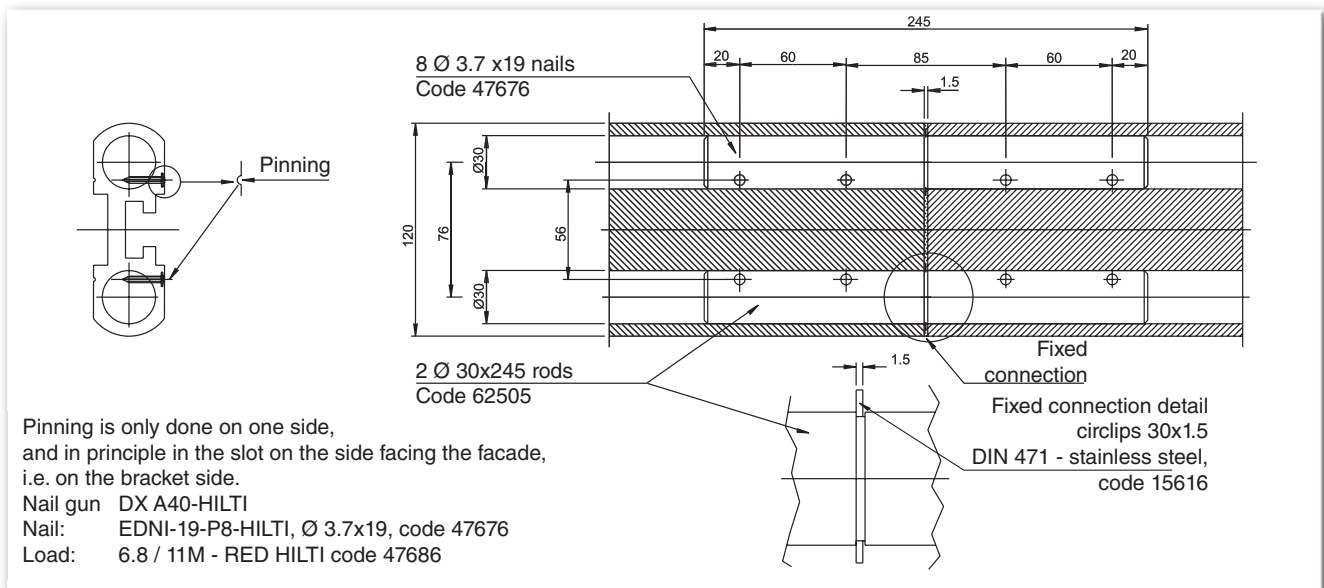


Fig. 9. - Fixed connection of two rails

Expansion connection

An expansion connection is placed after two fixed junctions (= every 17.40 m). The connection between the two rails is provided by means of two aluminium $\varnothing 30 \times 245$ rods, cross-fixed by 4 $\varnothing 3.7 \times 19$ nails.

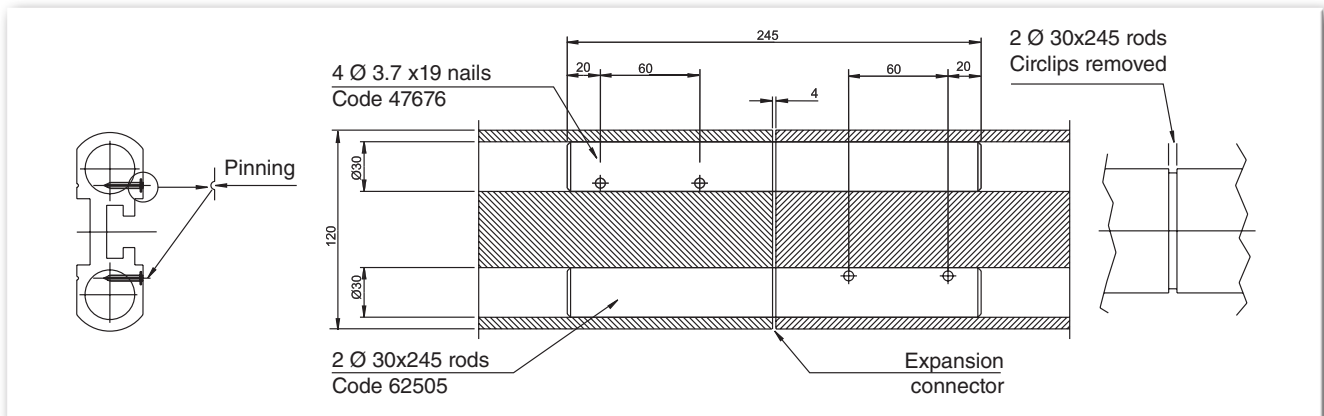


Fig. 10. - Expansion connection

* Comment: the instructions in this document are to be followed if there is no differing information on the lay-out drawing.

Connection with two fish plates

Only to be used at the end of a closed circuit. The connection between two rails is achieved by means of two 40 x 8 x 200mm galvanized fish plates.

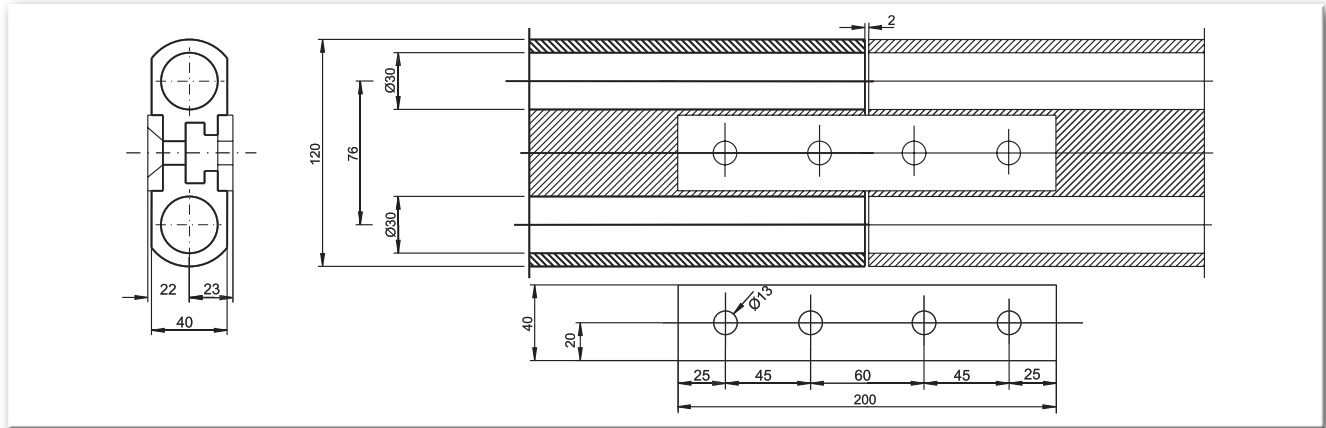


Fig. 11. - Connection with two fish plates

Wall brackets*

The monorail is secured on galvanised or stainless steel brackets, which are positioned every 3m on the straight sections. Their location in the curves and corners of facade must be studied in relation with the configuration of the building.

The bracket fixing plate allows a ±7 mm vertical adjustment.

The rails are fixed to the brackets with hammerhead M12 hot dip galvanised 8.8 steel bolts. For installation, please refer to the MC1468 installation instructions.

Maximum performance

	Nom. load. (daN)	Max span $L_{Max.}$ (mm)	Reactions (per anchor) in daN			
			Nominal		Ultimate	
			Rh	Rv	Rh	Rv
SOLO	350	1200	1050	175	3150	525
ALTA	700	800	1400	350	4200	1050

* Special bracket for all types of facade on request

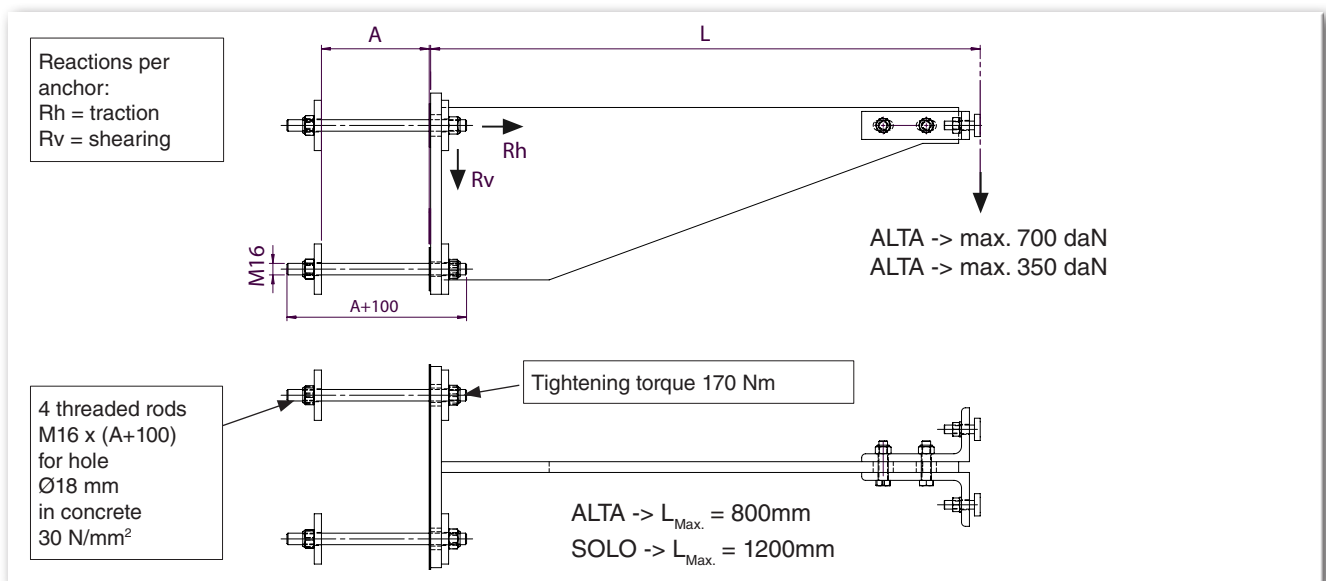


Fig. 12. - RAILSCAF™ bracket with four threaded rods

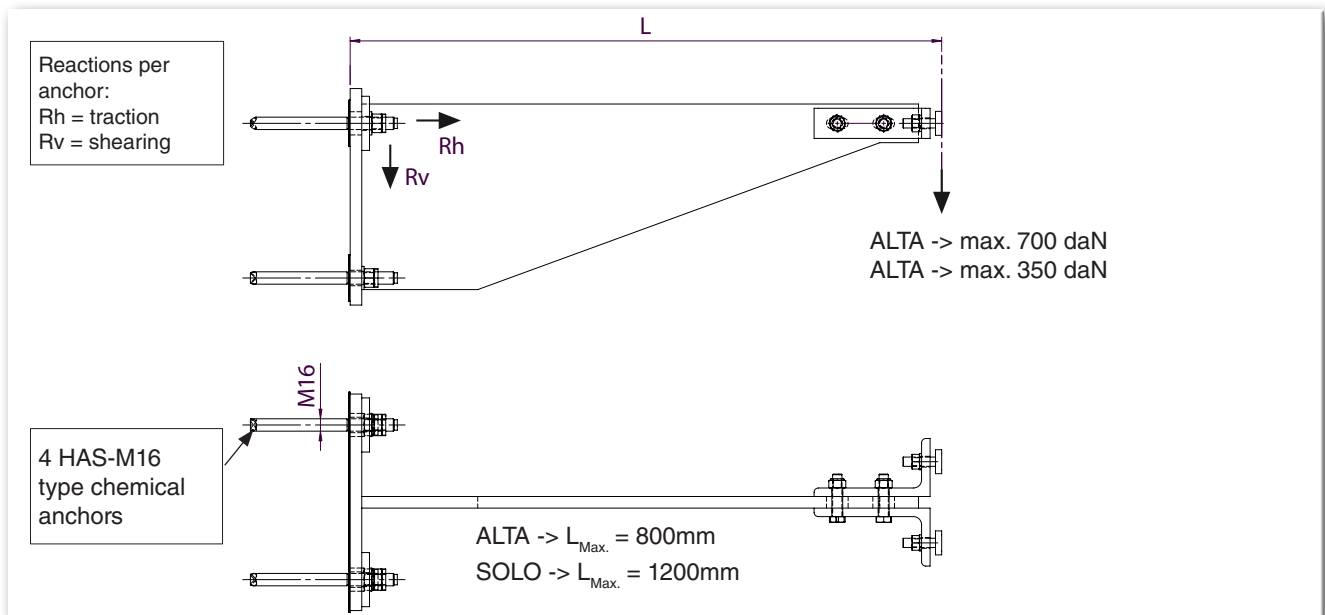


Fig. 13. - RAILSCAF™ bracket with four chemical anchors* (concrete 30 N/mm²)

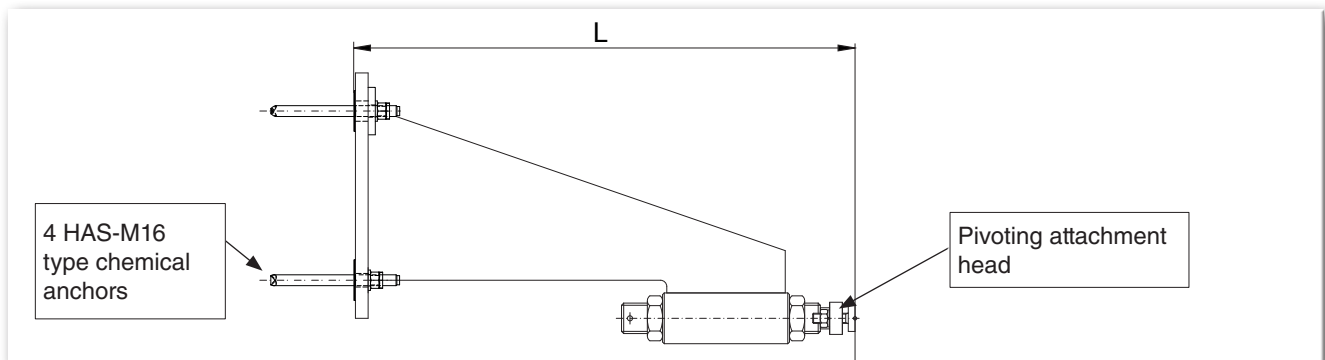


Fig. 14. - Bracket for inclined RAILSCAF™ with four chemical anchors* (concrete 30 N/mm²)

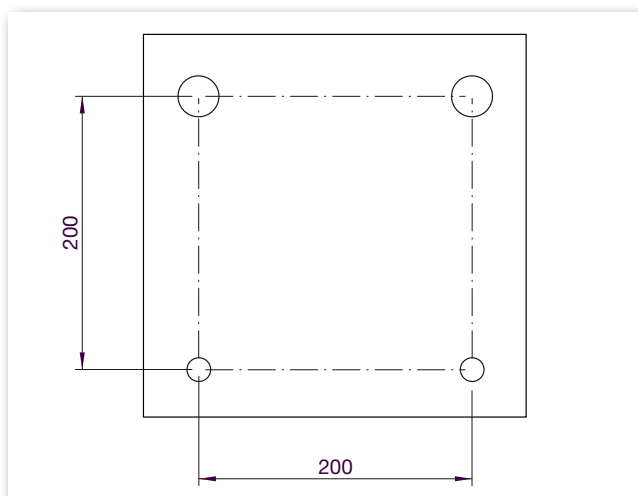


Fig. 15. - RAILSCAF™ bracket - drilling template

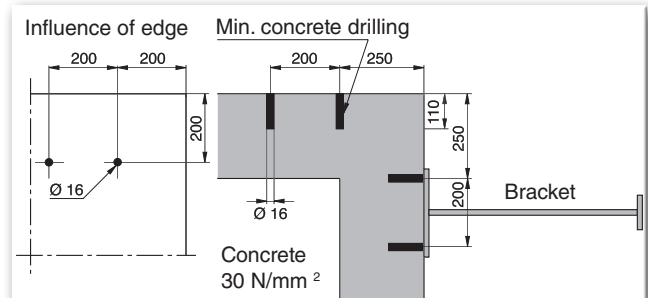


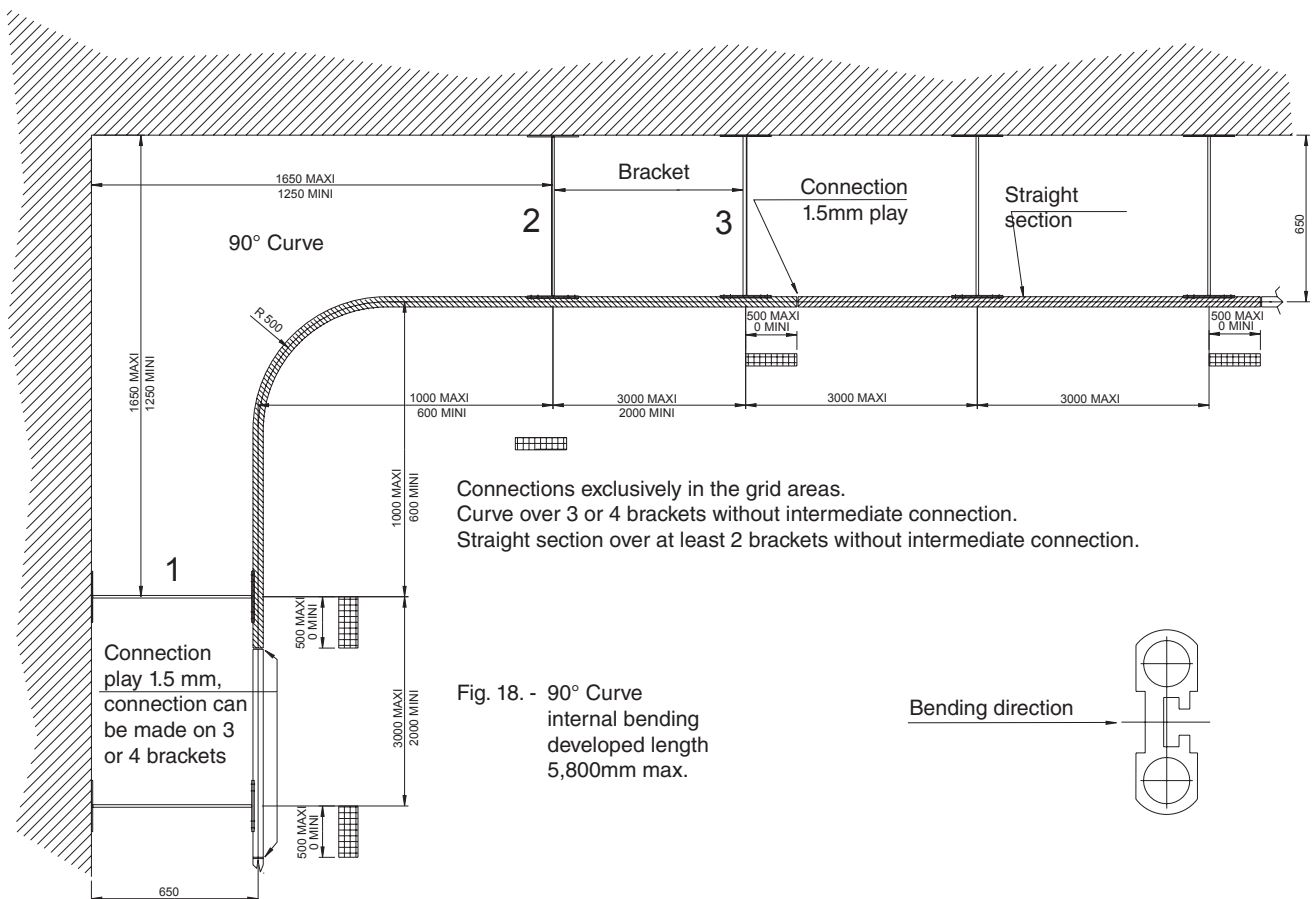
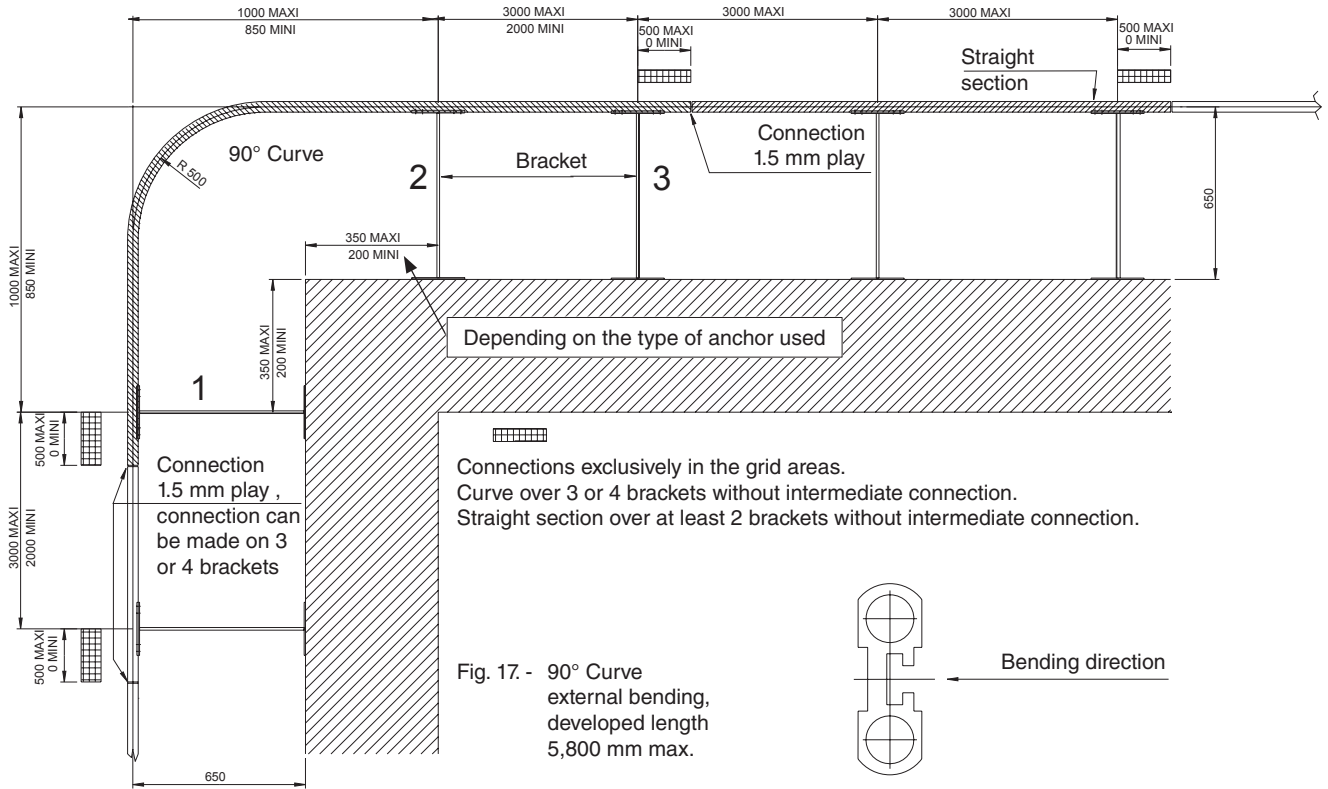
Fig. 16. - Securing to outer corners of the building

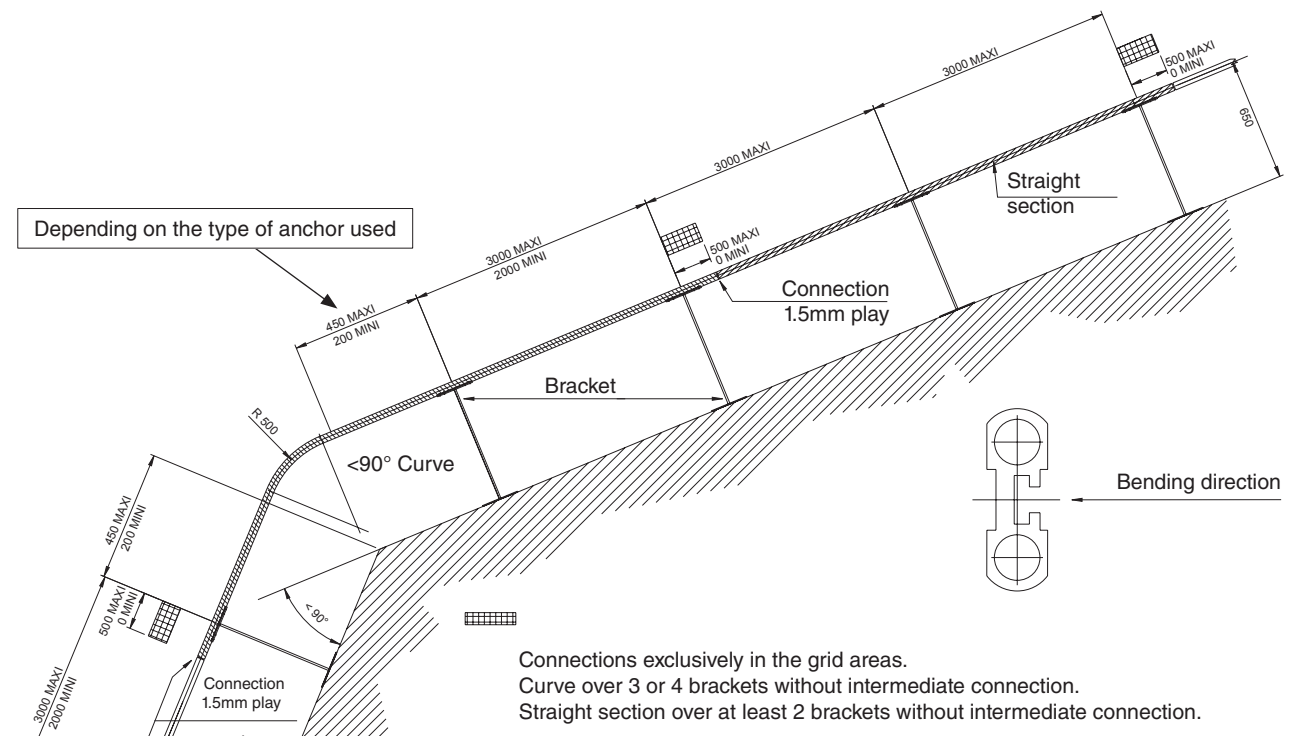
Rail end stop

On "open" rail tracks an end stop must be fitted to both ends of the monorail. The stops are removable.

* For installation and tightening torque on the chemical anchor, please comply with manufacturer's instructions.

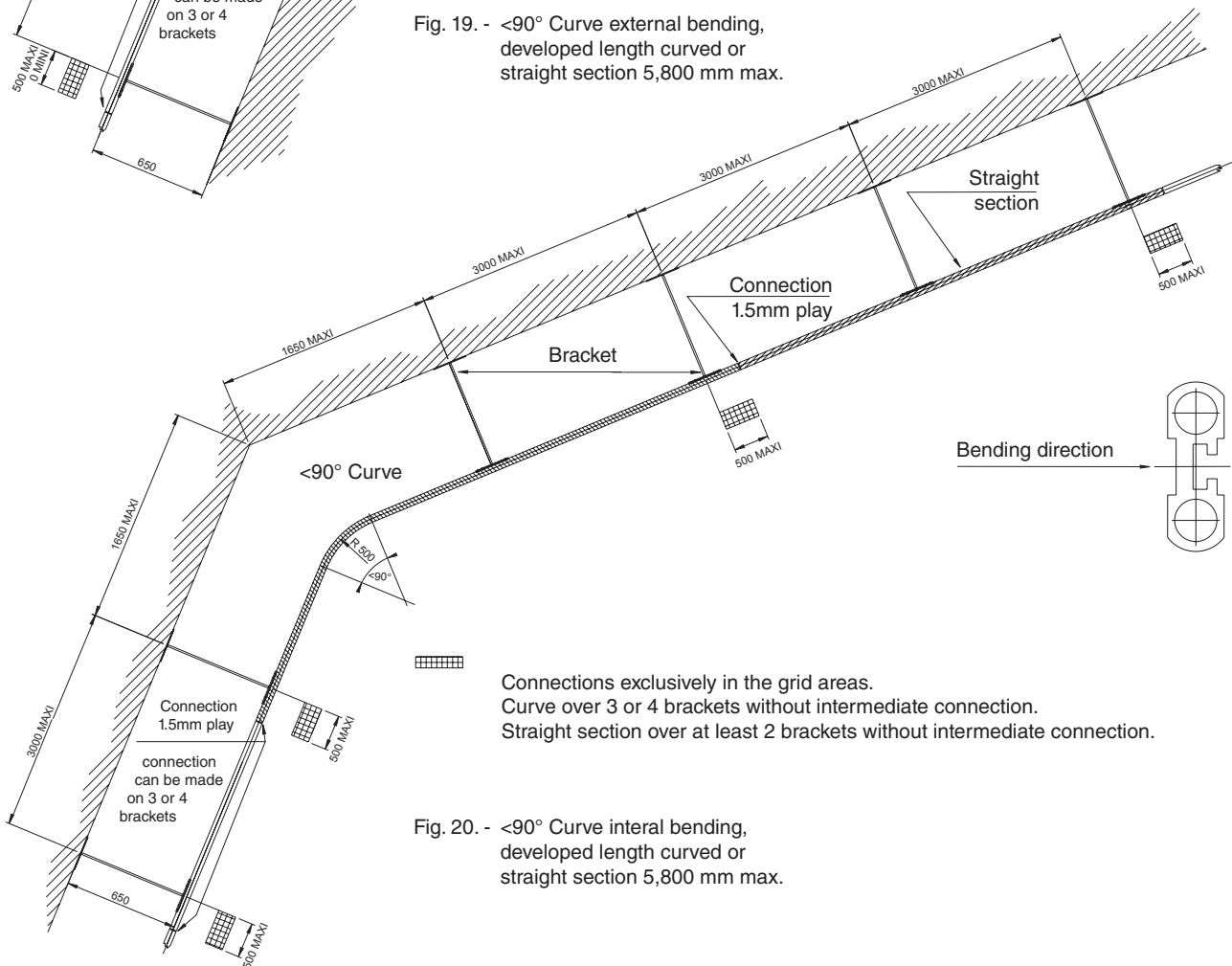
Examples of layout





Connections exclusively in the grid areas.
 Curve over 3 or 4 brackets without intermediate connection.
 Straight section over at least 2 brackets without intermediate connection.

Fig. 19. - <math><90^\circ</math> Curve external bending, developed length curved or straight section 5,800 mm max.



Connections exclusively in the grid areas.
 Curve over 3 or 4 brackets without intermediate connection.
 Straight section over at least 2 brackets without intermediate connection.

Fig. 20. - <math><90^\circ</math> Curve internal bending, developed length curved or straight section 5,800 mm max.

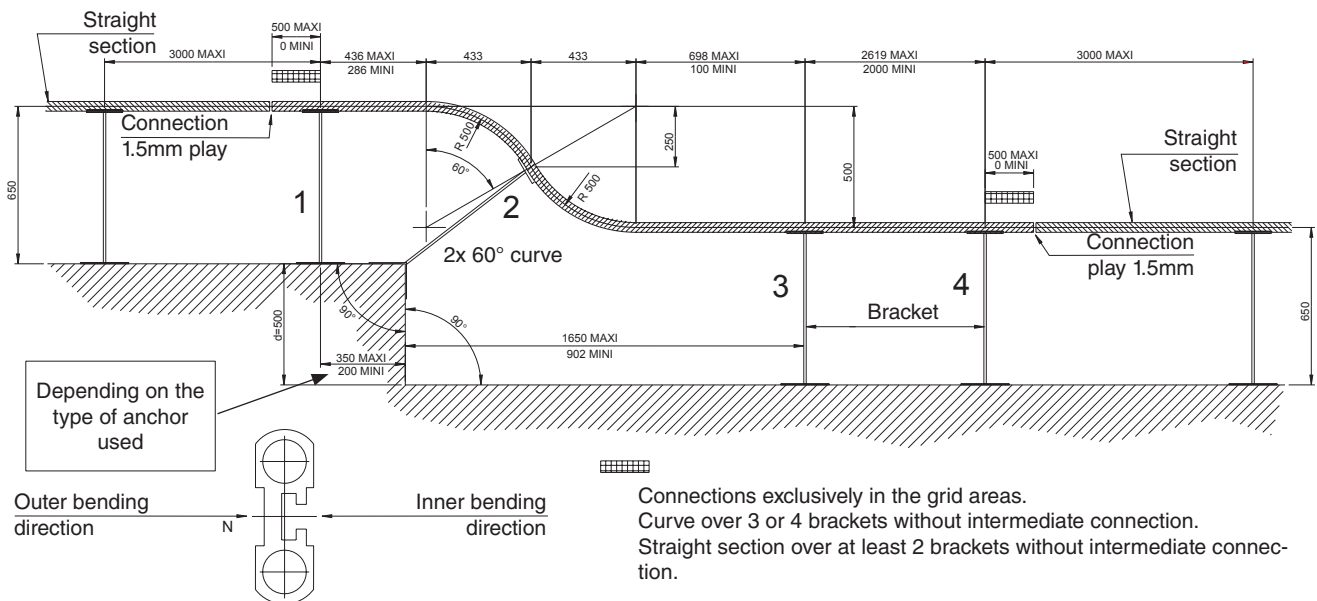


Fig. 21. - 2 x 60° external and internal bending Developed length curved or straight section: 5,800 mm max.

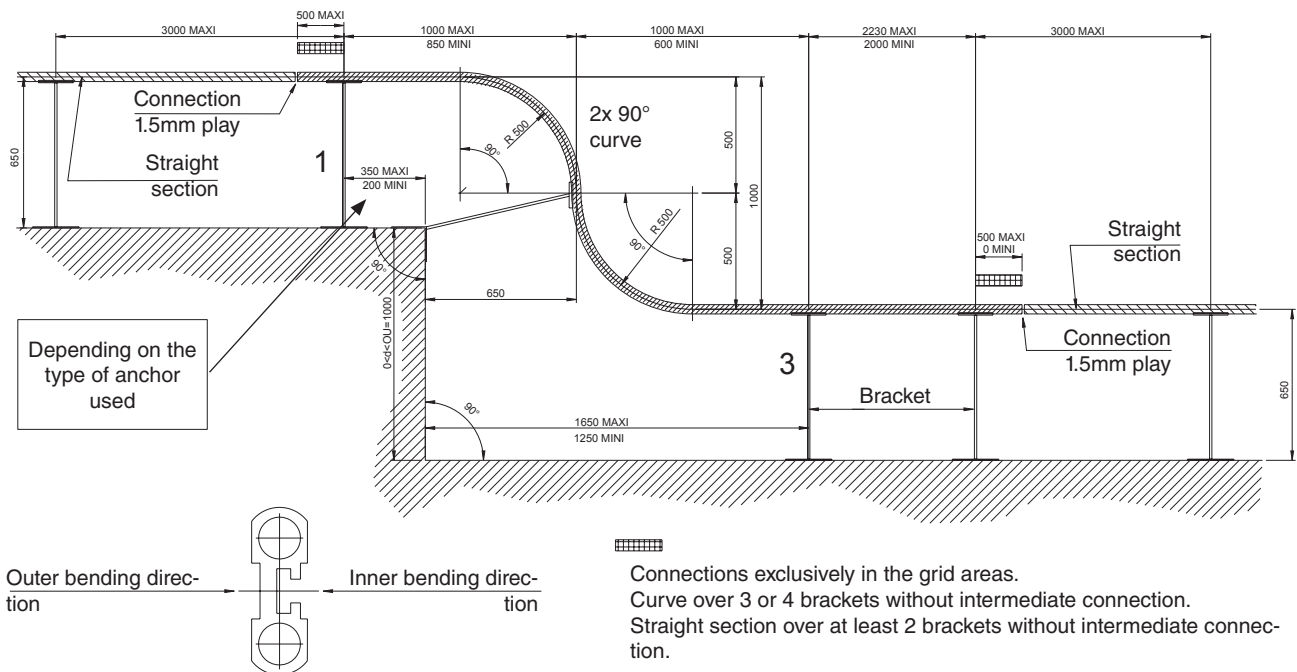


Fig. 22. - 2 x 90° external and internal bending Developed length curved or straight section: 5,800 mm max.

Contact

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