pecafil | the universal formwork material

technologies for the construction industry

FRANK®

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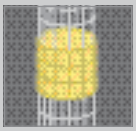
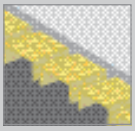
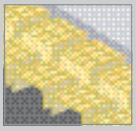
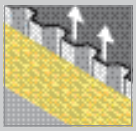
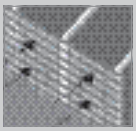
17	**Pecafil drilled pile formwork**	
18-19	**Pecafil ribbed and waffle slabs**	 
20-21	**Pecafil partition formwork**	
22-23	**Pecafil weather and dust protection and screens**	
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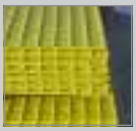
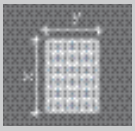
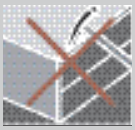
27	**Obtaining the product**	

Pecafil – Universal formwork material and a great aid for concrete construction



Convenient delivery of formwork elements with precisely tailored heights and widths for ground beams, ribbed slabs and box-outs

Quick assembly thanks to product tailoring in accordance with your requirements

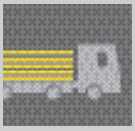


Avoids the hassles involved in stripping work, cleaning and disposal

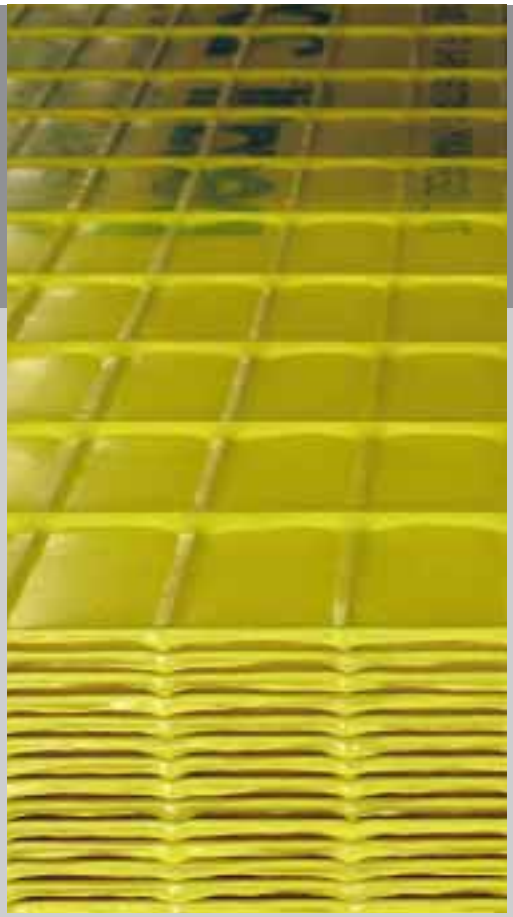
Thanks to the all-in-one delivery of lost formwork, setting, reinforcement and concreting can take place in a single cycle with no need for an on-site hoisting device or electric supply

Environmentally friendly product since it uses polyethylene film (which also means that it can be used in water protection areas)

Depending on the site it may be possible to reuse Pecafil formwork material



The amount of time required to delivery the product to the site is reduced to a minimum by using the company's own trucks



pecafil®

The Universal Formwork Material

Pecafil universal formwork material consists of a special steel mesh with varying thicknesses and shaped to meet your requirements, and a heat-shrunk layer of polyethylene made from carbon and hydrogen.

Pecafil universal formwork material can be used for ground beams, ribbed slabs, box-outs and for weather/dust protection.

Pecafil universal formwork material is environmentally friendly, does not affect groundwater, and is both recyclable and bio-degradable.

Plan creatively – build rationally

Steel

Pecafil universal formwork material consists of a special steel mesh of 7.5 x 15 cm (standard size) with different bar diameters depending on the intended application. For weather protection, galvanised wire mesh of 15 x 30 cm is used.

Film

The steel mesh has heat-shrunk polyethylene foil on both sides. This foil can withstand any concrete pressure. Polyethylene foil consists mainly of carbon and hydrogen. It is non-toxic and therefore does not affect groundwater. The foil used for the formwork material is UV-stabilised for six months' exposure and the weather protection material is UV-stabilised for two years' exposure.

Tailoring

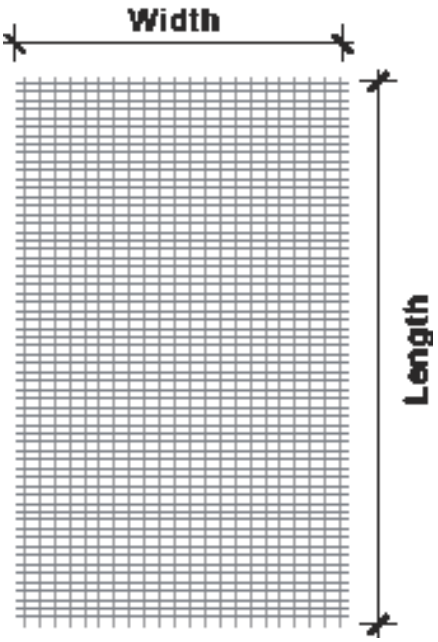
We will use your (planned) specifications to calculate the dimensions and produce production diagrams. These will form the basis of the tailored product and the layout for the site.

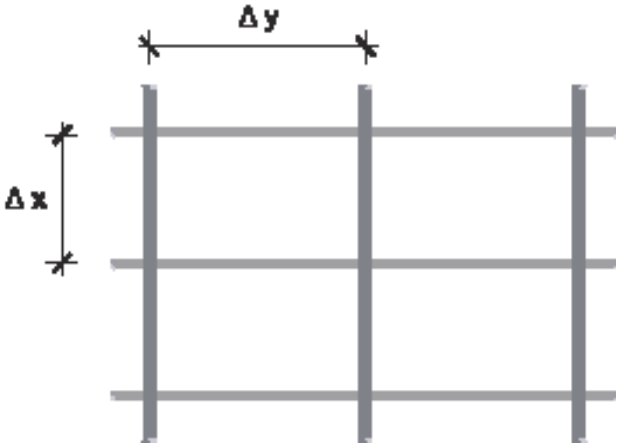
Delivery

VR6 Pecafil is available within 5 working days. Other types are available within 8 working days. The material is delivered as flat stock or as prefabricated elements, in accordance with your requirements.

Onsite Processing

Neither a hoisting device nor an electricity supply is required for the on-site setting process. The elements can be shortened and modified at the site using a pocket knife for the foil and a mesh cutter for the steel. With a weight of just 3 kg per square metre, Pecafil can be laid by hand.



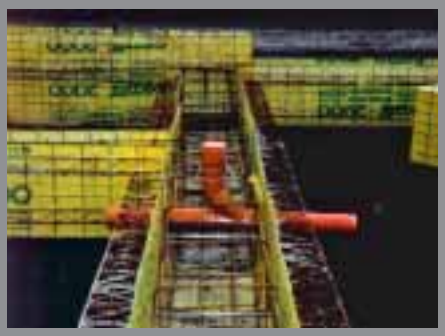


Type	Length [cm] from	to	Width [cm]	Longitudinal bar diameter [mm]	Transverse bar diameter [mm]	Δx [cm]	Δy [cm]	Comments
Formwork material								
VR6 stock article	45	240	240	5.5	4.0	7.5	15	greater dimensions on request
VR8	45	600	240	7.5	4.0	7.5	15	
VR10	90	600	240	10.0	4.0	7.5	15	
Strong	60	120	240	10.0	7.5	varies	15	
Weather protection								
FV 2.4	140	420	240	4.0	4.0	30	15	galvanised steel
FV 2.4 ISO	140	420	240	4.0	4.0	30	15	galvanised steel; with dimpled foil

For more details, see our price and product list.

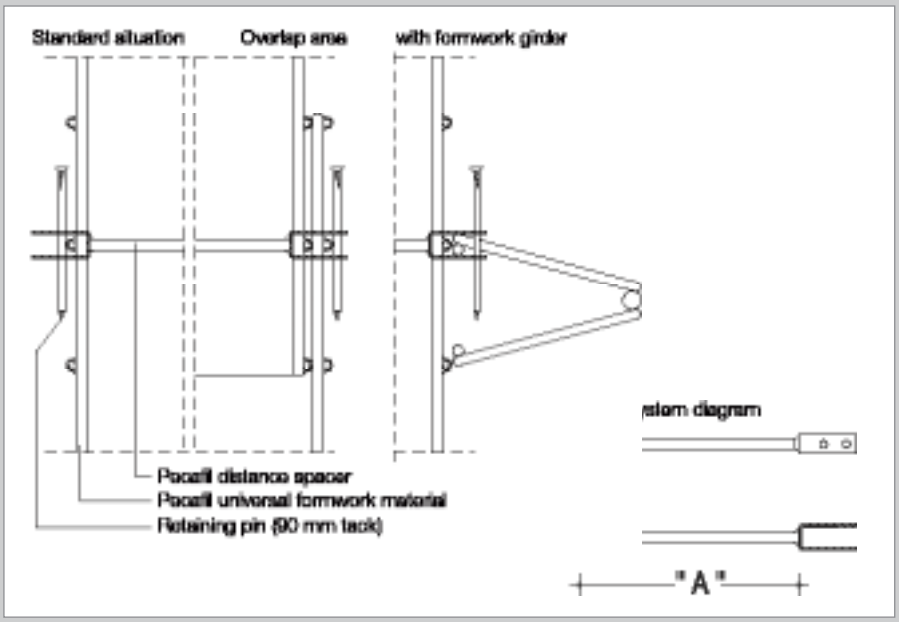
Application Area

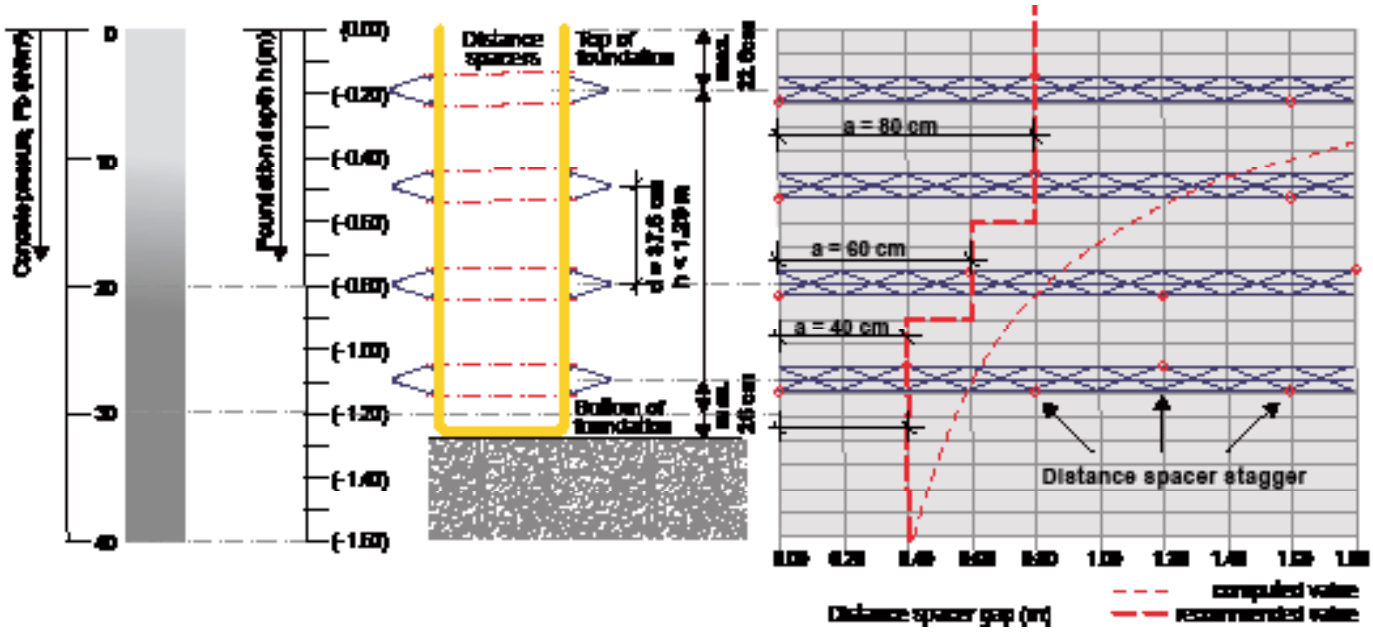
Pecafil distance spacers are mainly used in conjunction with formwork girders (see page 8). The layout gaps decrease as the concrete pressure increases, which means that the gaps are smallest at the foundation base and become larger towards the top. The furcated ends of the distance spacers are pushed over a horizontal Pecafil bar and the bottom flange of the formwork girder, if available, and secured with a 90 mm tack using existing drill holes.



Material

BST 500
Ø 5.5 mm
Fork heads: S235
Delivery lengths: depending on the width of the foundation





Application

E10 formwork girders can be used to reinforce free-standing Pecafil ground beams, in particular, types VR6 and VR8. They provide horizontal reinforcement for the formwork and are laid with a gap of ≤ 37.5 cm.

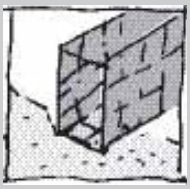
Pecafil distance spacers are installed to take the concrete pressure by connecting the outsides of the formwork directly. They also fix the girders. The exact assembly of the spacers can be taken from the drawing (see above).

Material

BST 500

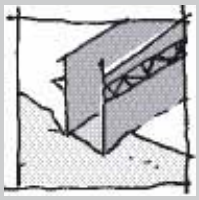
Top flange:	Ø 10 mm
Diagonal:	Ø 6 mm
Bottom flange:	Ø 6 mm
Girder height:	100 mm

Variants:



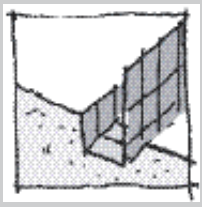
U-shaped ground beams

The most economical and quickest way to use Pecafil ground beams is to create trenches in the foundation soil and lay the U-shaped formwork frames into them. This means that there is no need to excavate earth to create working space and then fill it in again later on.



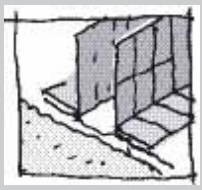
Reinforced U-shaped ground beams

If the Pecafil formwork material protrudes more than 25 cm from the foundation trench, it needs to be horizontally reinforced. Pecafil formwork girders and distance spacers can be used for this.



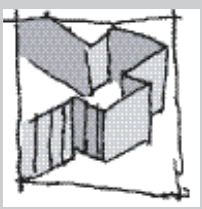
Floor section stop-end panels with ice wall

The production of U-shaped Pecafil ground beams with uneven sides allows the stop-ending and concreting of the foundation beam/ice wall and of the floor section in a single cycle.



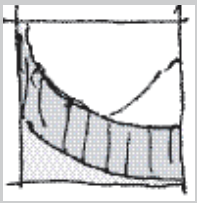
Reusable L formwork

L-shaped Pecafil formwork must be attached to the blinding layer using the base bracket. When concreting is complete, the Pecafil can be removed and used approx. another four times.



Vertical bend ground beams

Foundation-height, flat Pecafil material is used for foundation extensions or for individual foundations. It is modified in line with the dimensions of the foundation by means of vertical bends.



Circular formwork

Circular formwork is produced at foundation-height from flat material. In the case of narrow radii, a special round bending machine is used to bend the material as required.

Pecafil – Lost Formwork, U-Shaped

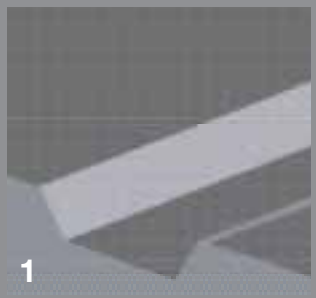
Using Pecafil universal formwork material for lost formwork always makes sense if the existing soil level is approximately at the top edge of the foundation. If this is the case, foundation trenches are excavated as near as possible to the actual foundation dimension. The base of the foundation should be planar and stable.

The Pecafil formwork material is delivered to the site already tailored to the height and width of the foundation. Once at the site, the elements can be transported by hand.

Advantages:

- no need to excavate a working space
- no concrete blinding layer
- no need to fill in a working space
- no need to clean the formwork
- no need to return the formwork

Assembly Principle Lost Formwork, U-Shaped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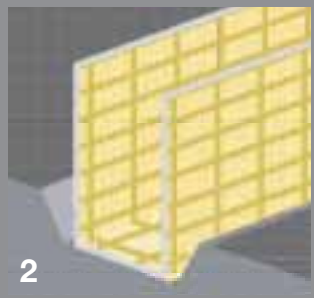
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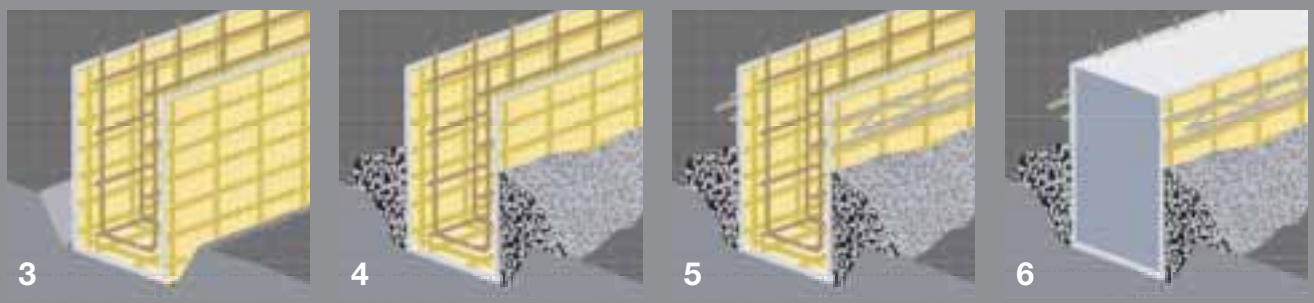
Assembly Principle

1. Excavation of the foundation trench, as near as possible in height and width to the dimension of the foundation. The surface of the bottom of the trench (bottom edge of the foundation) should be planar. Small, undulating bumps are accommodated by the Pecafil formwork and can remain. Backfills and holes must be satisfactorily eliminated using suitable filling material so that the soil is stable.

2. U-shaped Pecafil ground beam elements that are suitably dimensioned in width and height are placed flush onto the soil. The joint area of the standard 2.40 mm long elements is overlapped by about 5 – 10 cm and connected with tie wire. Fitting pieces, corner configurations and cross-over points are manufactured on site. To do this, a pocket knife is used to cut the foil and mesh shears are used on the bar inserts. Smaller corner configurations can be shaped manually.

3. The reinforcement system is now incorporated. It is secured to the Pecafil using bar spacers.

4. Any required filling in of the formwork can now begin. The reinforcement system absorbs the force exerted by the pressure of the soil. Without reinforcement, filling is only possible up to a level of about 30 cm.



5. If it is not possible to fill up to around 20 cm beneath the upper edge of the foundation, measures are required to support the formwork. The Pecafil formwork system offers suitable formwork girders for longitudinal reinforcement as well as distance spacers.

6. The entire foundation can now be concreted in one pour.

Quick, cost-effective formwork

In-facing Brackets

In the case of frequently changing foundation sections, large numbers of offsets, and foundation extensions, a system with U-shaped Pecafil foundation formwork may be too rigid. This system is therefore replaced with a system of bracket-shaped pieces laid to the height of the foundation. The procedure for creating the foundation trench is exactly the same. However, Pecafil brackets are then laid in the trench with the base part facing inwards. The base parts of the brackets are secured using pegs (construction steel pieces inserted in order to attach the formwork securely to the subsoil). Suitable Pecafil distance spacers help to achieve the correct foundation width.

In order to create corner configurations, the dedendum angle has to be cut. The formwork is then bent by hand. If required, a blinding layer can now be incorporated. Afterwards, the reinforcement system is installed and filling takes place.

Where necessary, reinforcements running upwards are to be secured from the outside. Now - in the usual manner – concreting can take place. This method allows even complicated floor plan shapes to be realised in a cost-effective manner.

Edge Formwork

Edge formwork for base slabs can be laid in the same way. The working space can be filled in before concreting. If filling is not possible, the Pecafil formwork elements can be reinforced in the upper area with horizontal round steel bars that are fixed into place in the base slab using tension wire.

Pecafil – Flat Material

Lost Formwork

For foundation extensions in the support region, it makes sense to use Pecafil formwork elements that are suitably bent lengthwise. Because you can only use a bending machine to bend the material in one direction, panels are used at foundation height. Since, in the remaining area, the blinding layer is determined by the U-shaped Pecafil formwork frame, one piece should usually be added here. There are no changes in comparison to the U-shaped formwork for the filling and reinforcement processes.

Retrievable Formwork

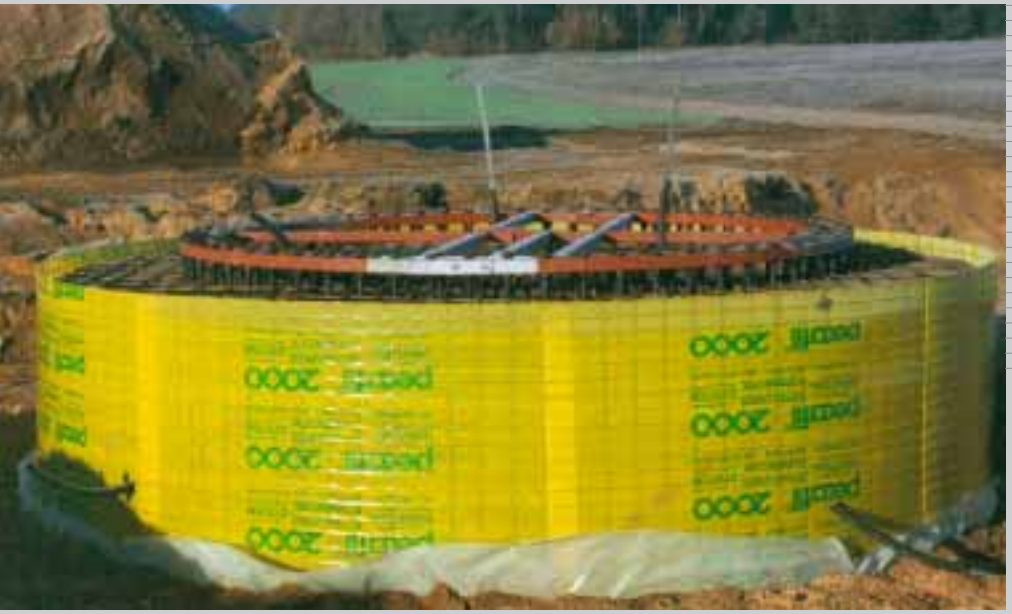
Pecafil universal formwork material in the form of panels at foundation height is also used for individual foundations. Normally, the formwork stands on a concrete blinding layer with existing reinforcement. The panels are tailored so that – if required – they can be used for different foundation sizes. The free-standing formwork must be reinforced to withstand the concrete pressure. To do this, you can use Pecafil formwork girders or on-site measures such as tension wire, spring clips, planks, or square-shaped timber, as shown in the picture below. This system can be stripped and reused. Formwork release oil and cleaning are not required. The Pecafil universal formwork material does not adhere to the concrete and can therefore be removed without leaving any residue. The material can be used four or five times without being reworked.

Pecafil – Strong

"Strong" flat material is a variant of Pecafil formwork material. Thanks to the special composition of the material and the strengthened wire insert in the mesh, you can often dispense with additional support measures when using this material. Bracing by means of formwork wire and spring clips is sufficient. Pecafil Strong formwork material can be used in a similar manner to the traditional formwork material but it has the advantages of being delivered already tailored for the height as well as not needing modification lengthwise. Instead, the length can be set by changing the overlap. In addition, there is no need to drill holes for the bracing since the tension wire can be pushed straight through the foil.

This material also benefits from the following characteristics:

- easy to strip
- no cleaning
- can be used four or five times



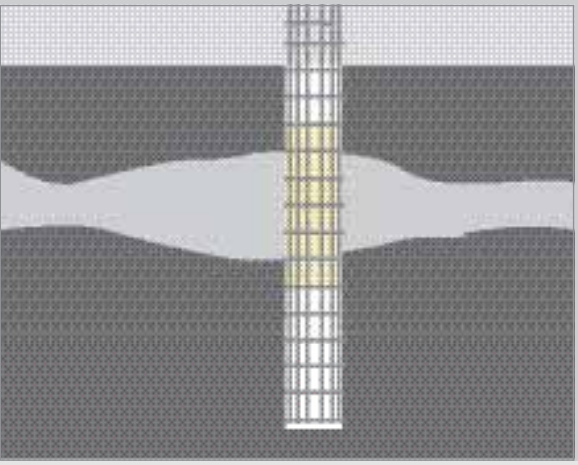
Pecafil – Flat Material, round

Pecafil universal formwork material can be bent to a prescribed radius using a round bending machine. This method is often used when creating foundations with round edge formwork for wind generators. An advantage of Pecafil for this application is that it can be delivered directly to the site already tailored for the job. The elements are laid on existing reinforcements using bar spacers. The system is braced against the concrete pressure by strapping the foundation with tension belts in the same way as when securing goods being transported by truck. This system can be used four or five times. Because Pecafil universal formwork material does not affect groundwater, the formwork elements can be left in the ground as lost formwork when used for the last time.

Pecafil universal formwork material used as the exterior formwork for pile caps and bases is delivered to the site already bent and with the height already tailored to the on-site requirements. With a weight of less than 3 kg per square metre, these extremely light formwork elements can be carried to the place of use by hand and assembled there by using the overlap to adjust the length. Binding wire is used to secure the joints. The reinforcement gap is established using bar spacers. To form the reinforcement system, Pecafil formwork girders are laid horizontally around the formwork and are tightly connected together. The vertical gaps are in accordance with the table on page 8.

Following the quick setting and the concreting, the formwork can be easily stripped and used again. There is no need to clean the formwork, since concrete does not easily adhere to the smooth surface of the elements. For the same reason, you do not have to use any release agents. You can use the material about five times altogether. Pecafil can be used as both positive and negative formwork.

Pecafil – The universal formwork material for all requirements



In some soils, drilled piles need formwork. The formwork in question should be of a type that can be attached to the reinforcement cage and inserted into the bore hole along with the cage. However, it must also be flexible enough to apply itself to the surrounding soil when the drilled pile is concreted.

All requirements can be fulfilled with Pecafil universal formwork material

The formwork is delivered to the site pre-bent and is fixed to the reinforcements. The true size of the formwork is such that the formwork that is pressed against the soil during concreting always has a sufficient overlap at the vertical joint to ensure that no concrete can escape. This means that skin friction is also generated in the formwork area.

Pecafil displacement elements for ribbed slabs are made from VR8 or VR10 formwork material as required and are delivered already bent. The end caps on both sides can be made of Pecafil formwork strips or wood. The Pecafil end caps are U-shaped and are placed over the displacement elements. The wooden end caps have the inside dimension of the displacement elements and are attached using tacks.

The displacement elements are laid on continuous formwork. Stress bars that are nailed to the substructure provide longitudinal reinforcement. The Pecafil displacement elements are cut to length using a knife for the foil and a bolt cutter for the wire insert or using an angle cutter.

Material joints and trimmed edges are to be masked with adhesive tape in order to prevent the concrete from adhering to the steel.

The entire task of laying the Pecafil displacement elements, including the attachment of the stress bars, end caps and so on takes around 0.2 hours/m² of floor area.

The upper reinforcement is secured to the displacement elements with the help of bar spacers or lies on the rib reinforcement.

The floor is concreted using a concrete pump or charging bucket.

If you want to strip the Pecafil displacement slabs, the formwork structure should be tapered and the formwork should be covered with a bubble wrap.

Pecafil displacement elements used in this way are normally easy to strip by hand. They can then be reused.

Pecafil VR10 is normally used for partition formwork. It consists of a special steel mesh in a 150 x 75 mm grid. The shrinking foil used is made from polyethylene. It is non-toxic and does not affect groundwater.

When used for partitions in the sheeting sector, Pecafil VR10 is often laid horizontally. With a width (height) of 2.4 m and delivery lengths of up to 6.0 m (approx.), many sheet piling and drilled pile sheeting panels can be covered so that work can proceed quickly.

The advantages of Pecafil as a separator material in partitions:

- large sheet size
- quick handling
- non-absorbent surface
- does not affect groundwater

The mounting depends on the substructure. In the case of drilled piles, pecafil is mechanically fixed on and for sheet piling it is welded on. The connection of the panels to each other by means of welding the horizontal bars is particularly useful for sheet piling to be extracted later on. The foil forms a separator with a non-absorbent surface, which has a positive influence on the quality of the concrete. When using Pecafil for positioned sheet piling, Pecafil prevents the smectite from drying out and bursting thanks to its quick handling properties and the thick foil.

If exterior heat insulation is required for a building project, it can be attached to the Pecafil separator using construction adhesive. In this case, the Pecafil formwork material forms a flat, clean laying surface. In this case, too, the sheet piling can be extracted.

Pecafil weather protection material consists of a galvanised wire mesh with transparent, heat-shrunk polyethylene foil. It can be used for temporary weather and dust protection on construction sites. Whether it is used for enclosures or semi-transparent partitions, the UV-stabilised foil guarantees a service life of two years. Pecafil weather protection material allows you to close in openings of any size. If the opening is larger than the maximum sheet width of 2.4 m, square-shaped timber can be placed at corresponding intervals to support the formwork.

If fixed tightly to the construction site by means of nailing or bolting a plank through the Pecafil into the masonry or concrete substructure, the Pecafil formwork elements also serve as fall protection elements. The wire insert also protects against trespass.

Enclosures can be constructed easily with a substructure made from scaffolding or Pecafil formwork girders.

In conjunction with a special additional, heat-shrunk bubble wrap, Pecafil can provide heat insulation values comparable with those of normal insulated glass. This material is especially designed for heated construction sites in the Winter.

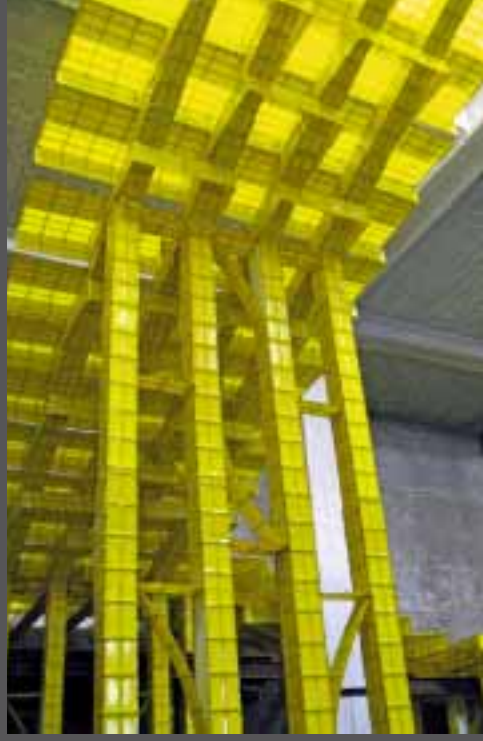
Weather and Dust Protection and Screens

Temporary sealing of construction sites with Pecafil

A different way to use Pecafil – Sculptures by Michael Beutler

Michael Beutler came across Pecafil at a building site in Bremerhaven. In 2004 he designed the first Pecafil sculptures, which created ripples in the art world when displayed at an open-air exhibition in Frankfurt. Beutler's affinity to Pecafil continued to grow. The fact that it can be so easily manipulated at the installation site is an attractive feature. Beutler uses a bending device that he made himself to bend the material, and the final assembly is completed easily using plastic cable ties as normally used in electrics. These objets d'art are not really sculptures in the traditional sense, since they are not constructed in a workshop and then installed at the site later on.

Beutler spends a lot of time considering the surrounding suburbs, historical features, and general environment of the places where his work is to be exhibited - not only before starting on the project, but also during the realisation process.



In this way, he produces extremely diverse objects from exactly the same material: Sculptures (Oldenburg 2005), entire interiors that give the installation place a new interpretation (Berlin Biennale 2006), or even entire 'Oriental towns' that give the impression of being small mazes (Villa Manin 2006).

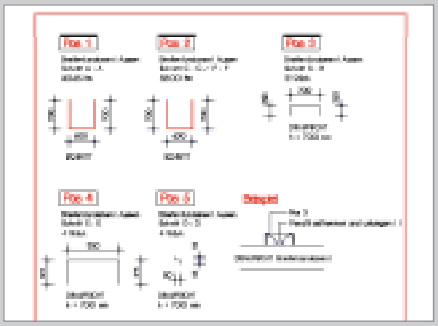
The smallest unit he uses for his designs is a masonry-sized steel mesh grid of 7.5 x 15 cm. This can be clearly seen in his installation at the Berlin Biennale (Berlin 2006): His three-section staircase installation fills up an historical space in the old mews. The Pecafil grid determines the horizontal and vertical dimensions of the stairs.

The German pavilion was not just an exhibition room.
It was also the subject of a stunning temporary structural change.

The added staircase began at the centre of the building, moved out from the facade, changed direction in midair and continued up to the newly installed roof terrace. The rails or the stairs and roof terrace were covered in Pecafil sheets. Thanks to the bright red Pecafil, these elements clearly stood out against the classic pavilion building.

Obtaining the Product

Listening to the requirements of the customer – suggesting solutions based on our products



Working out a quotation based on the plans

Order formulation and the creation of production drawings at our Pressig site

Production of the order

Delivery of the goods – sometimes using the company's own trucks

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