



GUIDELINES FOR COLLECTIVE PROTECTION MEASURES

1.2 FLOORINGS

SCOPE | Collective protection measures for prefabricated floorings

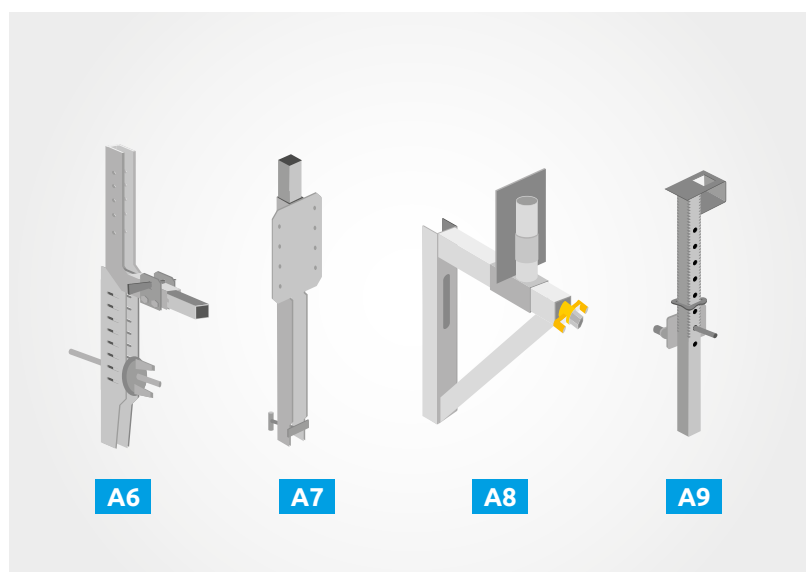
GENERAL RECOMMENDATIONS:

- Ensure the planned and adopted solutions are included in ISPW, which is an obligatory appendix to the HASP schedule.
- Provide an installation instruction from the manufacturer or a design of formworks supplier.
- Plan systemic collective protective measures during construction of the flooring and after pouring concrete on it.

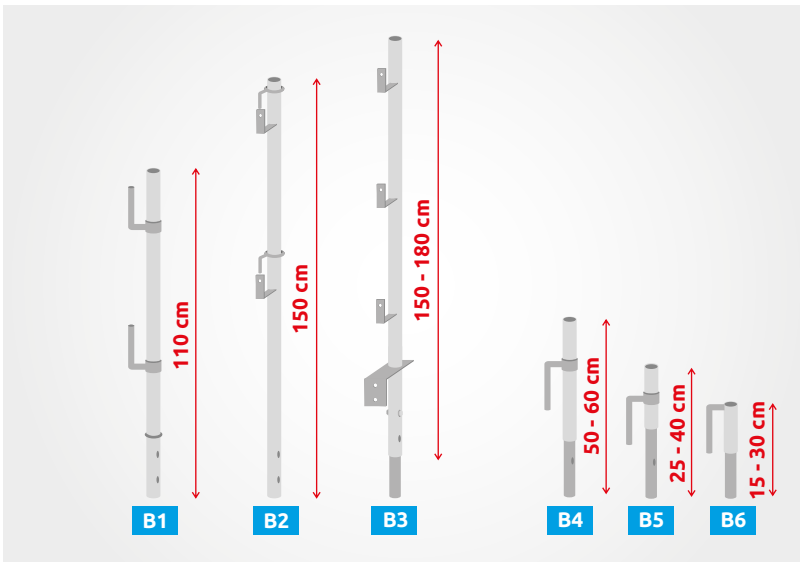
Guidelines concerning securing of the flooring using adjustable holders at brick or reinforced concrete walls.

- The adjustable holders are used during setting up of formworks on brick or reinforced concrete walls, wherever girders cannot protrude outside the building silhouette.
- A given solution can also be used during construction of prefabricated floorings, e.g., filigree slabs, hollow-core slabs, etc.
- Collective protection measures are constructed regularly, as works on construction of a flooring progress, or are constructed before the flooring.
- Plan collective protection measures in such way that their height and design fulfil their role also after concrete is poured on the flooring (at least 1.1 m) and class A strength according to PN-EN 13374.

FORMWORKS SETTING STAGE:



Plan appropriate adjustable holder. Each supplier of formworks and companies specialising in collective protection measures systems have appropriate solutions.

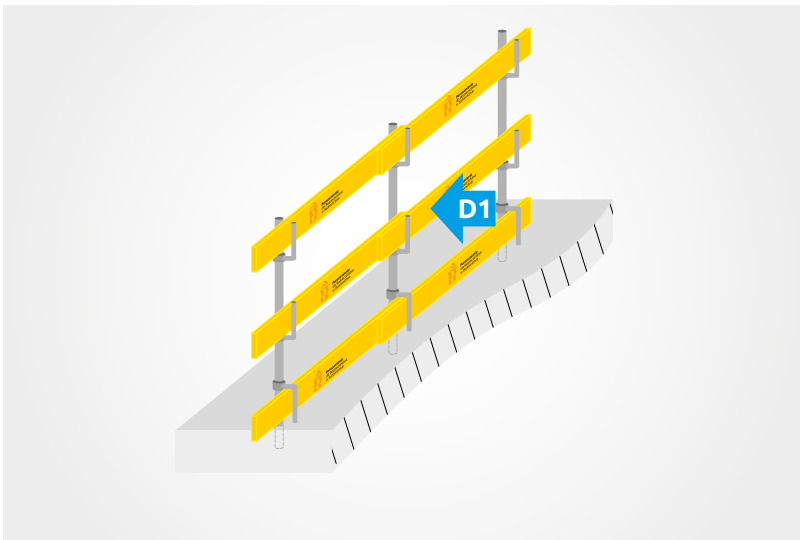


Use a post of appropriate height, so a top handrail of the barrier meets the minimum height, taking into account the flooring thickness or the beam height. A solution with a post and a post extension of sufficient height can also be used.

Presented post extensions are examples, and their height can vary, depending on a supplier.



Working platforms are installed by anchoring their heading only in the reinforced concrete flooring. When formworks of an external work are open from brackets, a bracket should be secured against a wind. Remaining requirements are consistent with an instruction of a working platform manufacturer.



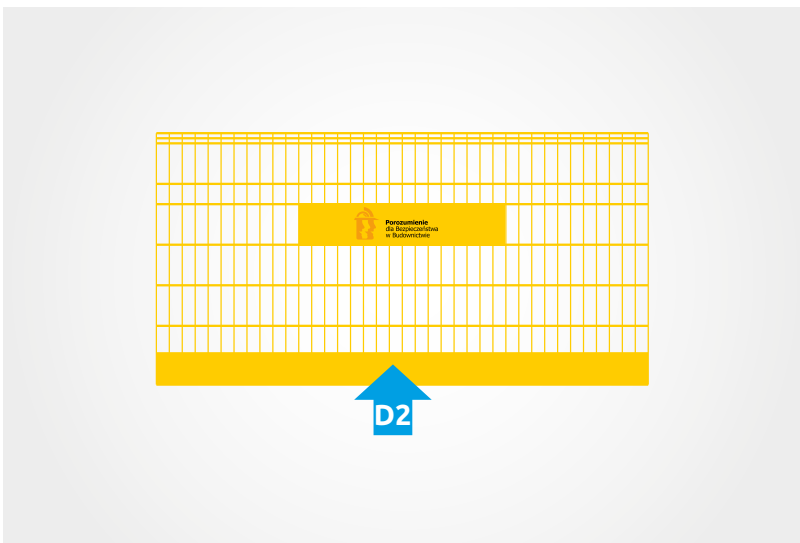
Protective planks for safety handrails and toeboards made of sawn timber of the following parameters;

- strength class at least C18
- minimum moisture content 18%

Plank dimensions:

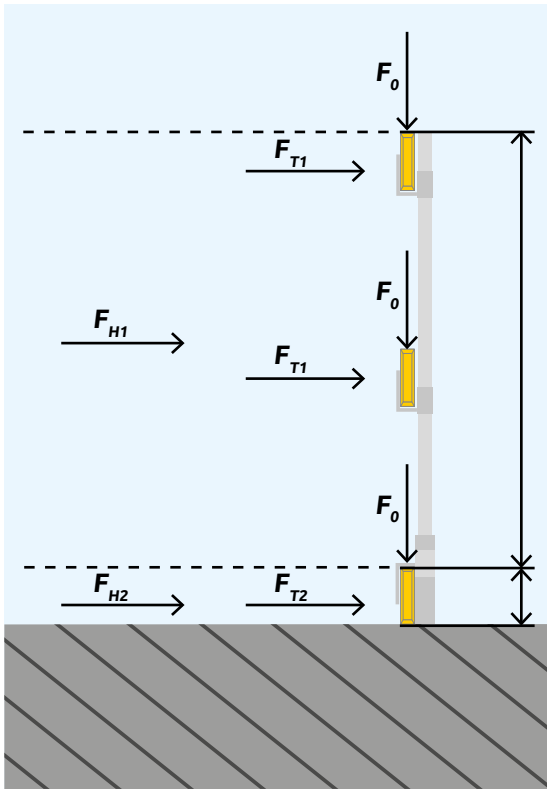
- Maximum length 2500 mm for a maximum distance between posts of 2000 mm
- Thickness 32 mm
- Width 150 mm,

unless the instruction of a supplier of protective measures provides otherwise.



A safety mesh is used to protect against a fall from height of people and tools. Mesh used on the edge must have a tight toeboard (at least 15 cm).

Balustrades used to secure open edges of buildings and other construction structures. They should meet strength requirements specified in PN-EN 13374.



Key

F_0 - 1,25 kN

F_{T1} - 0,3 kN (maximum deformation of 55 mm)

F_{T2} - 0,2 kN (maximum deformation of 55 mm)

F_{H1} - 0,3 kN

F_{H2} - 0,3 kN

F_{T1} - A force applied to achieve conformance with requirements for deformation (for barriers, posts, perpendicularly to the system plane)

F_{T2} - A force applied to achieve conformance with requirements for deformation (for toeboard)

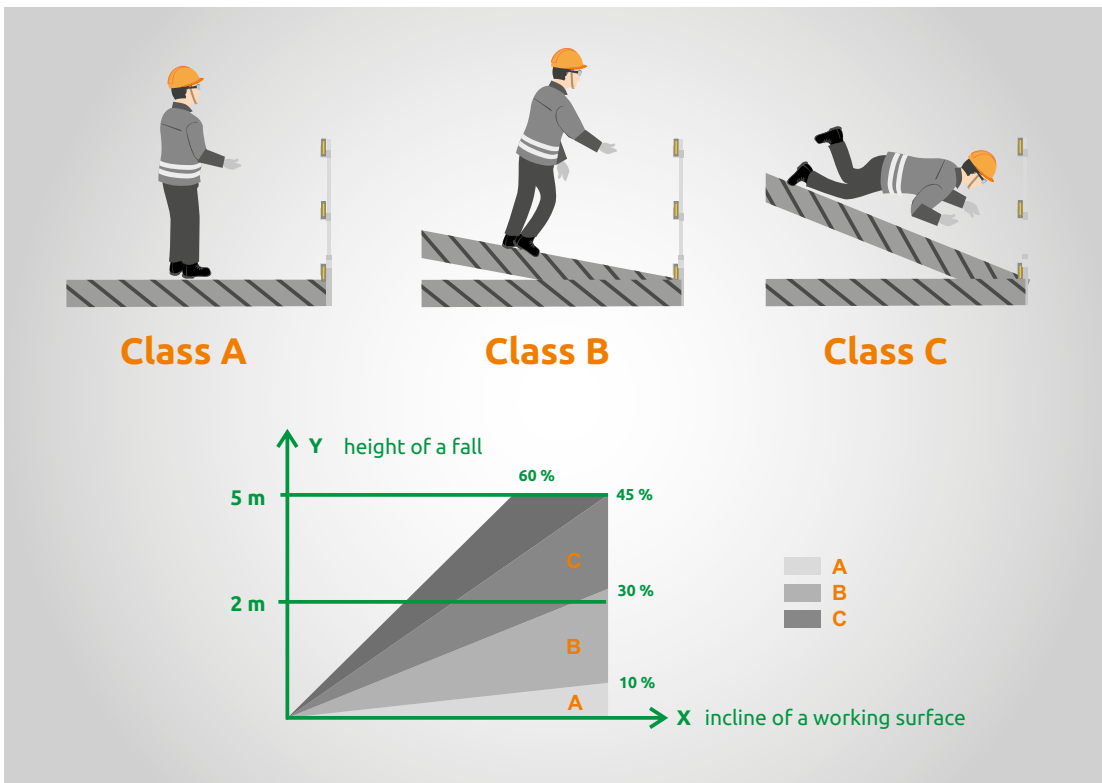
F_{H1} - A force applied to achieve conformance with requirements for strength (at any place, perpendicularly to the system plane, excluding toeboards)

F_{T2} - A force applied to achieve conformance with requirements for strength (for toeboard)

F_D - Random load

Values for loads that must be endured by collective protective measures, and a direction for their operation

A standard specifying requirements set up for balustrades also classifies collective protections and specifies possibilities for their application, taking into account the incline of the working surface.

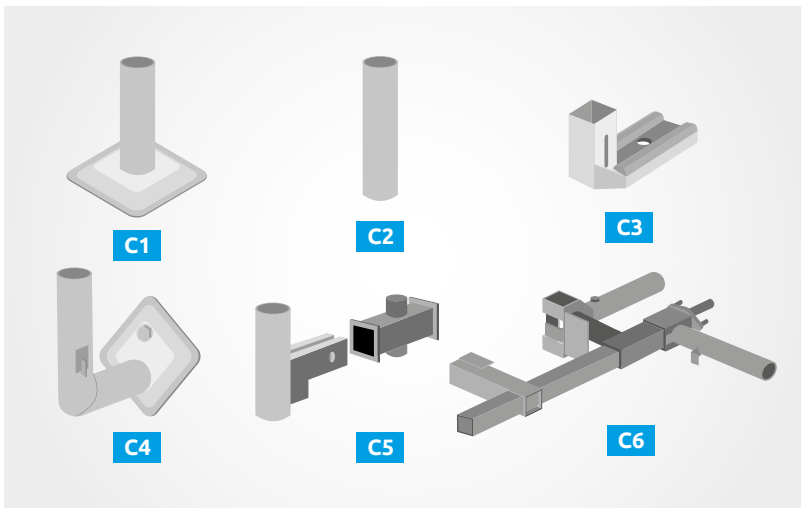


Adequacy of usability of individual classes for various inclines and heights of a fall.

STAGE AFTER CONCRETE POURING ON A FLOORING:

After concrete is poured on a flooring, collective protection measures can be moved to the constructed flooring, but it is not necessary, as collective protective measures constructed on adjustable holders.

REMEMBER! If you decide to move collective protection measures to a flooring, you must follow a sequence for performance of these works - first construct protective measures on a flooring on which concrete was poured, and then dismantle collective protection measures constructed on adjustable holders. Collective protection measures and anchoring points are installed on the flooring after concrete reaches appropriate strength.



Plan a way for installation of a post after concrete is poured

Screwed on horizontal holder

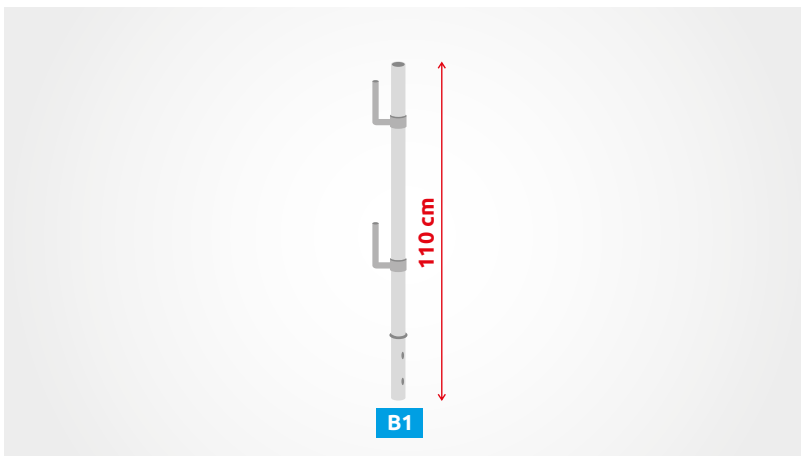
- using an appropriate anchor

Stay-in-place system - assembled before concrete is poured

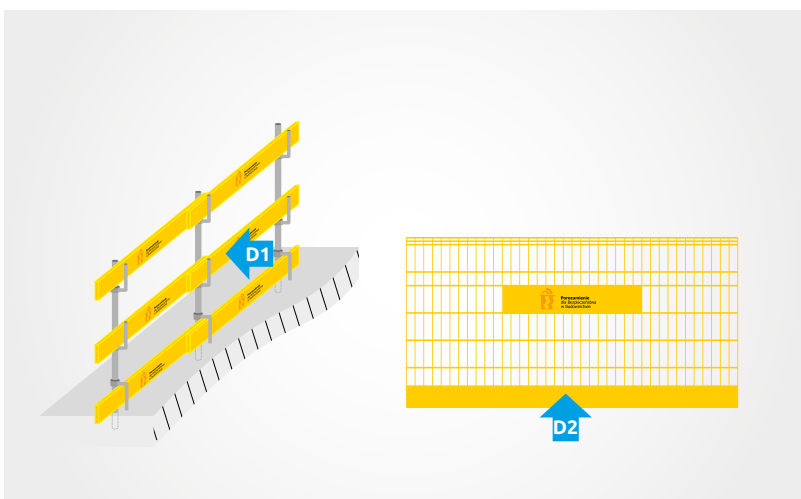
Screwed on vertical holder

- using an appropriate anchor

Clamping holder - screwed directly to reinforced concrete



A modular post for installation of a top handrail at a height of at least 1.1 m

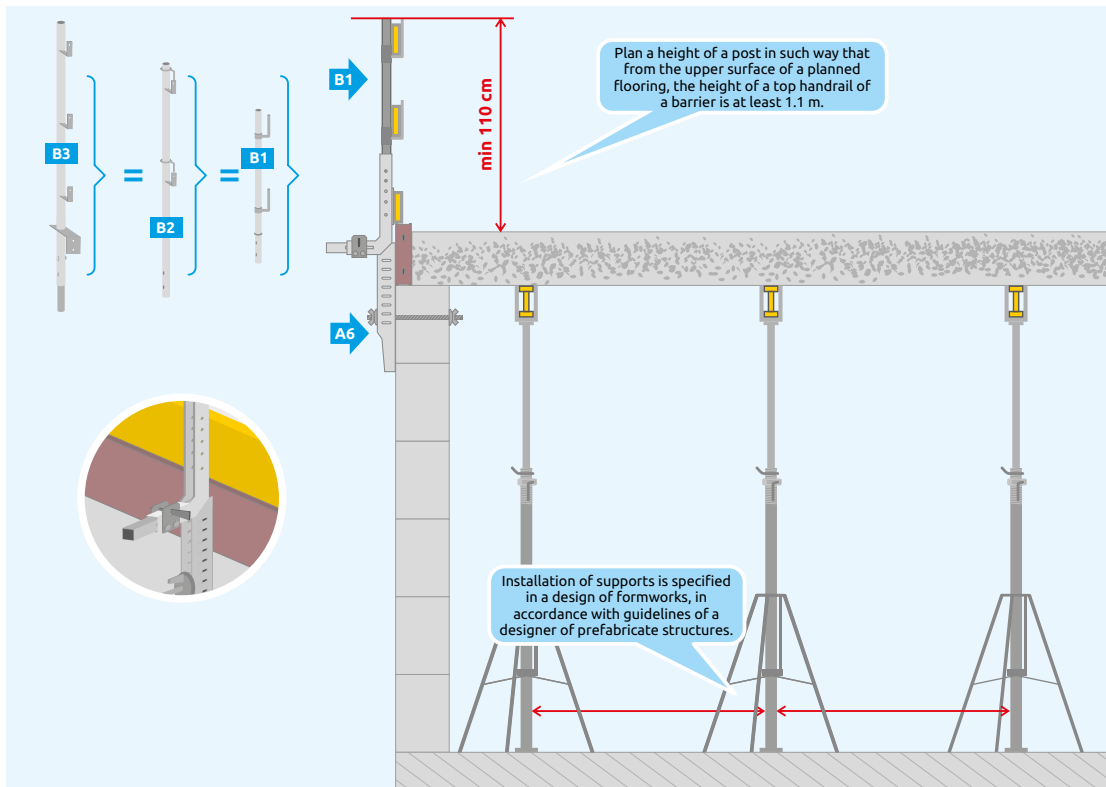


Protective planks should be of appropriate strength class, unless the instruction of a supplier of protective measures provides otherwise.

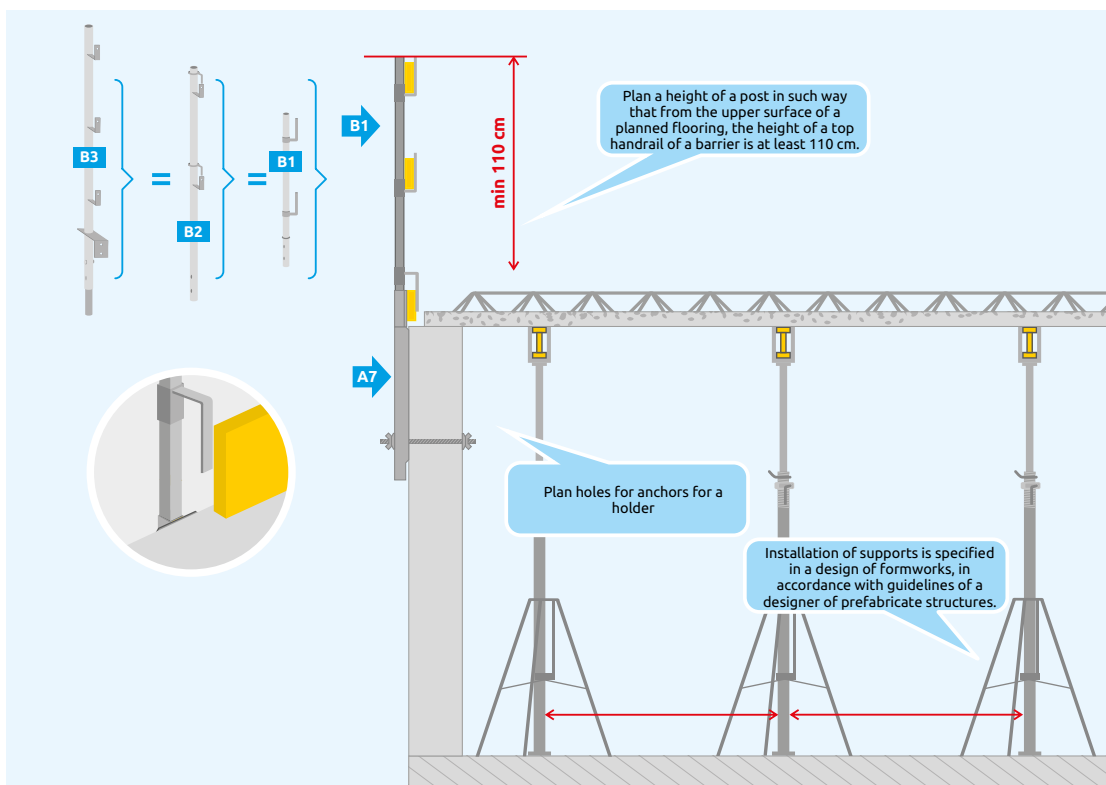
A safety mesh is used to protect against a fall from height of people and tools. Mesh used on the edge must have a tight toeboard (at least 15 cm).

EXAMPLES

MASONRY WALL



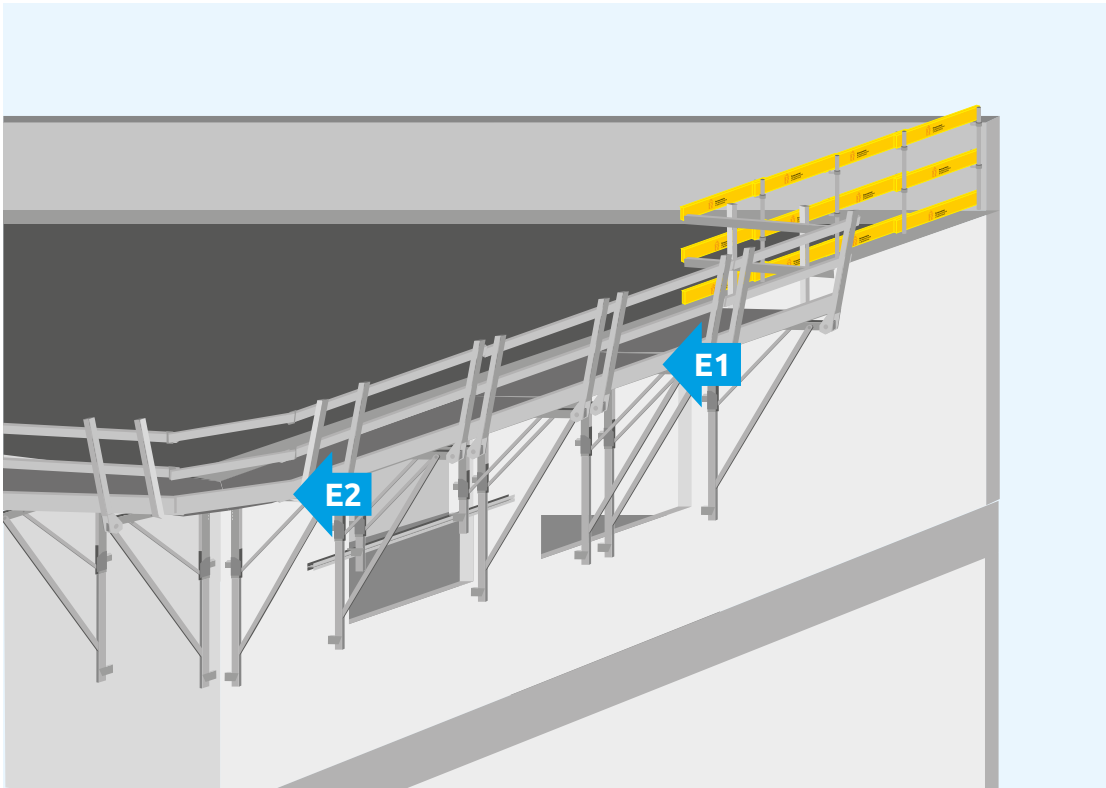
REINFORCED CONCRETE WALL



PLATFORMS BRACKETS

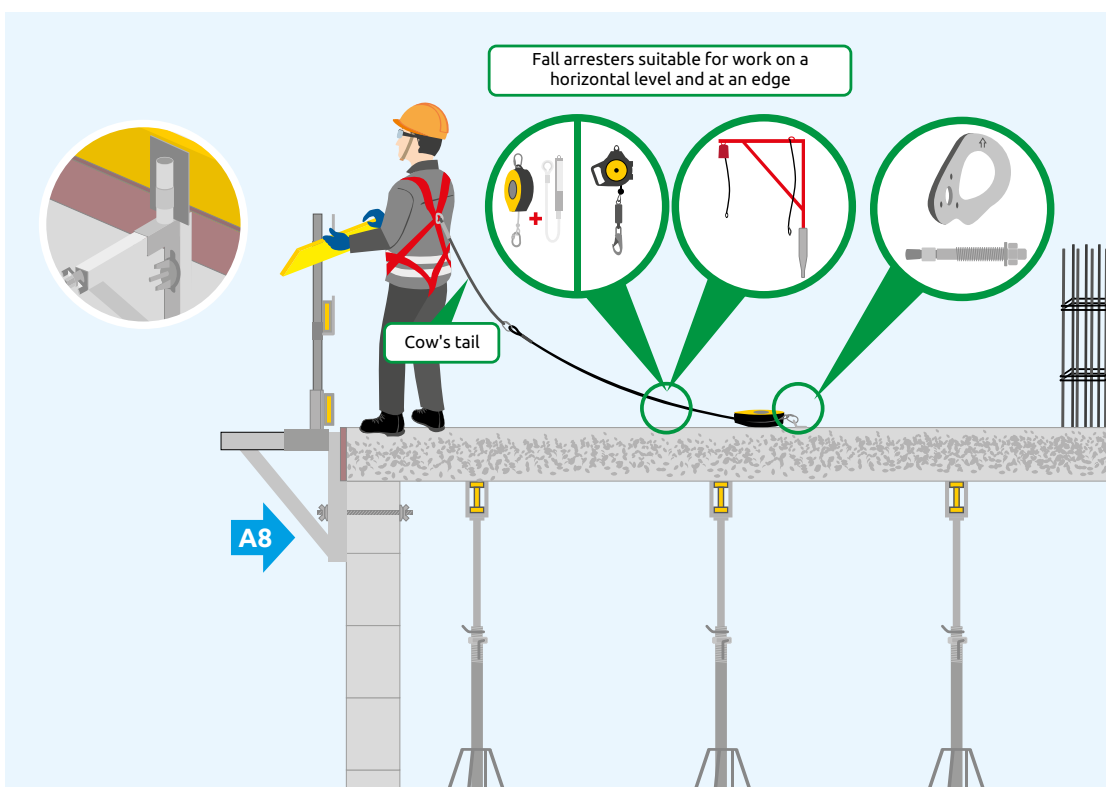
Working platforms are installed can be used during construction of reinforced concrete walls.

Working platforms should be installed in accordance with manufacturer's guidelines.

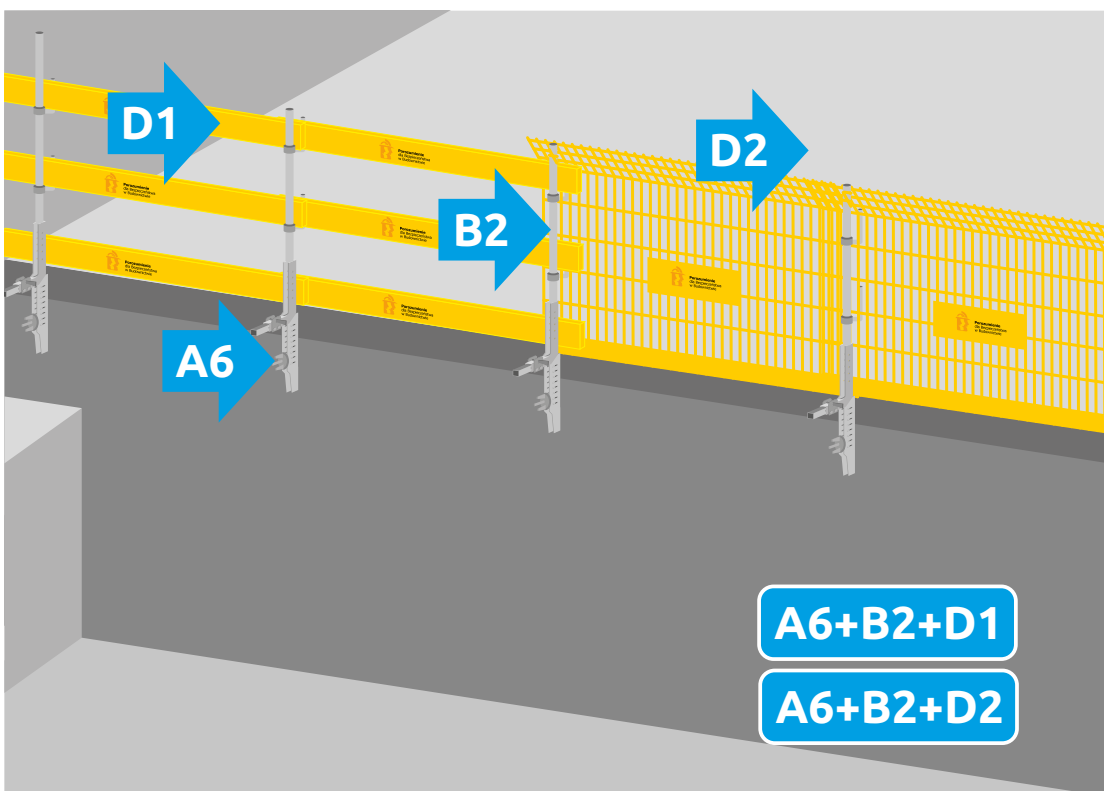
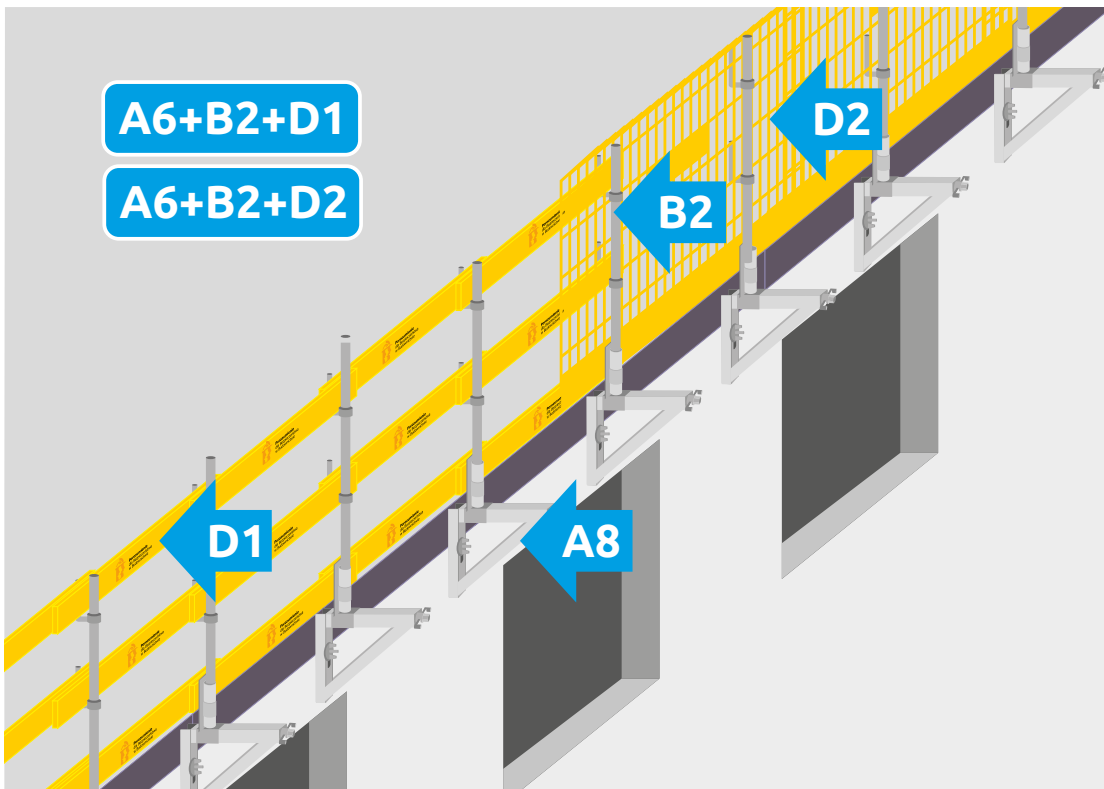


Technical requirements concerning working platforms result from the manufacturer's documentation.

INSTALLATION PROCEDURE



Installation with different types of adjustable holders



Balustrades used to secure open edges of buildings and other construction structures. They should meet strength requirements specified in PN-EN 13374.