

CEDRAL



The world of Terraces

Cedral Terrace Installation guide

www.cedral.world

Cedral Terrace, specially developed for outdoor use, is durable, easy to maintain and provides a comfortable walking experience. Cedral Terrace combines the best of natural raw materials and technology with German know-how in the field of fibre cement production to create a product that is equally practical, beautiful and safe.

Our decking planks withstand even heavy use and weathering without having to be sanded, coated or oiled. They are immune to cracks, splinters and twisting and require little maintenance to stay beautiful.



SIMPLE

Quick to install and easy to maintain



FLEXIBLE

Can be cut to any length



RESISTANT

No splintering, twisting or warping



SAFE AND RELIABLE

Non-combustible and non-slip

Technical status 10/2023

All instructions, technical and drawing data correspond to the current technical status and our experience based on it. The applications described are examples and do not take into account the special conditions in individual cases. The information and the suitability of the material for the intended use must be checked by the customer in any case. The manufacturer is not liable for this. This also applies to misprints and subsequent changes to technical specifications.

On our website www.cedral.world you will find the digital version of this planning document. This may differ from the printed document due to current changes.

CONTENT

Cedral Terrace Installation Instructions

This guide outlines the method for installing a single level deck with a simple frame and horizontal deck plank positioning. Bear in mind that other decking designs will require different techniques and joist spacing.

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I SAFETY, NOTES AND TOOLS

I.1 SAFETY

Wear protective gloves when handling the deck planks.

Wear safety goggles and a dust mask when cutting or drilling the material.

Bear in mind that full lengths of decking are heavy so take care or ask for assistance when moving them.

For additional information see the Cedral Terrace safety data sheet.



I.2 SAFETY

Cedral Terrace planks have been developed for terraces, roof gardens, balconies or similar applications. The present planning & application assumes a standard application of the Cedral Terrace planks and does not consider any special applications.

For special applications not covered in this document, please contact our Technical Service Department.

Special instructions

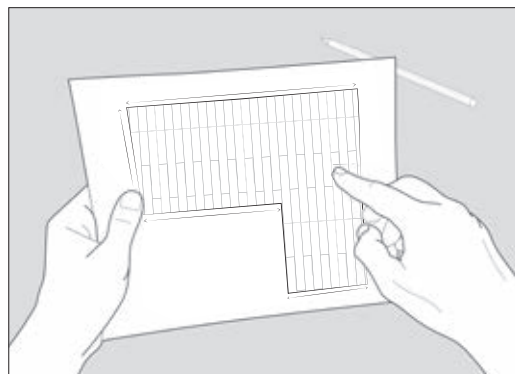
- Cantilevered or spanned constructions are not permitted.
- The free overhang is a maximum of 20 mm.
- Cedral Terrace planks are not intended to be used as a load-bearing substructure and should therefore not be built on. If necessary, a specialist planner must be consulted.
- Cedral Terrace planks must not be used for fall protection components.
- The decking planks must not be laid directly on the floor, but must rest on and be fastened to a suitable substructure with at least 40 mm rear ventilation.
- The terrace planks should be laid with a gradient of 1% to ensure safe drainage of surface water.
- Production-related dimensional tolerances in length, width and thickness must be taken into account during planning and installation, see page I 6.
- It is recommended to mount furniture glides for outdoor use.



I.3 TOOLS

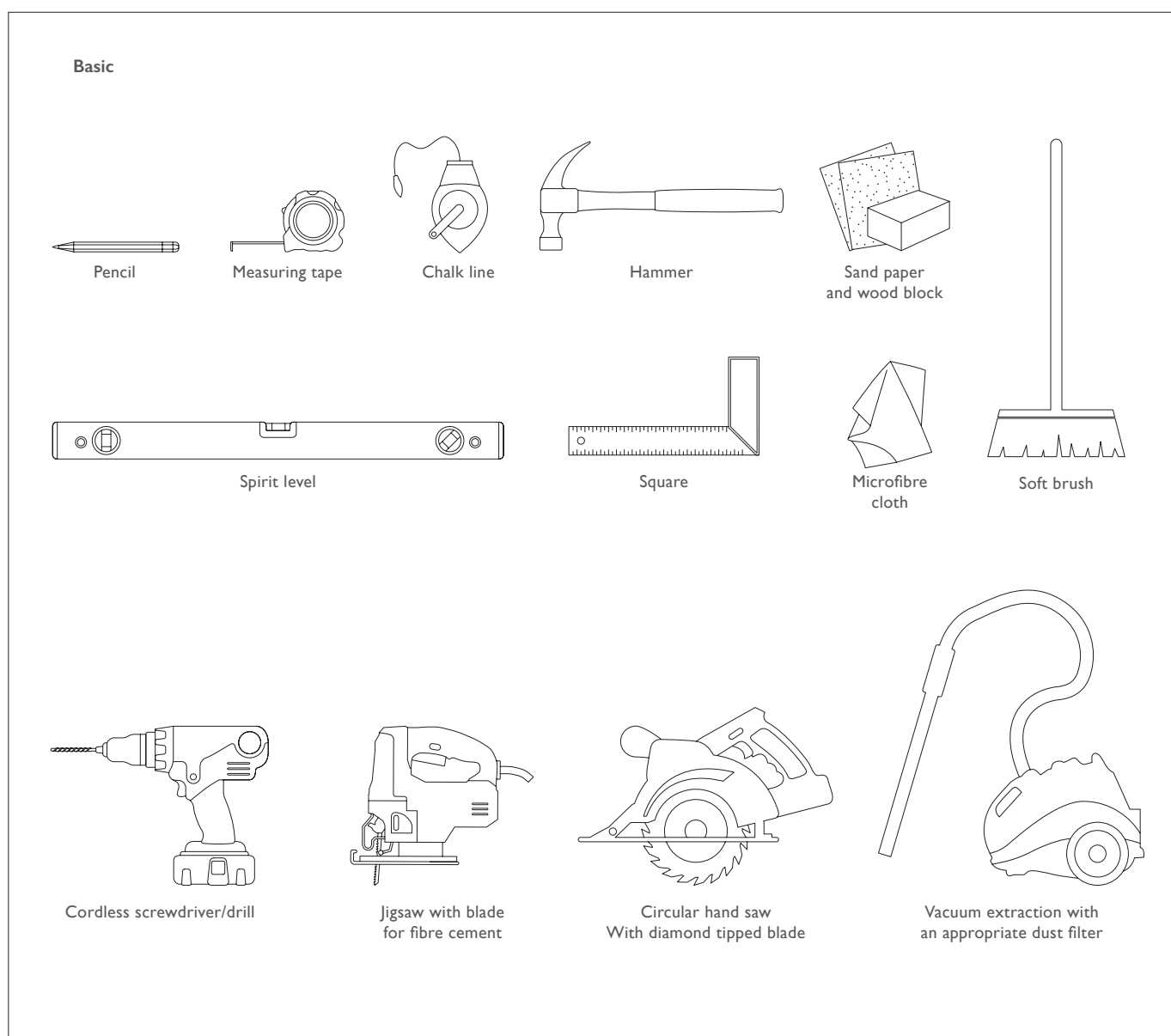
Plan a layout for your terrace before starting it to ensure the best installation for your project. We recommend drawing a site plan of the proposed area for material ordering purposes and to minimise errors. We recommend using the Cedral Terrace calculator on Cedral.world.

We would recommend consulting Local Building Codes or Regulations prior to starting the terrace in case permission is required.



Required tools

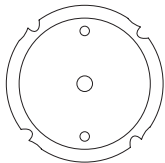
No specialist tools are required to install your Cedral Terrace.



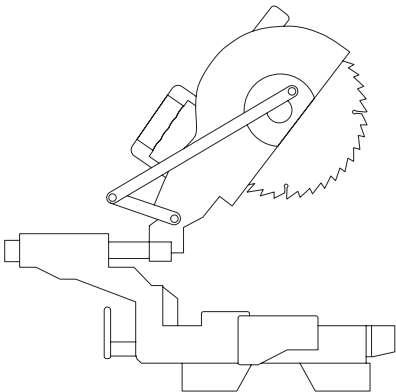
Optional equipment

When the job site is bigger, you might find it easier to use the following tools too:

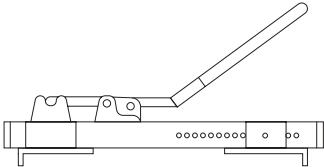
Optional



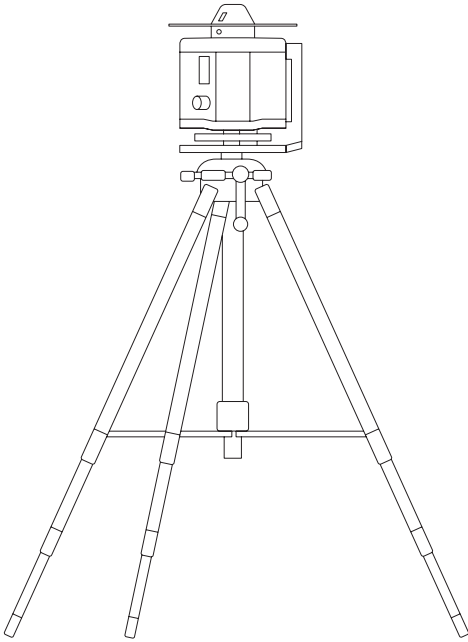
Fibre cement saw blade



Mitre saw



Deck clamp



Laser level

2 PRODUCT RANGE

2.1 COLOUR RANGE

Cedral Terrace is a through-coloured natural fibre cement material without coating. The mechanical treated surface results in a slightly rough texture.

Cedral Terrace is available in the following colours

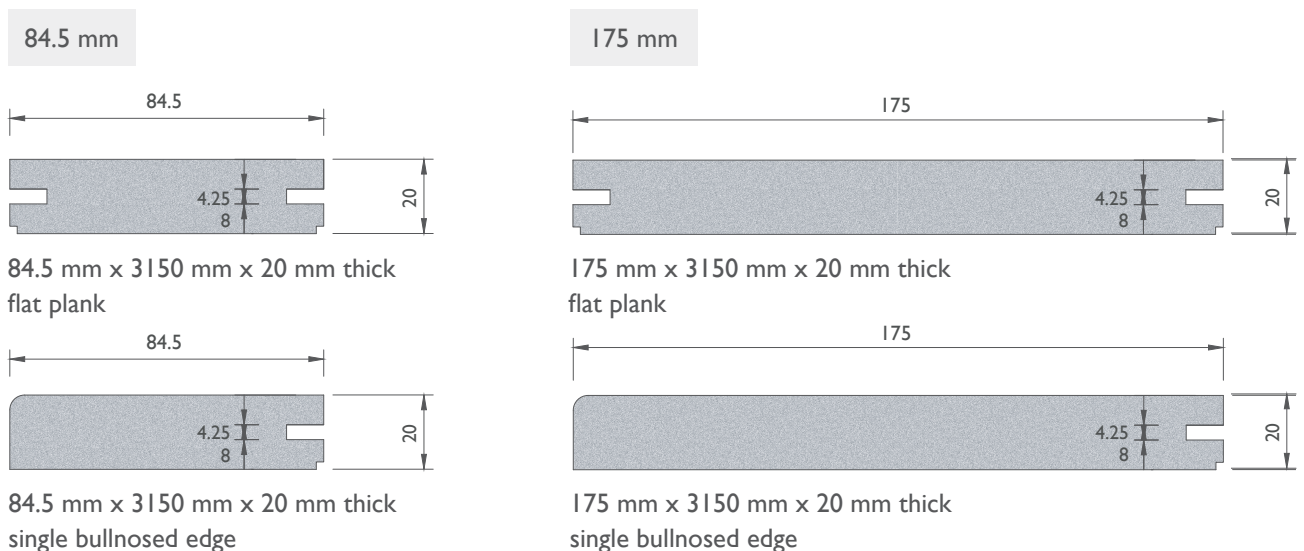


Slight differences in the colour tone due to the natural pigments used are to be expected (a variation in brightness of ΔL (dry) of +/- 2.5). White spots or traces of manufacture may be visible. The plank will appear different when wet or dry. As with all non-coated materials, Cedral Terrace will lighten and weather over time.

The weathering of Cedral Terrace is no different than that expected from uncoated cementitious materials. Efflorescence is a natural process that occurs during the first few days after your terrace has been installed. It will give your terrace a softer and lighter colour throughout the deck. Each Cedral Terrace plank is unique in its colour.

2.2 PROFILE RANGE

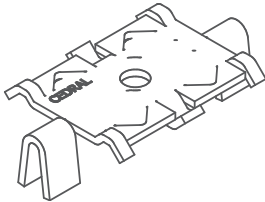
Cedral Terrace is available in the following sizes and profiles:



2.3 COMPONENTS

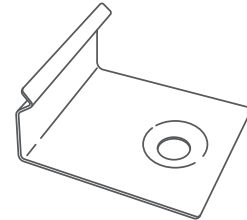
CEDRAL TERRACE FIXING CLIP

Stainless Steel grade 1.4301 with black coating. Salt spray tested for 2000 hours. When installing the Cedral Terrace mounting clip, it may sometimes be necessary to gently tap the clip into the groove of the Cedral Terrace plank with a small hammer or rubber mallet. Our clips are designed to provide a superior connection to the Cedral Terrace planks, preventing the vs from shifting once the clip is installed.



CEDRAL END CLIP

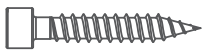
Stainless Steel grade 1.4310 colour black



When fixing the Clips to timber subconstruction the following fixings should be used:

SCREW FOR CEDRAL TERRACE FIXING CLIP (ON TIMBER)

Stainless steel hardened 1.4006 with drilling point. 4.2 mm dia 35 mm long with 6 mm head with a Torx TX20 drive



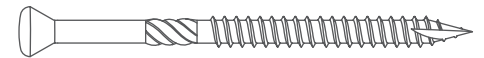
SCREW FIXING FOR CEDRAL END CLIP (ON TIMBER)

Self-drilling stainless steel (DIN 7982) black coated torx screw (TX20) with 7.5 mm countersunk head. Diameter 4.2 mm, length 16 mm



VISIBLE FIXING FOR CEDRAL TERRACE (ON TIMBER)

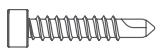
5 mm dia x 60 mm self driller with countersunk head TX25 torx drive, stainless steel 1.4006



When fixing the Clips to metal subconstruction the following fixings should be used:

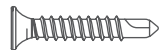
SCREW FIXING FOR CEDRAL TERRACE FIXING CLIP ON METAL

4.2 mm dia 22 mm long 6 mm head torx TX20 drive Stainless Steel 1.4006 coated black



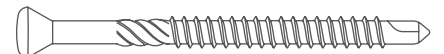
SCREW FIXING FOR CEDRAL END CLIP ON METAL

Self-drilling stainless steel (DIN 7504) black coated torx screw (TX15) with 7.5 mm countersunk head. Diameter 3.9 mm, length 20 mm



VISIBLE FIXING OF CEDRAL TERRACE ON METAL

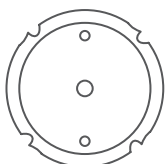
5 mm dia x 60 mm self driller with countersunk head TX25 torx drive, stainless steel 1.4006



2.4 ACCESSORIES

FIBRE CEMENT SAW BLADE

Circular saw blade Diamaster 160 mm, 190 mm, 225 mm, 300 mm dia diamond tipped service life approx 6,000 lin m



Circular saw blade Diamaster 160 mm, 190 mm, 225 mm, 300 mm dia diamond tipped service life approx 2,500 lin m

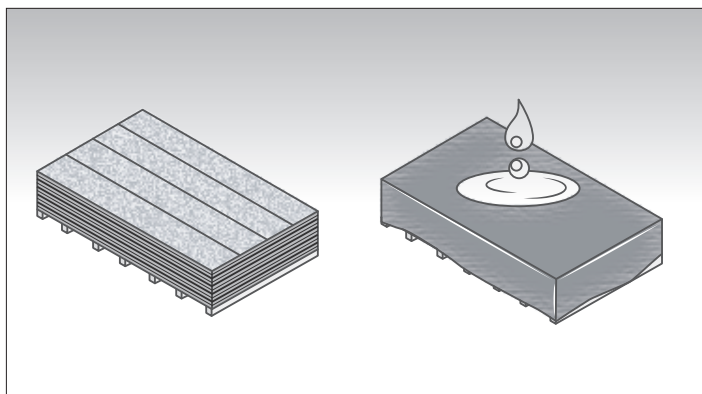
BLADES 3P BOSCH

T141HM for jigsaw



3 STORING AND HANDLING CEDRAL TERRACE

Storage



Cedral Terrace planks must be stored flat on a pallet, inside and undercover in dry conditions.

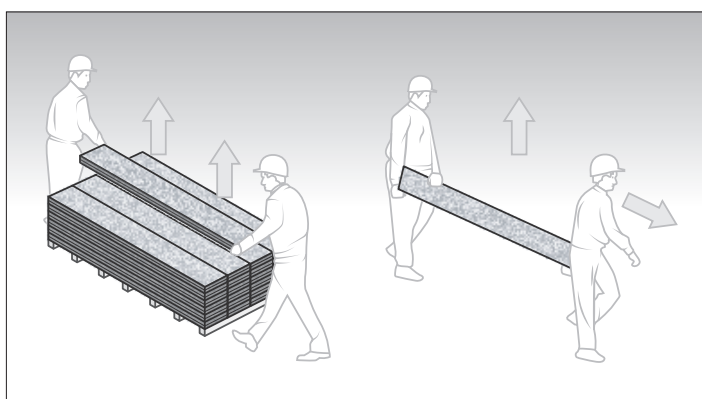
Cedral Terrace planks must be stored flat on a pallet, inside and undercover in dry conditions. Stack the pallets in a way so that the planks are ventilated.

If condensation or moisture is allowed to penetrate between the stored planks, surface staining in the form of white salt or efflorescence can occur. The outer plastic protection may cause condensation if it is not ventilated.

Do not deliver any planks to site which cannot be installed immediately or unloaded into a suitable well protected storage area. Store pallets clear of the ground and on level bearers at a maximum of 600 mm centres.

Cedral Terrace planks are supplied with protective foil between the decorated faces. This protection should not be removed. The protection foil must always be replaced if planks are re-stacked. Stack the panel's front face to-front face or rear surface-to-rear surface.

Handling



Always carry Cedral Terrace planks with 2 people.

Cedral Terrace planks are heavy!

Always lift terrace planks off each other, never slide them over one another. Avoid handling in a way that could cause edge damage.

To carry the planks, stand them on their back edge and lift with two people - one person at each end.

4 PREPARATION OF THE SUBSTRATE

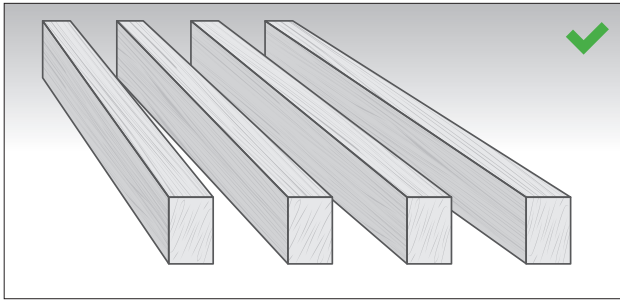
Depending on the type of application, the existing substrates differ. Usually terraces are built on earth, which must be prepared accordingly. In this context, the local regulations regarding substrate preparation must be observed.

The correct preparation of the substrate is one of the most important points for a beautiful and durable terrace. Special care should therefore be taken to avoid errors that only become apparent when the installation is complete. The most important goal is to obtain a substrate that is as even as possible. Depending on the following structure, the necessary slope of 1 % away from the building must be taken into account.

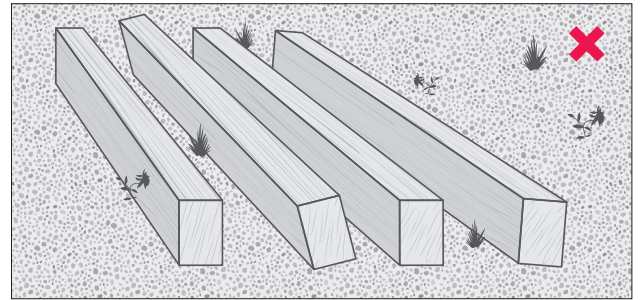
The subfloor must be statically sufficiently load-bearing and frostfree. Non-observance can lead to damage to the construction, objects on it or to injuries to persons. Usually, compacted subsoils of gravel, chippings or similar materials are used.

Concrete slabs, at least 30 x 30 x 4 cm, can then be laid on top of this level layer. Here too, the even and uniform height of the individual panels must be checked. Drainage may be necessary depending on the substrate. It is important to avoid waterlogging permanently.

Other suitable substrates are, for example, concrete ceilings for roof terraces or balconies. Any existing sealing levels must be observed and protected against damage.



The substructure must be laid on a level, load-bearing substrate. Joists: 60 x 40 mm.



Grass, uneven pavement slabs or sand are not sufficiently loadbearing. Joists: 60 x 40 mm.

It is recommended to cover substrates such as sand and earth with a weed protection fleece.

5 SUBSTRUCTURE

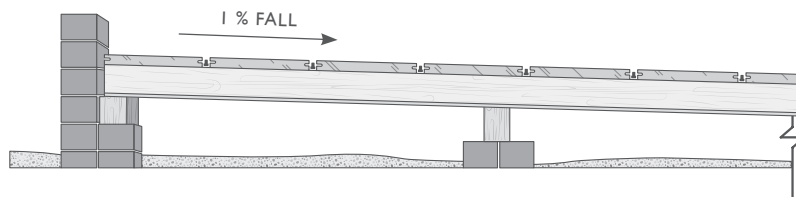
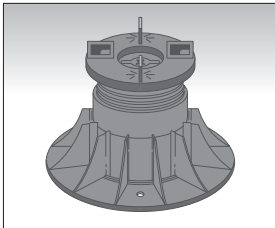
After preparing the subsoil, the substructure is erected. For Cedral Terrace planks, this can consist of squared timber, width at least 50 mm, height according to static requirements or aluminium profiles. Wooden substructures must comply with local regulations.

Height-adjustable stilt bearings are particularly helpful. These are usually placed and aligned on concrete slabs. Then square timbers or aluminium profiles are mounted on the stilts. A level substructure level can be created by simply rotating the stilt bearings. The necessary slope of 1 % from the building must be taken into account.

The substructure must be laid at a distance of at least 2 cm from the wall to avoid constraint.

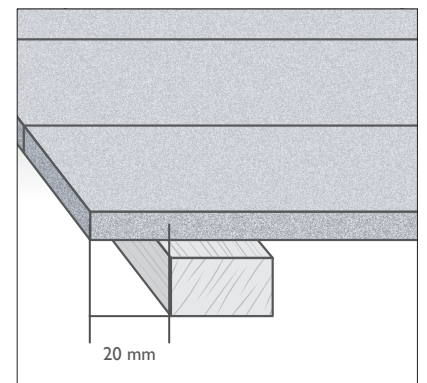
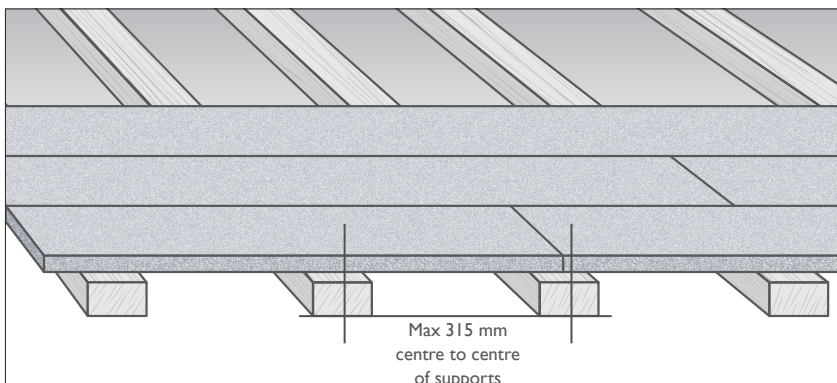
The centre distance between the substructure profiles is maximum 315 mm (1/10 of a full plank length). If the squared lumber of the substructure is laid directly on concrete slabs, suitable rubber underlay strips, width 40 mm, thickness 10 mm, must be laid underneath the squared lumber. The squared lumber must be bolted to the concrete slabs using suitable angles.

Cedral Terrace subframe should always be securely fixed to the substrate



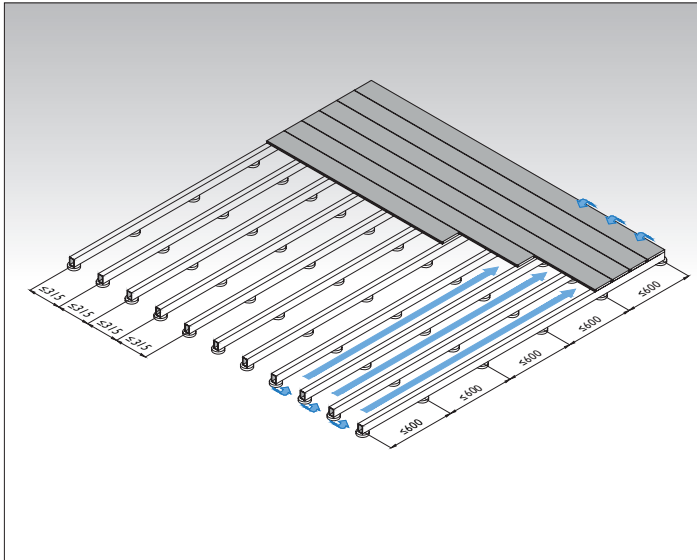
End of deck planks must be supported and not have an overhang of more than 20 mm. If not planks may be damaged.

Joists must be set to 315 mm centres.



5.1 EXAMPLES OF STRUCTURES:

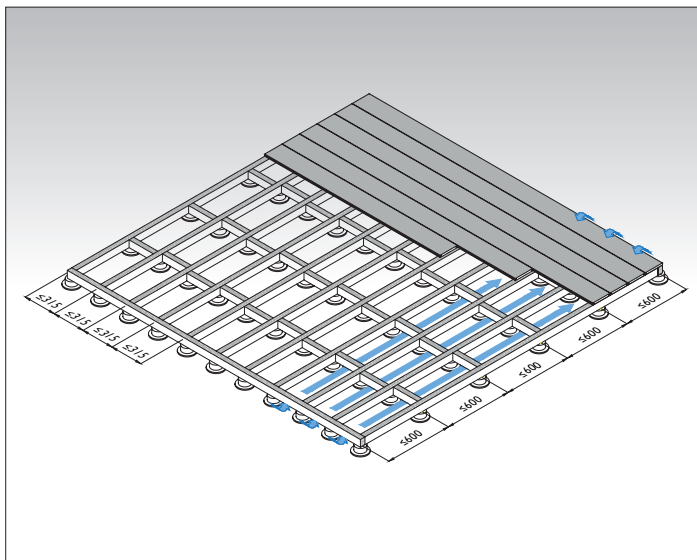
Example 1: The beams are fixed in the substrate



Cedral Terrace planks are fixed on a simple subframe.

- Valid for a substructure in wood or aluminium.
- Section of the beams: min 60 x 40 mm.
- The substructure consists of:
 - a concrete slab
 - existing stone terrace or steel structure.
- The beams/substrate are separated by a membrane or similar

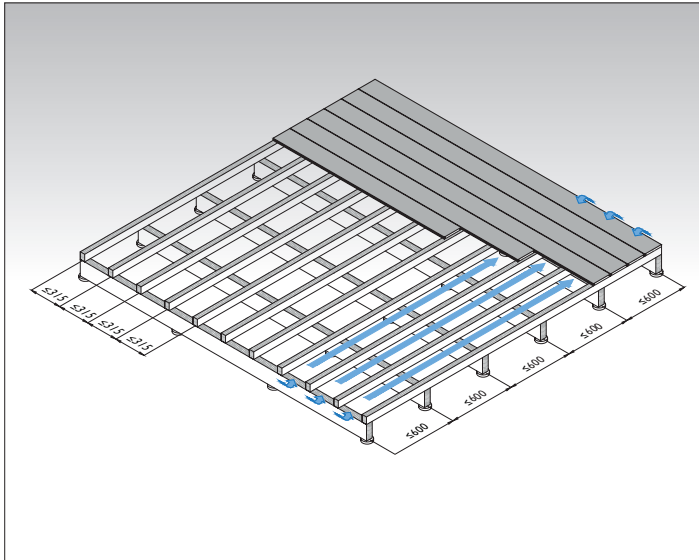
Example 2: Sub structure on adjustable pedestals



Spacers are provided every 600 mm if it is not possible to fix the pedestals to the ground the substructure must be a fully fixed subframe.

- Valid for a wooden substructure.
- Section of joist min 60 x 40 mm.
- Adjustable pedestals are installed max 600 mm centres.
- The joists are supported on the adjustable pedestals.
- A weed control fabric is necessary when installing on soil or earth.

**Example 3:
Adjustable pedestals on double subframe.**

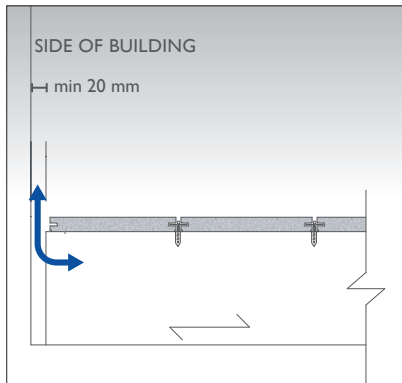


- Valid for a wooden substructure.
- Section of joists min 60 x 40 mm.
- Large subframe joists installed at max 600 mm centres. Section of joists to be minimum 60 x 150 mm.
- the large subframe joists are supported on the adjustable pedestals.
- A weed control fabric is necessary when installing on soil or earth.

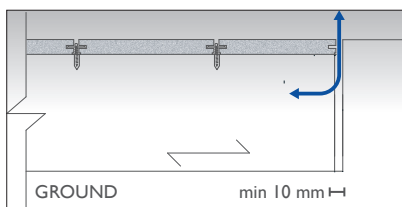
Cedral Terrace installed on double subframe. Spacers are provided every 600 mm if it is not possible to fix the pedestals to the ground the substructure must be a fully fixed subframe.

5.2 EXAMPLES OF WAYS TO VENTILATE CEDRAL TERRACE

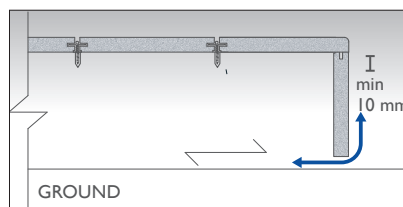
We recommend to ventilate the terrace to help preserve the life expectancy of the timber substructure beneath and prevent the build up of moisture and damp. To protect against rodents, the sides of the substructure must be closed with perforated plates. Make sure that there is still sufficient ventilation.



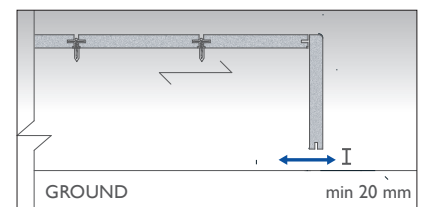
Abutment to structure



Sunken Terrace

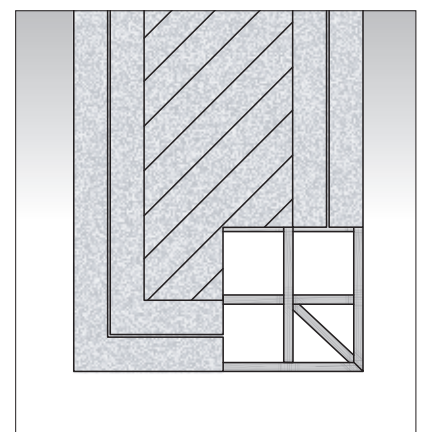
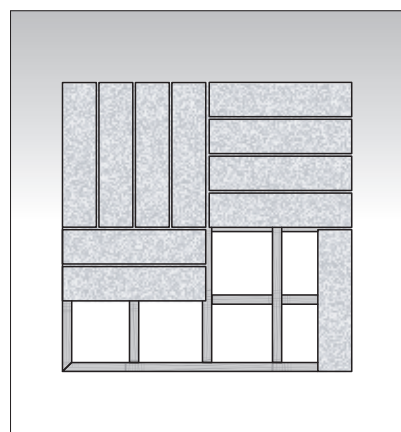
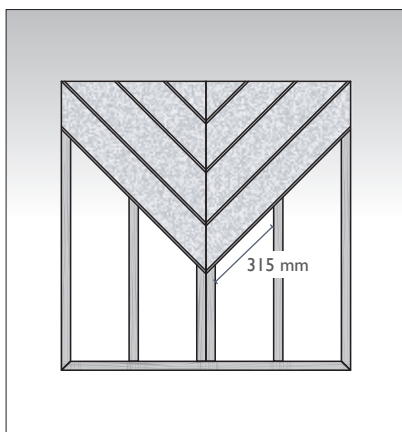


Terrace end to ground abutment



Terrace end to ground abutment

5.2 SPECIAL SUBSTRUCTURE DESIGNS

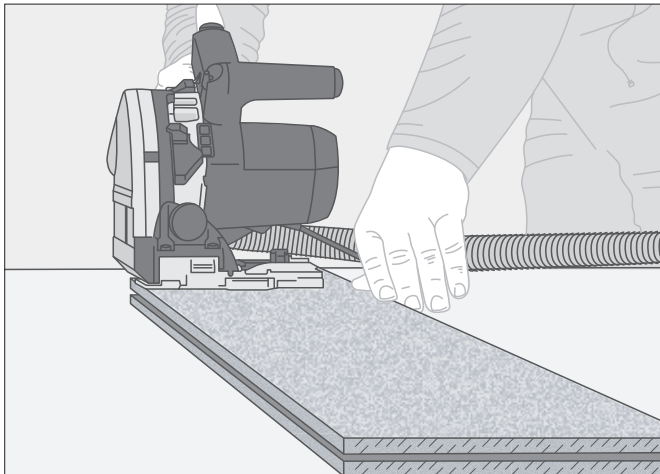


If Cedral Terrace is installed angled then the subconstruction centres must be decreased so that the Cedral decking is not spanning more than 315 mm.

Cedral Terrace should always be supported on minimum 3 supports.

6 CUTTING AND DRILLING CEDRAL TERRACE

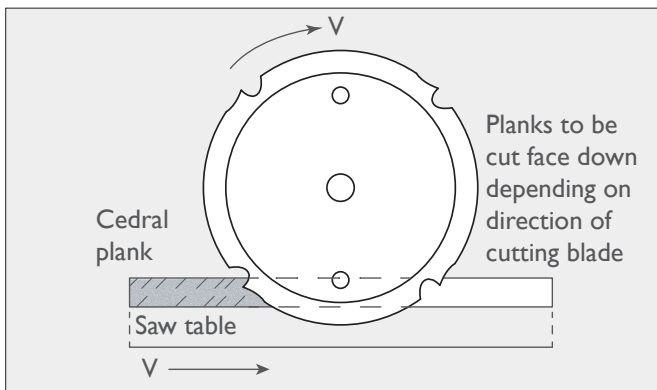
Sawing



Use Cedral Terrace saw blades to cut the panels on site. The blade should be set to extend approximately 5 mm below the panel to allow the debris material to escape.

For chop saws using cutting blades Leitz 4 teeth D160/20 and Leitz 4 teeth D190/20, the planks must be fully supported with underlying material so a full cut through the terrace can be achieved.

Many portable saws are available to cut Cedral Terrace. The main criteria is: Saw with blade speed of between 2000-4000 rpm. Enclosed saw blade with a vacuum system to remove all dust saw with correct bore size to suit the blade.



When cutting a panel, place it on a solid workbench indoors. At no time should cutting the panel be carried out in the rain. Only one Cedral Terrace plank should be cut at a time.

Planks to be cut face down – depending on direction of cutting blade. Immediately after cutting clean off all dust with a soft brush.

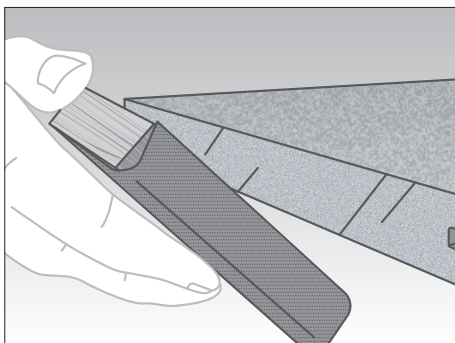
Curved cut-outs



For cut outs or curved cuts a jigsaw using a Bosch T141HM blade can be used. The jigsaw pendulum function is to be switched off.

The plank is also cut face down. Immediately after cutting clean off all dust with a soft brush.

Edge Treatment



Sand the cut edges of Cedral Terrace to soften the arris after cutting them to size. This improves the appearance. A block of wood, 400 mm x 100 mm in size, with a piece of sandpaper (80-grit) affixed to it can be used to sand the edges.

Disposal

Recommendation: The product must be handled as building waste in accordance with the local legislation European waste catalogue EWC:170101; 170904.

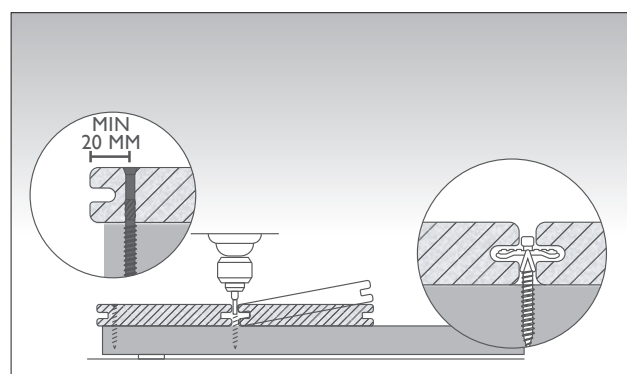
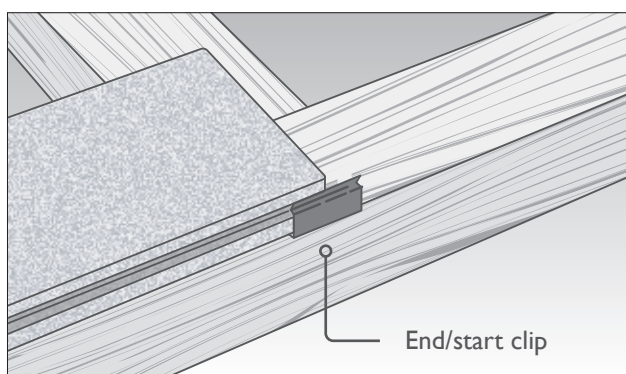
7 INSTALLATION OF CEDRAL TERRACE

Installing the first plank

Cedral Terrace must be laid perpendicular to the supporting substrate. The terrace must span at least 3 joists. It is recommend to work away from the building/abutment.

The Cedral Terrace planks are fastened in the terrace area on the substructure in a non-visible way with the Cedral mounting clamp and the corresponding wood screw 4.2 x 35 mm or self drilling metal screw 4.2 x 20 mm. The first plank or end plank is fastened with the Cedral start/end clamp and the corresponding screw HO 4.2 x 16 mm for wooden substructure, or screw AL 3.9 x 16 mm for aluminium substructure.

Alternatively, the planks can be fixed with visible screws. When using the Cedral wood screws 5 x 60 mm or self drilling screw 5 x 60 mm, the Cedral Terrace planks must be pre-drilled with \varnothing 6.0 mm. Depending on the material of the substructure, care must be taken to select the correct fixing screw (see page 8). In principle, a uniform joint width of 6 mm must be ensured.



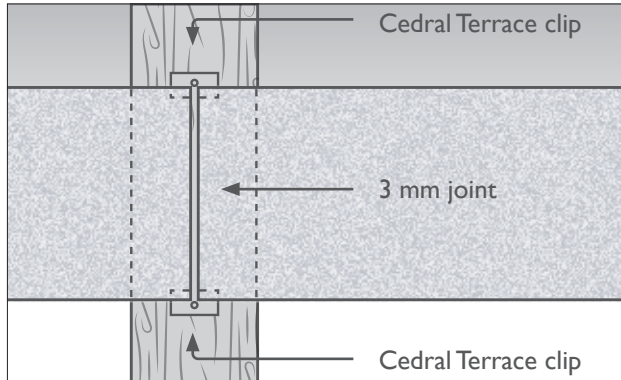
- A. Fix start/end clip at max. 315 mm centres as shown fixed to the first rail/subconstruction, push Cedral Terrace into position/clip. Lay Cedral Terrace plank and fix first visible fixing into Cedral Terrace plank at max. 315 mm centres as shown to the first rail/subconstruction.
- B. Insert Cedral clip into rebate of opposite side of plank but do not yet fix, insert next plank. Continue laying the planks by inserting the Cedral Terrace clips and planks. Do not secure clips until planks on both sides of the clip are laid, always leaving one edge unfixed moving forward. Depending on the timber type used, it is advisable to pre-drill the supporting wooden structure before installing the fixing screws. (pre-drilling screw diameter minus 1 mm)
- C. Continue laying planking and securing clips.
- D. When last set of planks laid used Cedral start/end clip or visible fixing to secure each plank.

Junction of the planks

The junction between two planks must imperatively be made at the level of a joist.

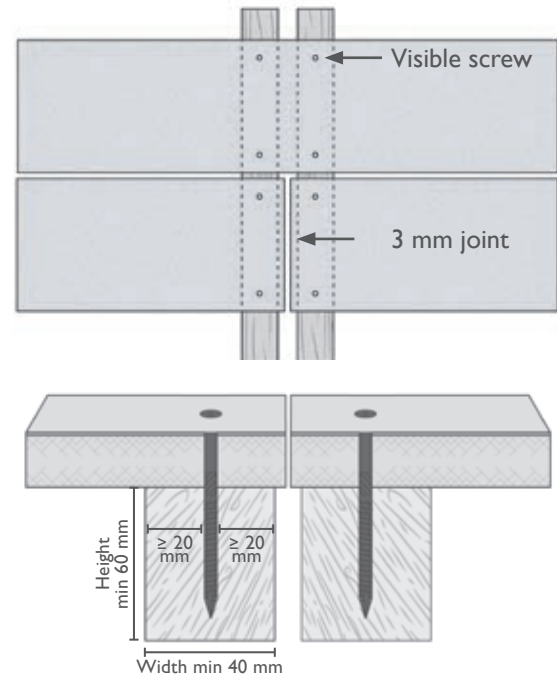
Please note that the junction of the planks between two planks is different if fixed in a visible or invisible way.

Non visible fixing

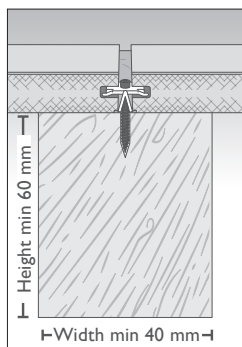


One clip is sufficient to fix both ends of the plank.

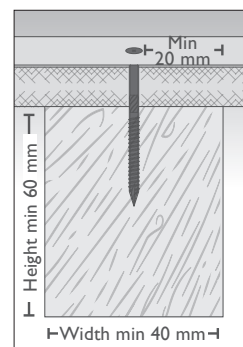
Visible fixing



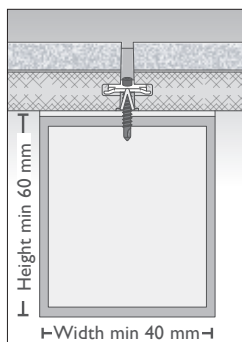
For visible fixing (with screws), a double joist is necessary at the joint between two planks.



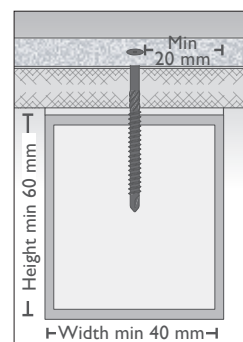
Fixing with mounting clamp and wood screw
4.2 x 35 mm on wooden substructure.



Fastening with wood screw 5 x 60 mm. The Cedral Terrace planks must be predrilled with \varnothing 6.0 mm. An edge distance of at least 20 mm must be maintained.



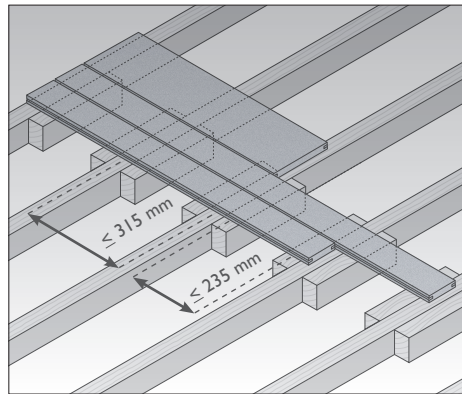
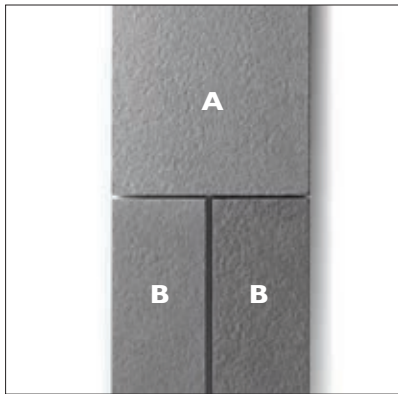
Mounting with Cedral Clip and self drilling screw
4.2 x 20 mm on aluminium substructure.



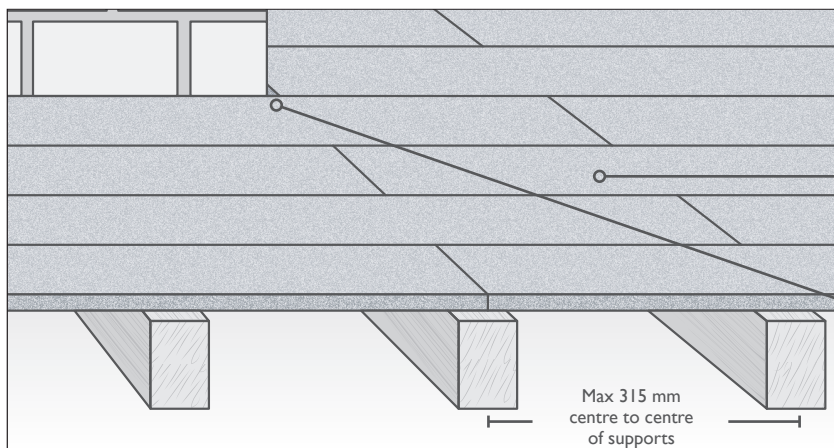
Fastening with self drilling screw 5 x 60 mm. The Cedral Terrace planks must be predrilled with \varnothing 6.0 mm. An edge distance of at least 20 mm must be maintained.

Placement of small planks

If two small Cedral Terrace planks are required side by side as part of the design then a localised framing to support the small planks must be provided as the attached sketch that shows two possibilities. In each case the distance between the framing is reduced where two small planks are used.



At walls or abutments allow min. 20 mm gap. Planks can be loosely butt jointed with a 3 mm joint for the best visual appearance.



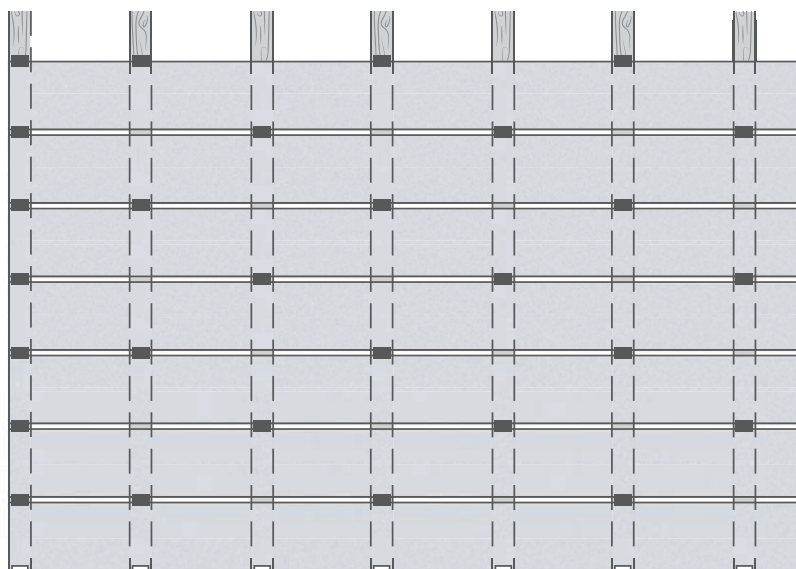
No expansion gap needed between planks other than the 3 mm joint at deck joint positions

Min 20 mm expansion gap at borders / walls

An expansion gap is only required at borders and walls.

7.1 POSITIONING OF CLIPS

It is not necessary to install a clip on every decking edge/substrate position, the clips can be used in a staggered or diagonal pattern/format, as the image below. The end of the Cedral Terrace must have a clip on both sides of the plank.



□ Cedral End Clip

■ Cedral Terrace Fixing Clip

If fixing the Cedral decking with visible fixings it is recommended to fix each plank twice at each joist/ support position for aesthetic reasons.

For wide planks, allow 14 clips and screws per m² when 1 linear m of end plank is fixed as diagram (see frame).

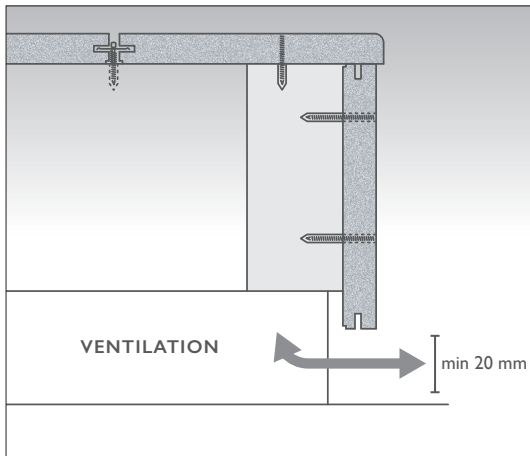
This number may increase if narrow planks are used.

When a joint in the decking is required it must be fixed with a clip.

The perimeter of the Cedral Terrace as required to be fixed.

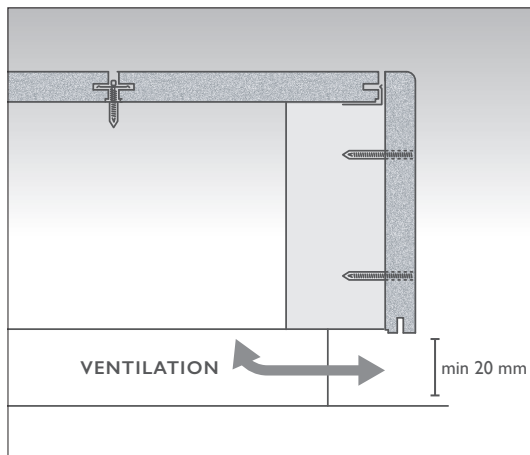
7.2 FINISHING OF CEDRAL TERRACE

Finishing of edges can be achieved in 2 ways using flat and bullnose profiles:



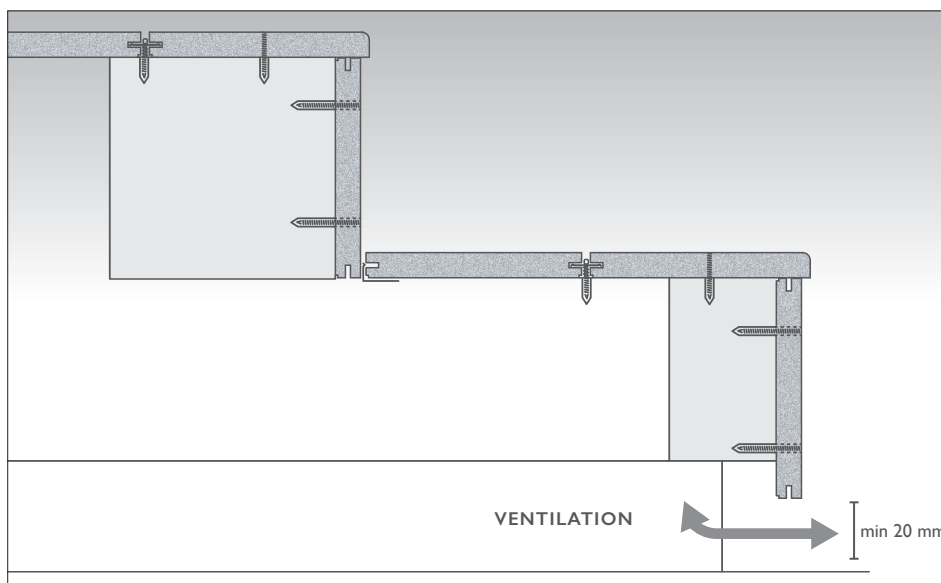
Solution 1:

The bullnose profile is laid horizontally and we install a standard Cedral plank vertically. These last two profiles are secured with visible fixings.



Solution 2:

The bullnose profile is laid vertically and we install a standard Cedral plank horizontally. These last two profiles are secured with visible fixings.



Stair treads and risers can be lined using the Cedral deck, normally onto timber framing

The designer/installer should consult the Local Regulations/standards for stair treads sizes and heights and also whether any handrails or barriers are required.

Cedral Terrace does not receive a coating so recoating is not required.

Patio furniture should have flat feet. Sharp-edged or pointed furniture feet can damage the planks. Use furniture glides for outdoor use under all furniture, flower pots or umbrella stands.

Cleaning during installation

Already during the planning stage, take care to avoid contamination, e.g. by topsoil or clayey soil. Protect the necessary walking paths from soiling with e.g. painter's fleece.

Brush loose dust and dry dirt from the installed areas before finishing the work.

Initial cleaning after installation

After completion, the entire terrace surface must be swept dry. Deposits, dirt and loose particles can be removed with water and a plastic brush. In the case of firm adhesions, carefully work the affected area with a firm brush or plastic scrubbing brush.

Regular maintenance minimizes deposits caused by pollen, dust and other environmental influences. At the same time, this reduces the settlement of organic substances or green growth, as the nutrient medium is removed.

We recommend thorough cleaning twice a year, preferably in spring and autumn. The following procedure should be followed:

- Sweep the entire terrace area dry
- Water the surface sufficiently and remove dirt with a soft brush. The terrace must always be kept damp to prevent the dissolved dirt from re-settling
- Then rinse the terrace surface completely with clear water in the direction of the slope

Alternatively, maintenance can be carried out with a standard high-pressure cleaner at a maximum of 80 bar and 20 cm nozzle spacing.

9 TECHNICAL DATA

Dimensions	175 mm x 3,150 mm x 20 mm		
	84.5 mm x 3,150 mm x 20 mm		
Dimensional tolerances according to DIN EN 12467	Thickness	± 0,3 mm (level I)	
	Length / width	± 1.0 mm (level I)	
	Curving	175 mm plank 6 mm 84.5 mm plank 12 mm	
	Perpendicularity	≤ 2 mm/m (level I)	
	Edge flatness	≤ 0,3 % (level II)	
Weight	20.7 kg/plank (width 175 mm)	9.5 kg/plank (width 84.5 mm)	
Basis weight	36.2 kg/m ² (width 175 mm)	33.2 kg/m ² (width 84.5 mm)	A heavy material
Density according to EN 12467	$\rho_{\text{mean},20/65} = 1.650 \text{ kg/m}^3$		A very dense material
Water absorption according to EN 322	$H_{\text{wet}} = 19.2 \% / H_{20/65} = 12.9 \%$		Initially high water absorption
Calculated value for weight per unit area according to EAD 210025-00-0504	$g_k = 0.56 \text{ kN/m}^2$		
Flexural strength according to EN 310 / EN 789	$f_{m,0,k} = 24,0 \text{ N/m}^2$		Good bending strength relative to material thickness
Modulus of elasticity according to EN 310 / EN 789	$E_{m,0,\text{mean}} = 13.000 \text{ N/mm}^2$		High modulus of elasticity
Brinell hardness according to EN ISO 6506-1	HBW = 63 N/mm ²		High resistance to hard impact deformation
Mechanical strength according to EN 12467	Class 4, Category A		According to manufacturing standard
Fire behaviour according to EN 13501-1	A2 _{FL} -s1 (non-flammable)		Excellent fire resistance
External fire behaviour (behaviour against flying sparks and radiant heat)	Satisfying the requirements, PCS Q ≤ 3.0 MJ/kg according Commission Decision 96/ 603/EC		Good resistance to radiant heat
Water impermeability according to EN 12467	Passed		Product conforms to specification
Durability according to EN 12467 against hot water; wet-dry change, heat-rain change, freeze-thaw change	Passed		Product conforms to specification
Thermal expansion coefficient according to EN 14581	$\alpha_{\text{mean}} = 9.65 \cdot 10^{-6} \text{ K}^{-1}$		Stable material low thermal expansion
Hydric movement - expansion and contraction according to EN 318	$\bar{\delta}_{65,100} = 3 \text{ mm/m}$		Moderate moisture movement suitable for poolside use
Modification factor and deformation factor for service class 3 according to EAD 210025-00-0504	$k_{\text{mod,continuous}} = 0.4 ; k_{\text{mod,medium}} = 0.5 ; k_{\text{mod,short}} = 0.6$ $k_{\text{def}} = 5,2$		
Pull-out and pull-through of the mounting sets Cedral Assembly/ start/end clamp according to EAD 210025-00-0504	$F_{\text{ax},k} = 1.250 \text{ N}$		
Strength and stiffness under point load and impact resistance for load-bearing applications according to EAD 210025-00-0504	for 84.5 mm wide planks, ≥ 3 fields with centre distance ≤ 315: $F_{\text{max},k} = 3.631 \text{ N}; F_{\text{ser},k} = 2.707 \text{ N}; R_{\text{mean}} = 1.263 \text{ N/mm}$ Impact stress class I for 175 mm wide planks, ≥ 2 fields with centre distance ≤ 315: $F_{\text{max},k} = 5.803 \text{ N}; F_{\text{ser},k} = 3.235 \text{ N}; R_{\text{mean}} = 1.976 \text{ N/mm}$ Impact stress class I		
Partial safety factor for fibre cement according to EAD 210025-00-0504	$\gamma_m = 1.3$		
Slip resistance according to CEN/TS 15676	Pendulum test: 66 PTV		Good slip resistance
Slip resistance "wet barefoot areas" according to DIN 51097 and EN 13451-1	Tilt test: Class C / 31°		Good slip resistance
Skin contact test according to OECD Guideline 439	no skin irritations detectable		Non irritant to skin in use
Ramp testing 'R' rating to DIN 51130	R12		Suitable for commercial wet areas

In prolonged periods of extreme dry weather and high temperature it is possible that Cedral Terrace will contract resulting in greater moisture movement than that noted in the material properties. This is a short term phenomena and the planks will return to their normal size once normal weather conditions return.

USABILITY & STABILITY UNDER BUILDING LAW

Cedral Terraces are naturally hardened fibre cement planks and are subject to the harmonised EN 12467 standard, and must be produced accordingly, bear the CE mark and receive a declaration of performance. This declaration of performance can be found on our website www.cedral.world

According to the Model Administrative Regulation for Technical Building Regulations, Section D "Building products which do not require proof of usability", it is possible to make the requirements under building law available to the user as a result of voluntary product information. The test basis was mainly EAD 210025-00-0504, with the intended use "Load bearing sheets for floors and roofs". The tests were carried out at the accredited testing institute VHT Versuchsanstalt für Holz- und Trockenbau GmbH, Darmstadt. The safety concept and the verification procedure comply with EN 1995.

In accordance with MBO § 12 Stability, each building structure must be stable as a whole and in its individual parts on its own. The stability of the supporting substructure must be proven

for each individual case. Cedral Terrace may only be used to transfer acting payloads, wind and snow loads and may not be used to stiffen the substructure or to stabilise or reinforce the building.

Provided that the boundary conditions of the static system in the following table are met, the stability check is given with the following maximum characteristic actions. The characteristic value of the snow and wind load shall be determined according to the relevant Eurocode. According to DIN EN 1991-1-1/NA, Table 6.1DE, Category Z, T1 and T2, the following payloads acting perpendicular to the surface must be observed:

- Surface load $q_k = 5.0 \text{ kN/m}^2$
- Single load $Q_k = 2.0 \text{ kN}$

If 84.5 mm wide planks are used, check with the specialist planner whether the maximum characteristic individual load meets local requirements.

SPAN and LOAD capacity (Service Class 3)* according EAD 210025-00-0504				
Plank width	Plank length	Span or centre distance	Max. uniform surface load	Max. concentrated load or Max. point load
W	L	Centre	q_k	Q_k
175 mm	≥ 600 mm	≤ 315 mm	2035 kg/m ²	235 kg
84,5 mm	≥ 900 mm	≤ 315 mm	2035 kg/m ²	150 kg

*Service Class or usage must be checked with local standards or building codes.

If Cedral Terrace is proposed for non residential applications and the Eurocodes are insufficient for the loading classifications. Etex have independently assessed the following maximum loadings for Cedral Terrace;

CEDRAL TERRACE 20 mm thickness, 175 mm of width, 315 mm of span between joists:

- Concentrated point load: $Q_k = 3 \text{ kN}$ and 4 kN , service class 3, instant load duration class only,
- Impact class I
- Uniformly distributed load: $q_k = 2$ and 3 kN/m^2 with permanent load duration class and a maximal variable (medium term) load of 29 kN/m^2 , in service class 3.

CEDRAL TERRACE 20 mm thickness, 84.5 mm of width, 315 mm of span between joists:

- Concentrated point load: $Q_k = 3 \text{ kN}$, service class 3, instant load duration class only,
- Impact class I
- Uniformly distributed load: $q_k = 2$ and 3 kN/m^2 with permanent load duration class and a maximal variable (medium term) load of 29 kN/m^2 , in service class 3.

It is not permissible to combine the Eurocodes and independent assessment, they must be used as independent documents.

A copy of the assessment and supporting letter from NEY Partners is available upon request from your Technical Support team.

REFERENCE DOCUMENTS

For the planning and construction of a terrace with Cedral Terrace planks, the following general technical regulations and provisions in the current version must be observed:

- The respective state building regulations
Accident prevention regulations for landscaping and building construction
- FLL Rules and Regulations - Wood and wood products in landscaping
- FLL Rules and Regulations - ZTV Path Construction
- EN 1990 - Eurocode - Principles of structural design
- EN 1990/NA - Eurocode/NA - Principles of structural design
- EN 1995-1-1 - Eurocode 5 - Design of timber structures
- - Part 1-1: General - General rules and rules for buildings
- EN 1995-1-1/NA - Eurocode 5/NA - Design of timber structures - Part 1-1: General - General rules and rules for buildings
- EN 1999-1-1 - Eurocode 9 - Design of aluminium structures - Part 1-1: General rules for design
- EN 1999-1-1/NA - Eurocode 9/NA - Design of aluminium structures - Part 1-1: General rules for design
- EN 485-2 - Aluminium and aluminium alloys - Strip, sheet, plate - Part 2: Mechanical properties
- EN 12467 - Fibre cement plank product specifications and test methods
- EN 13501-1 - Classification of construction products and types of construction in respect of their reaction to fire - Part 1: Classification using the results of the tests for reaction to fire performance of construction products
- 4102 - Fire behaviour of building materials and components - Part 1: Building materials; terms, requirements and tests
- DIN 18202 - Tolerances in building construction - Structures
- EAD 210025-00-0504 „Fibre-cement flat sheets according to EN 12467 with additional characteristics”
- DIN 51130 - Testing of floor coverings
- EN 1991 1-1 National Annexe

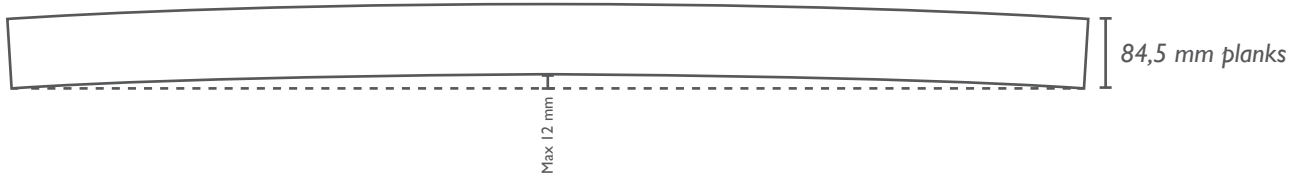
This is an extract from the rules and regulations to be observed.
This list does not claim to be complete.

10 WHAT IF

10.1 MY PLANK IS CURVING?

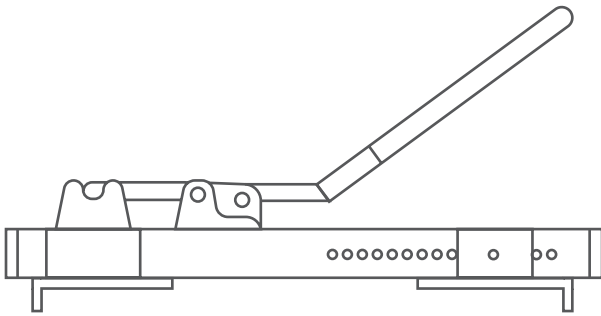
Cedral Terrace is a unique material. Depending on the storage conditions and the newness of the planks slight curving can occur to some planks. This does not affect the durability or usability of the planks.

TOP VIEW



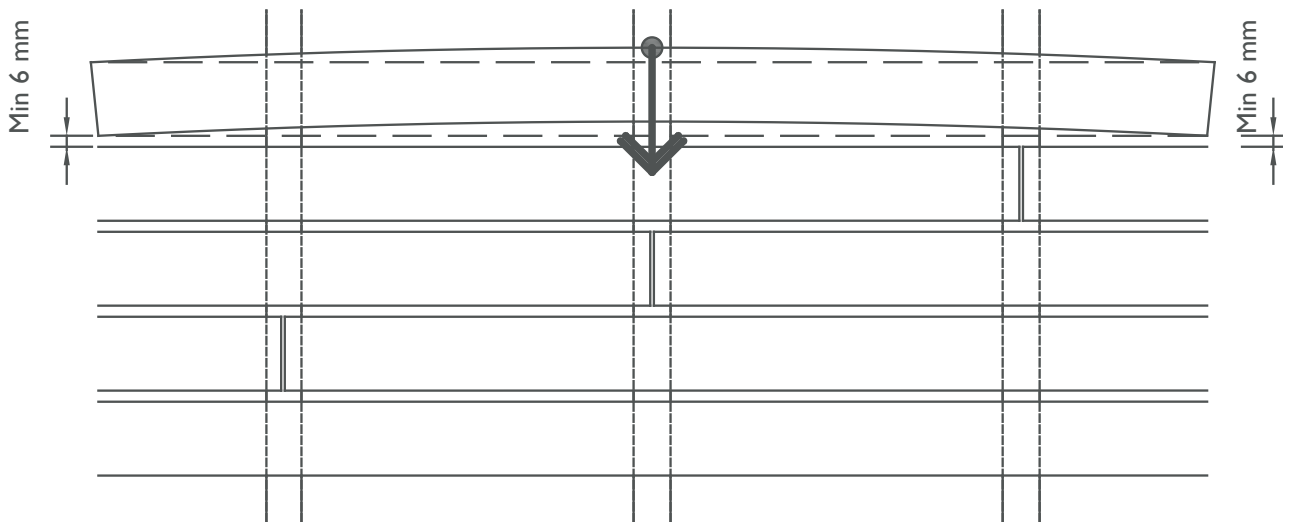
If curving planks are experienced then the use of deck clamps or similar can aid installation.

The use of spacers can also assist the installation process when installing curved planks to maintain the joint width.

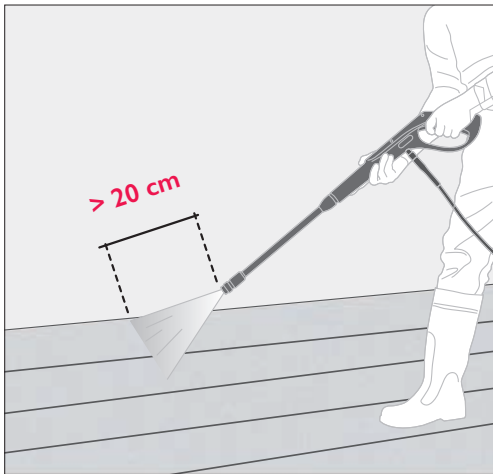


Position clamp centrally and clamp once
min 6mm joint achieved fix plank in position

TOP VIEW



10.2 MY DECK IS DIRTY?



For general cleaning a power washer can be used at a maximum of 80 bar at least 20 cm away from the terrace. Water is to be sprayed flat and wide; rotating, dirt-cutting sprays are not suitable.

Alternatively use a non acid patio and path type cleaner. Always follow manufacturers Health and Safety recommendations and test on an unobtrusive area first to test compatibility.

Cedral Terrace has been tested with the following common stains; Ketchup, mayonnaise, oil/grease, red wine, cocoa, coffee. Effective cleaners are; Vanish, CIF, mild bleach solution. Allow the solutions to work for approximately 5 minutes and rinse with clean water. Always follow manufacturers for Health and Safety recommendations and test on an unobtrusive area first to test compatibility.

Stain type	St.Marc Javel	Palmolive / Dreft	Cif	Bleach	Vanish
Ketchup	☺	☺	☹	☺	☺*
Red wine	☺	☺	☹	☺	☺
Coca Cola	☺*	☺*	☺	☺	☺*
Coffee	☺*	☺*	☺	☺	☺*
Grease (mayo-oil)					

Some Grease spots will fade over time

☺ Recommended ☺ Works ☹ Not recommended

More than one treatment may be necessary for heavily soiled areas.

Always follow manufacturers' Health and Safety recommendations and test on an unobtrusive area first to test compatibility. The use of abrasive materials, such as steel-wool, sandpaper etc. is not permitted as these cleaning items will change the aesthetic of the decking.

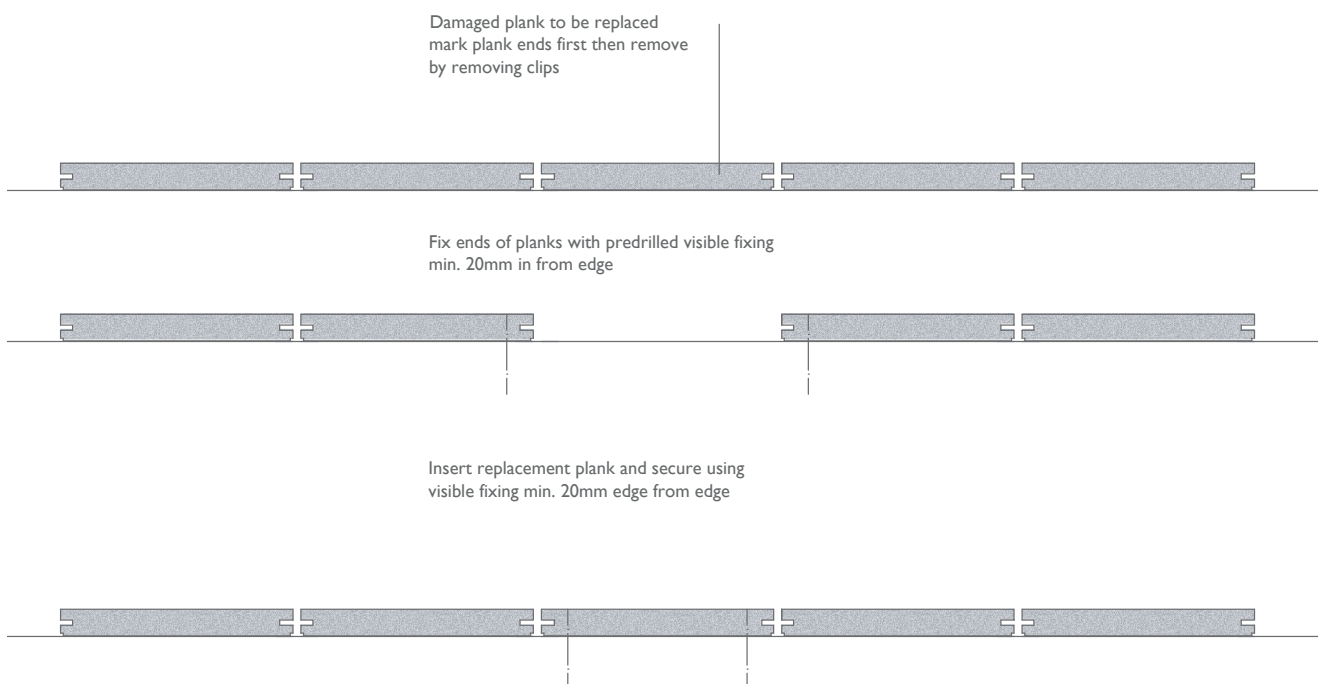
10.4 A PLANK IS DAMAGED AND REQUIRES REPLACEMENT?

First method - replacement of plank with visible fixings

In the rare occurrence of a Cedral Terrace plank requiring replacement, the replacement is a straight forward process.

The easiest and quickest method is to use a visible fixing to secure the plank. This will necessitate the predrilling of the Cedral Terrace plank. This method is as follows:

1. Loosen the clips either side of the damaged plank and lift the plank out, it may be necessary in some cases to break the plank. Mark the edge of the plank prior to removal.
2. Once the plank is removed, remove any clips still in place.
3. Predrill a 4 mm hole (min. 20 mm from the unfixed edge) of the Cedral Terrace plank adjacent to the removed plank and secure the edge of the plank.
4. Insert a new plank of Cedral Terrace into the gap making sure the joint either side is the same size.
5. Predrill the new plank at the joist position and fix down using the visible fixing. The plank is now secure.



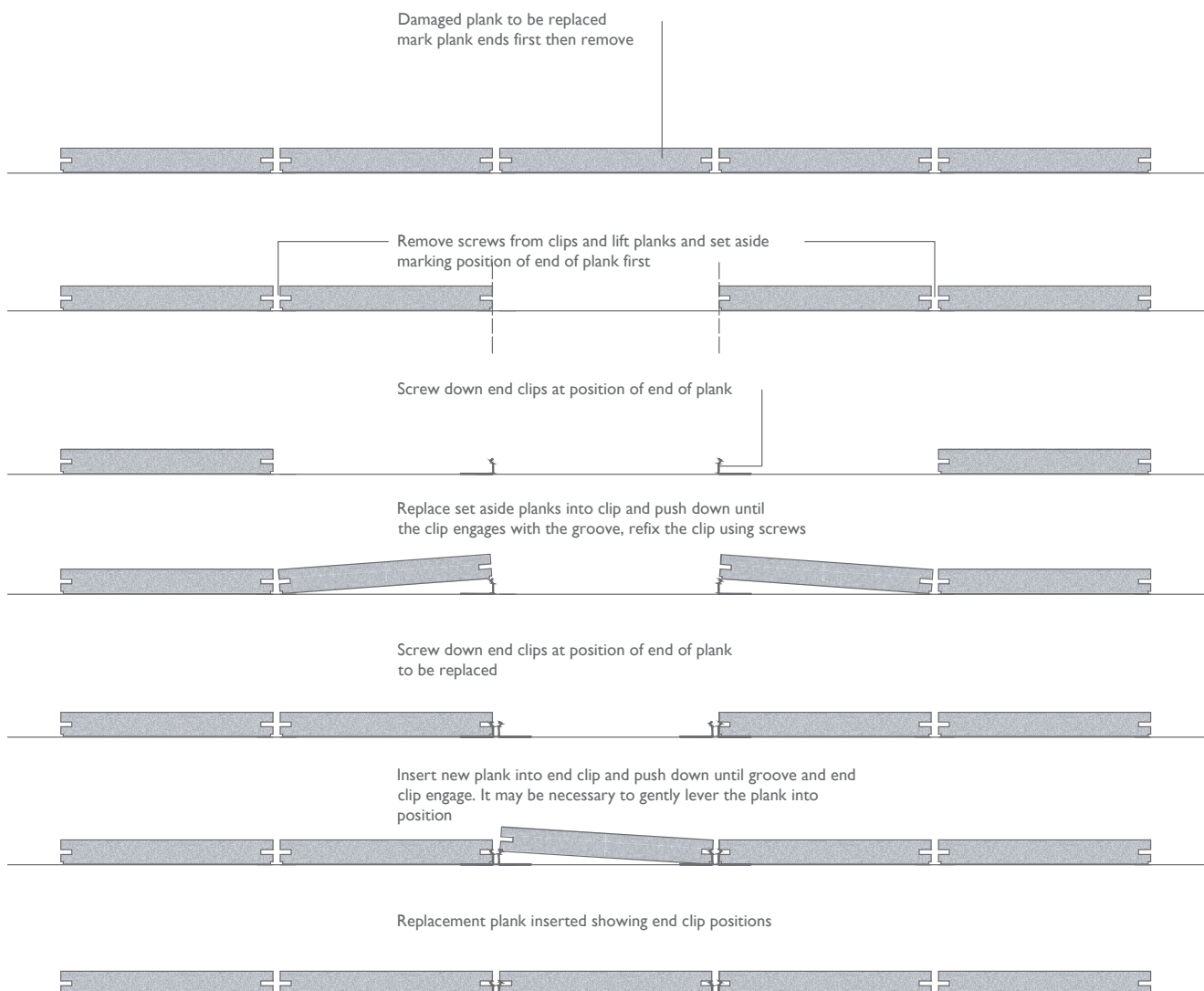
Second method - replacement of plank with end clips

This method takes longer but gives a much better visual finish and should be accomplished as follows:

1. Loosen the clips and remove the screws, remove the plank, it may be necessary to break the plank. Mark the edge of the plank prior to removal.
2. Once the damaged plank is removed, undo and remove the screws from the clips on the adjacent plank, marking the position of the edge of the plank first. Remove the undamaged plank and set aside.

Firstly the undamaged planks either side of the removed planks should be refixed by the following method:

1. Where the edge of the plank was marked screw down an end clip and secure, then insert the plank into the loosened clip and lower the plank down into place, making sure the end clip engages with the groove.
2. Insert the screw back into the clip and tighten. This plank is now secured.
3. To secure the replacement plank use the Cedral End clips and screw these down to the substrate/joist using the previously marked position marking as a guide. The end clips will be inserted on both sides.
4. Offer the plank up and engage the end clip into the groove and push the plank down into the opposite end clip, the clip is sprung so you may need to use a flat blade screw driver or similar to lever gently into place. The plank is now secure.



II GENERAL POINTS TO NOTE

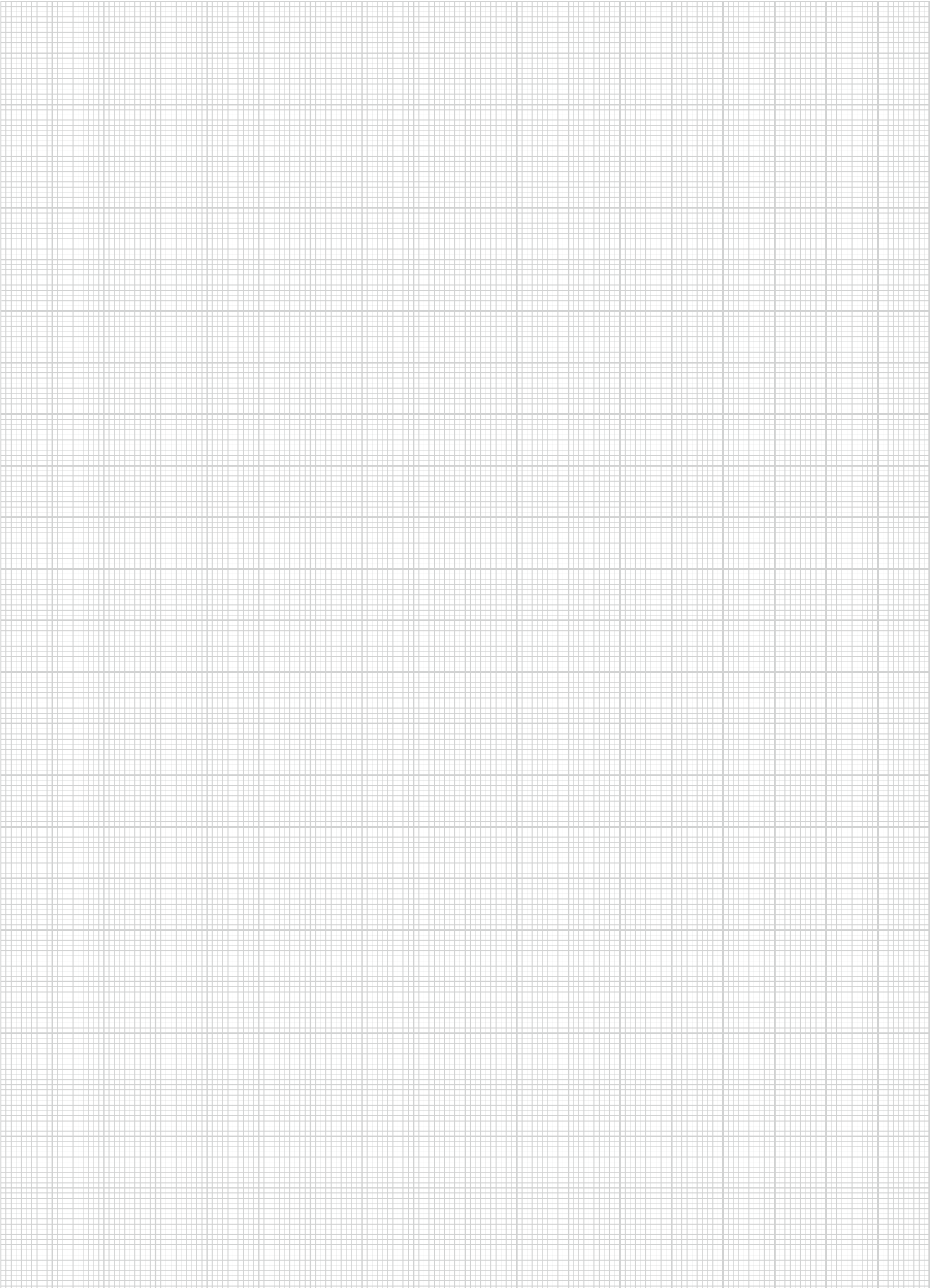
Allow air to flow underneath the installed decking. Minimise dragging furniture over decking. Consider providing pads to the bottom of furniture legs etc.

Installation Guide Disclaimer

Every terrace is different and this guide should not be considered guidance as to how to construct a terrace or terrace sub-construction in every circumstance. We accept no liability for any loss or injury caused. The information in this installation guidance note is correct at time issuing. However, due to our committed program of continuous material and system development we reserve the right to amend or alter the information contained therein without prior notice. Please contact your local Cedral Sales Organization to ensure you have the most current version.

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12 START DESIGNING YOUR DREAM TERRACE



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CEDRAL