CATALOGUE - USER GUIDE



Heavy-duty handset panels







Product description

Best for new materials

LGR is a **lightweight vertical formwork** for **rectangular columns**, mainly used in residential building. This system is comprised of a range of **handset panels** in all existing sizes.

Main features

- Rectangular column forming system composed of light handset panels.
- Maximum allowable concrete pressure is 80 kN/m².
- · Panel range:
 - · Heights: 3 m, 1 m y 0.5 m.
 - · Widths: 0.7 m y 0.5 m.
- 15 mm PLUS or phenolic shuttering board providing excellent finishes.
- Robust and durable system with reinforced frame corners and galvanised or painted finish.
- **Fixing elements are integrated** in the panel and they cannot be lost. These elements solve the connection between panels in a simple way.
- Reduced number of components.
- Permits pouring **dwarf walls** joining laterally the panels using clamps.













LGR is the ideal product for **maximizing efficiency and profitability of work** in column and dwarf wall forming.

Panels

Highly Durable

The hot-dip galvanised or powder-coated frames and the plastic formwork surface, provide high **durability**.



- Perimeter metal profile frame with reinforced corners, which allows a quick clamp connection at a height. Notches at the bottom make the panel be easily moved and positioned with a lever.
- Two different profiles are used to make **the ribs** that are welded to the frame to provide frame stiffness:
 - Multipunched steel rib with built-in and captive connecting elements.
 - Rectangular rib with holes for the assembly of different accessories as push-pull props and walkway brackets.
- Built-in and captive connecting elements of the panel can be easily replaced if necessary.
- PLUS or phenolic 15 mm board riveted to the frame. Scratch resistant.









Quick assembly

- Fast and easy panel joining without the need for any specific training.
- The tying system, which is comprised of a Sliding nut and a Bolt, is part of the panel. These complements are inside the multipunched rib and they can slide along the rib.
 Both components are safely locked in the rib so that they cannot be lost.

Eye-bolt





Detail of the sliding nut and the bolt







Lifting

Elevation with security and safety

• With lifting hook:

The lifting hook is designed to lift a maximum load of 1,200 kg with a maximum sling angle of 30° with respect to the vertical. Two hooks will be used for lifting a full column.

The hook has the "CE" mark in compliance with the European directive 2006/42/CE on machinery.



Placement of the lifting hooks on the panels







Basic hook's assembly

• With eye-bolt:





The use of these elements is limited by the load capacity according to the case:









1200 kg.





Stabilizing system

Guaranteed stability

Stabilizing elements are used during panel assembly to stabilize them against wind loads and to plumb the formwork once it is assembled. The system uses adjustable push-pull props to support both tensile and compression stresses.

It is comprised of the following:

- **Push-pull props:** tubular body that can be adjusted to the necessary length. Possibility of using two types of push-pull props:
 - · ORMA push-pull prop: 1.1-1.7 / 2.4-3.5 / 3.6-4.8 / 5-6
 - · Lightweight push-pull prop: 1.55-2.5 / 2.5-3.85
- **Push-pull prop head:** joining element between the panel and the push-pull props. It is tied to the panel through the holes in the tubular ribs.
- **Push-pull prop shoe:** element that anchors the push-pull prop to the foundation. 2.5-3.85 push-pull props integrates the shoe. The use of Hilti HSA M20x125 anchors is recommended.





PANEL HEIGHT	PUSH-PULL PROPS	JOINING RIBS
2.5 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 3 RIB 9
3 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 3 RIB 9
3.5 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 5 RIB 11
4 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 3 RIB 13
4.5 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 3 RIB 12
5 m	PUSH-PULL PROP 1.55-2.5 PUSH-PULL PROP 2.5-3.85	RIB 3 RIB 14

Note: For heights below 3.5 m, it is possible to use a single push pull prop as long as the formwork is fastened from the bottom part.

Chamfer strip

Sharp edges on columns can be avoided by using **Chamfer strips**. This is a plastic component that is placed between two panels joined together at 90°. It is not necessary to nail it to the plywood because its special shape allows it to brace the profile. It has multipunched holes to permit passing the Bolt through the lateral holes of the panel.



Chamfer strip joint with no additional elements



Chamfer strip placing on column





Solutions

Columns

The LGR panel can be used to form columns of a wide range of cross sections, in 5 cm increments.

The panels have several multipunched ribs through which the fixing bolt is inserted, defining the dimension of the column.

PANEL WIDTH	0.7 m Panel	0.5 m Panel
Minimum column (mm)	250 x 250*	150 x 150
Maximum column (mm)	600 x 600	400 × 400

*200 x 200 if the board is drilled.



Dwarf walls

Columns with a cross section larger than 60 cm, need clamps and LGR waler to join both panels.

In these cases, the height of the dwarf walls is limited to a maximum of 5 m always positioning the small panels below.

The panels must be joined face to face using **DW 15 tie rods**. The tying of the tie rods is carried out by the LGR waler together with the plate washer nut 15.

PANELS WIDTH	0.7 + 0.7 m	0.7 + 0.5 m	0.5 + 0.7 m	0.5 + 0.5 m
Minimum dwarf walls (mm)	1000	850	800	650
Maximum dwarf walls (mm)	1300	1100	1100	900



Column stabilized with push-pull props



Panel fixing with bolt and sliding nut



Dwarf wall joined with clamps and LGR waler





The lateral union for dwarf wall solutions, is made according to next criteria:

LGR panel dim.	N° clamps in height
LGR panel 3 m	5 clamps
LGR panel 1 m	2 clamps
LGR panel 0.5 m	1 clamp



Dwarf wall's top view





Dwarf wall finish

Vertical panel connection

The execution of columns over 3 m requires the joining of two panels at height using clamps.

The maximum column height allowed is 5 m, always positioning the small panels at the bottom to facilitate and secure assembly from the ground.

The concrete pouring speed is limited based on the **panel** resistance: 80 kN/m².



Panels join with two clamps





The smallest panel must be placed at the bottom





Safety

Work at heights, such as pouring concrete, should be carried out from **safe and stable working platforms** that prevent workers from falling.

• Working Platform:

These platforms are assembled by placing **walkway brackets** on the holes of the panels with cotter pins.

It can be used independent lifting platforms or working platforms integrated in the formwork.

The bracket is equipped with a plastic strip to nail the planks to form the base of the safe platform.



• Universal Column Platform:

The **Universal Column Platform** allows safe column concreting and can be adapted to any column dimensions.

The platform is attached directly to the panels without using any lower support structure.





Assembly, use and disassembly

LGR column formwork system, for its lightness, allows manual and crane assembly and disassembly.

Manual assembly

The assembly process described below refers to a column formwork assembly manipulated without crane. It may vary depending on the required geometry:

1. Position one panel perpendicular to another (in an L shape), facing the lateral profile holes to the multipunched rib holes. Insert the bolts in the panel holes in accordance with the column dimensions to be obtained. Tighten the nuts.





Fixing detail

 Assemble the push-pull prop heads and the push-pull props on the panels.
Anchor the push-pull prop shoes using Hilti HSA M20x125 anchors.

Place reinforcement, if this was not done previously.

 Assemble the other L gang as explained in the previous points without stabilizing system, or join the rest of the panels one by one with the LGR bolts and nuts with the column dimensions.









4. Pour the concrete using the appropriate auxiliary equipment.

 Once the concrete has cured completely, stripping can begin. Release the bolts and the nuts to dismantle the panels. Perform maintenance work and cleaning on the panels.













Disassembly basic process

• Disassembly with crane.

1. Start with the column formed and forged.

 Using reglamentary auxiliary equipment, place the lifting hooks on the panels or connect the slings to the eye-bolts. Release the nuts and disconnect the panels without dropping. Remove the panels from the concreted column with a lever.











3. Remove panel gang with the crane, for following column pourings.4. Once all the columns are executed, down panel gangs on the ground and disassemble them. Perform any maintenance and cleaning work on the panels.









Conditions of use

General conditions of use

General aspects

- The instructions in the project design, the health and safety plan and other applicable technical and/or safety requirements of the worksite shall be followed at all times.
- The work shall be carried out by qualified persons under the direction of a competent person.
- The user instructions for the work equipment used must be complied with (see the manufacturer's or supplier's manual).
- The work must be carried out using the auxiliary means prescribed by law and the corresponding means of protection, preferably collective.
- The personal protective equipment to be used must include at least the following: hard hat, safety footwear, gloves and tool belts. However, consideration shall be given to the use of other personal protective equipment where appropriate.
- Impacts on platforms or worktops must be avoided (jumping, abruptly depositing loads, etc., must be prohibited.
- If work is being carried out in the vicinity of high-voltage lines, efforts must be made to work de-energised. If this is not possible, the measures indicated in the relevant regulations shall be taken.
- \cdot In adverse weather conditions, work on the material shall be avoided.
- In the event of strong winds, loads or objects shall be removed from platforms and lashings, netting, platform support, etc. shall be checked before and after the inclement weather.
- Before stripping and dismantling, it shall be checked that all critical elements of the structure are in place (ties, etc.), and if not, the structure shall be corrected before stripping and dismantling.
- Before stripping and dismantling, check that there is no loose material on the structure (e.g. on the working platforms) liable to fall to the ground.
- The necessary measures must be taken to prevent access by users and third parties while the structure and its surroundings are not in a condition for use by them (e.g. unfinished assembly, lack of collective protection, access restricted to authorised workers, access by third parties during assembly and dismantling prohibited, etc.): signposting, physical locks, etc.
- Users or third parties accessing parts of the structure which are not equipped with all the collective protections to prevent the risk of falling must use appropriate personal protective equipment to prevent such a risk.
- The purchaser or lessee of the structure must provide users with the necessary instructions for the correct use of the structure.
- Any modification to the structure must be carried out under the supervision of a qualified person in accordance with the manufacturer's or supplier's instructions.

- The purchaser or lessee of the structure must provide users with the necessary instructions for the correct use of the structure.
- The purchaser or lessee must carry out periodic checks of the assembled structure to verify the condition of critical components and ensure that none of the structure's components have been modified or removed by users or third parties.
- \cdot Work on the formwork shall not be carried out in wind speeds in excess of 60 km/h, ice or snow.
- The crane used shall be sufficiently powerful for the handling and assembly of the modules.
- Regulatory lifting aids shall be suitable for the loads to be lifted and shall be checked before each use and, if defective, discarded.
- If the NEVI Lifting Hook is used, it shall be used in accordance with the instructions for use provided by the manufacturer.
- Health and safety protection
 - The customer shall ensure that the necessary measures are determined to provide protection against possible risks, create an occupational risk prevention plan, coordinate the protective measures for site personnel, supervise and ensure compliance with the appropriate protective measures.
 - · In Spain, this section is regulated by Law 31/1995 on Occupational Risk Prevention.
 - · In other countries, it must be ensured that the relevant national guidelines and the respective regulations in force are complied with.
- Formwork
 - Frames shall be provided to support the formwork panels to prevent damage and to facilitate the order, cleaning and distribution of the panels to the points where they are to be placed.
 - The positioning and assembly of units shall be carried out in accordance with safe working procedures.
 - Appropriate levelling and stabilisation shall be carried out according to the terrain and/or weather conditions.
 - The correct tightening of tie-down nuts, the correct positioning and tightening of push-pull props and the correct anchoring of the push-pull prop shoe to the ground shall be ensured.
 - The maximum hydrostatic pressures of the formwork system shall be observed (according to instructions).
 - Care shall be taken to ensure that the joint clamps between panels are perfectly wedged to ensure that no grout is lost through the joints.
 - A new assembly shall not be placed at the point of laying until care has been taken to ensure that the previous assembly is properly fastened.



- Working platforms shall not be overloaded and the items necessary to carry out the work smoothly shall be kept on the platform.
- · No items shall be left semi-assembled.
- · Climbing on formwork is be prohibited.
- · Care shall be taken to ensure that the formwork surfaces are clean before the concrete is poured.
- The panels shall be cleaned after each use. The use of wire brushes which could damage the plywood coating of the board shall be avoided.
- It is important to know that the plywood coating of the panel board is barely damaged by the chemical and abrasive action of the concrete, but attention should be paid to sealing holes and damaged areas.
- Any board edges that are trimmed should be sealed as soon as possible, because water penetration can cause the board sheets to swell, increasing the thickness of the board.
- · In general, the use of nails or screws is not recommended.
- For storage, the panels should be stacked one on top of the other, with a wooden block between them, separated from the ground on supports and under cover. Prolonged exposure to sun and rain can be harmful.

• Release agent

- The use of the release agent is justified by its importance in preventing adhesion between concrete and formwork, as well as in increasing the number of uses of the panels.
- The release agent plays an important role in the quality of the concrete surface, ensuring that the concrete surface is free of surface voids and uniform in colour.
- · It shall be applied uniformly and in thin layers, taking into account at all times the rules of use and correct application.
- The surfaces of the panels to which the release agent is to be applied must be thoroughly cleaned.
- It is recommended that the metal frame of the panel be cleaned and the release agent applied to it every 4 or 5 applications.
- Pouring concrete on site
 - The maximum hydrostatic pressures of the formwork system shall be respected (according to instructions).
 - When pouring the concrete, the state of the formwork shall be monitored and the operation shall be stopped in the event of any incident.
 - The concrete must be poured in layers or batches of uniform thickness, between 30 and 45 cm.
 - It is recommended to pour the concrete from the lowest possible height, never higher than 2 m, if it is not done through a conduit, chute or any other accessory. It is advisable to pour the concrete as close to the base as possible, concentrating it in a single point, and without pouring directly against the formwork.
 - If the concrete is poured using a bucket, special care shall be taken not to hit the formwork with it and not to exceed the load limit of the crane.

- Concrete splashing on the panels must be avoided to prevent any stained areas from appearing as a result.
- The compaction or vibration system must be suitable to enable the concrete to be worked properly.
- Needle vibrators are preferable for in-situ concrete compaction, leaving compaction by external vibration only for cases where needles are not accessible or for parts cast in the workshop. For these cases, a particular analysis of the external vibration method is required.
- \cdot The needle vibrator must penetrate the layer by 10 to 15 cm.
- The needle vibrator must not come into contact with the formwork surface in such a way that the loads are not exceeded.
- \cdot The needle vibrator must penetrate the formwork quickly and remain stationary, vertical or slightly inclined.
- \cdot The needle vibrator must be removed slowly.

Concrete curing and stripping

- Before stripping, the concrete must have a minimum strength to prevent loss of mass close to the surface, as the surface appearance, strength and durability of the concrete could be affected.
- The curing time should be increased in the event of low temperatures or draughts that could lead to rapid drying of the surface.
- The different masonry elements should be stripped at the same time interval. This is justified from the point of view of the surface quality of the concrete, since the colour of the surface is conditioned by the time during which it remains isolated from the outside.
- When stripping the formwork, it must be ensured that there are no people in the vicinity and that there is no loose or falling material on the working platforms.
- · Vertical elements must be stripped from the top downwards.
- Once the formwork has been stripped, it shall be placed on racks where it shall be cleaned and dismantled, if no more formwork is to be set up.
- The material shall be checked before each installation to see if all the components meet the appropriate conditions.
- · Personal and collective protective equipment
 - The work is to be carried out using the auxiliary means prescribed by law or working platforms with their corresponding guardrails (collective means of protection).
 - The personal protective equipment to be used must include at least the following: hard hat, safety footwear, gloves and tool holder belt.
 - However, the use of other personal protective equipment shall be taken into account in accordance with the site guidelines and risk assessment.





- · Handling and maintenance general conditions
 - \cdot Items must be correctly stored to keep them in good condition.
 - · Optimum storage conditions are:
 - Place parts of the same type and dimensions in elements designed exclusively for them (baskets, pallets, boxes, etc.).
 - Strapping shall not be applied with excessive pressure that deforms the parts.
 - Strapping shall be applied with sufficient pressure to prevent parts from moving around.
 - Parts shall be protected from excessive strap pressure by means of protectors.
 - · Parts must not be struck while the material is being moved.

Transport, handling and storage

- General notes
 - \cdot Be informed of the risks and preventive measures at the workplace.
 - Follow the instructions of the person in charge of the workplace.
 - · Good communication between the workers involved in the operations must be ensured.
 - · Work equipment must not be used without authorisation and specific training and information.
 - A sufficient safety distance must be maintained from mobile work equipment (forklifts, lorries, cranes, construction machinery, etc.) and areas where there is a risk of falling materials.
 - \cdot Under no circumstances must anyone stand under or in the path of raised loads.
 - · Avoid knocks and crushing of parts during transport, handling and storage.
 - The material shall be loaded in suitable containers (pallets, baskets, etc.) or in packages strapped and suitably shimmed, i.e. the packages shall be tied in such a way that the strapping does not break and the package is stable.
 - The strapping shall be placed with the necessary pressure to avoid the load from moving around and ensure that parts do not become deformed, protecting the pieces with protectors if necessary.
 - When cutting the strapping of packages, position yourself to one side, wear gloves and goggles (risk of entrapment with the material and cutting due to the expansion of the released strap).

Transport

- The stability of the load must be ensured in accordance with the carrier's instructions (uniform distribution, securing with auxiliary elements, etc.).
- When opening the container or the box of the means of transport, position yourself out of the possible path of falling parts.

Handling

· Manual handling of loads

- · Do not make any sudden movements.
- Before lifting the load, examine it for sharp corners, dirt, etc., and decide the best place to hold it according to its shape, weight and volume.
- \cdot When starting to lift the load, place your feet shoulder-width apart and bend at the knees, never the back.
- In the case of heavy loads or loads which are difficult to handle, use mechanical means and/or enlist the help of other worker(s).

· Mechanical handling of loads

- · Lifting equipment that complies with the applicable regulations and is suitable for the operation shall be used.
- The condition of slings, ropes and other securing devices must be checked each time they are used.
- After attaching lifting accessories and before starting lifting operations, withdraw to a sufficient safe distance from the load and other materials that may be affected.
- The instructions of the specifically trained person operating the work equipment shall be followed.
- · Lifting of the load shall be carried out in a gentle manner, avoiding sudden movement of the load.
- In operations involving complex or dangerous manoeuvres, or in cases where the crane operator does not have visual control of the entire trajectory of the load, handling operations shall be guided by a signalman, who shall communicate with the crane operator by means of a previously defined code of signals.
- When it is necessary to guide the load, elements such as ropes shall be used to guide it from a distance. The load shall never be guided by hand if there is anything in the vicinity capable of causing entrapment between the load and that item. Unforeseen swinging and/or movement of the load could lead to a serious accident.

Storage

- \cdot Adequate storage of the pieces is essential to keep them in good condition.
- Whenever possible, the pieces should be stored in a place protected from atmospheric and aggressive agents to avoid damage.
- Parts of the same type and dimensions should be placed in elements specifically designed for them (baskets, pallets, boxes, etc.).
- Stability of the stacks shall be ensured, taking into account the following aspects, among others:
 - · Bearing capacity of the soil.
 - · Ground unevenness.
 - · Levelling of packages.
 - \cdot Support of the package or container.
 - · Package strength.
 - · Condition of strapping.
 - \cdot Condition and capacity of the containers used.



- · Do not stack full containers on top of empty or halfempty containers.
- · External actions (wind, risk of knocks, etc.).
- Lifting hooks
 - The NEVI Lifting Hook must be used in such a way that it does not endanger the safety of persons.
 - The NEVI Lifting Hook must not be used in any other application than described in the User Manual.
 - The NEVI Lifting Hook may only be used to lift ULMA panels or sets of panels designed for this purpose, LGW in this case. Under no circumstances may it be used for other applications or with other formwork systems.
 - In the event that the NEVI Lifting Hook does not function properly, it must be returned immediately for repair.
 - The NEVI Lifting Hook must not be subjected to excessive shock and crushing during handling, storage, transport and, above all, during handling of the formwork by means of the NEVI Lifting Hook.
 - The NEVI Lifting Hook must be kept in a place protected from atmospheric and aggressive agents in order to avoid deterioration of the part.
 - In the event that any of the people who handle or are in visual contact with the NEVI Lifting Hook observes any damage to the part, this person must immediately remove the NEVI Lifting Hook for repair.
 - Under no circumstances should the self-braking nut and the body connecting bolt be manipulated or changed, and only ULMA personnel are qualified to do so.
 - The inspection and repair of the NEVI Lifting Hook must be carried out by trained personnel with the necessary knowledge.
 - \cdot Make sure that the crane hook is properly inserted in the eye of the NEVI Lifting Hook, with the safety latch of the former in its correct position.
 - Make sure that the slings used to lift the panels are positioned symmetrically. To do this, carry out a preliminary study of where the NEVI Lifting hooks are to be positioned on the set of panels.
 - In long-term works, it is advisable to carry out a periodic inspection of the parts (once every six months) in order to be able to detect any possible deterioration of the parts in time.
 - \cdot Never stand under the load.
 - · Carry out the lifting of the panels in a gentle manner, avoiding sudden movements of the lifted panels.
 - Always wear gloves and safety boots with metal toecaps to protect your hands and feet when positioning the NEVI Lifting Hook and lifting the panels. Always wear a helmet to protect your head.
 - Handling must always be carried out in places with sufficient visibility (more than 100 Lux).

Inspection and maintenance

- General aspects
 - \cdot ULMA is responsible for the supply of the product, whether for sale or rental, in correct conditions of use.
 - The purchaser or lessee is responsible for the correct use, revision and maintenance of the product supplied.
 - Maintenance shall be carried out in accordance with the applicable legislation in the country.
 - · Use not in accordance with specifications (overloads, knocks, etc.) may cause defects in the product.
 - The buyer or lessee must periodically check the condition of the product: breakage, deformation, absence of elements, fissures, cracks, severe corrosion, wear and tear, etc. Special care must be taken with the most delicate elements (aluminium, etc.) and those that affect the safety of persons.
 - \cdot Elements that are not in correct conditions of use must be removed.
- Cleaning
 - The purchaser or lessee must periodically clean the delivered product (remove concrete residues, dirt, etc.).
 - In addition to the functional areas (surface in contact with the concrete, contact areas between parts, drives...) we recommend cleaning the areas of the structural elements that could be damaged by overloading or improper use (welds, areas of smaller cross-section, notches...) in order to detect the defects indicated in the previous point.
 - \cdot To ensure proper assembly, it is necessary to check the following between uses:
 - \cdot Clean both sides of the board and contact areas.
- Repairing damaged items
 - The buyer or lessee may replace damaged, easily assembled elements provided that they are replaced by spare parts supplied by ULMA and in accordance with ULMA's instructions.
 - If the buyer or lessee carries out repairs that could modify the structural characteristics of the product (cutting, welding, riveting, incorporation of foreign elements, etc.), it is their own responsibility. ULMA does not guarantee the safety of these types of repairs. It is strictly forbidden to carry out this type of repair on the product leased from ULMA.





Instructions for inspecting the lifting hook

Hooks should be checked at least once a year by qualified ULMA personnel or, failing that, by another person who has been previously qualified by ULMA Construction.

Before each use, the condition of the lifting element must be checked, verifying the following aspects:

TYPE OF CONTROL	COMPONENT	FAULT	INSPECTION FREQUENCY	CRITICAL YES/NO	REPAIR
Visual	Fixed and mobile parts	Cracked or broken welds or substantial corrosion	With each use and on leaving the warehouse for a site	Yes	Scrap
	Chain shackle, chain and ring	Excessive deformation or wear	On each use and on leaving the warehouse for a site	Yes	Scrap
	Hexagonal bolt Collar nut	Check fastening-tightness of components. Deformations	On each use and on leaving the warehouse for a site	Yes	Replace components
	Spring	Missing component	On leaving the warehouse for a site	No	Replace components
	ID plate	Missing component	On leaving the warehouse for a site	No	Replace components
	Control plate	Missing component	On leaving the warehouse for a site	No	Replace components
	Superficial appearance	Dirt that impedes operation and mobility of mobile components	On each use and on leaving the warehouse for a site	No	Clean





Components that must be replaced in case of loss are:

NAME AND ITEM NO.	CORNER	REPLACEMENT METHOD
ID plate	CARGA MAK. DE USD MAX. TRUGRING LOAD MAX. TRUGRING LOAD MAX. TRUGRING LOAD MAX. TRUGRING LOAD MAX. TRUGRING COMP. MAX. TRUGRIN	Rivet the plate to the body of the hook with two rivets of the following type: tubular aluminium rivet 3 x 25
Control plate	C Altrunt C	Rivet the plate to the body of the hook with two rivets of the following type: tubular aluminium rivet 3 x 25
Spring	l l l l l l l l l l l l l l l l l l l	Fit the new spring in its housing. To do this, it is necessary to remove the moving part by loosening the self-braking nut and bolt, then fit the new spring and, finally, reassemble the moving part.

If the lifting element does not meet any of the defined specifications, it must be removed. For further information, please contact ULMA Construction.



The automatic brake collar nut and hexagonal bolt are for single use only; therefore, if they are removed, they must be replaced by new ones.

When mounting the self-braking nut on the bolt, the torque of 42 Nm must never be exceeded during tightening (according to UNE-EN ISO 2320, Table 8).

The final tightening torque when tightening the self-braking nut must be 30 Nm.



Legal references

- **Directive 89/391/EEC** of the Council, of 12 June 1989 on the introduction of measures to encourage improvements in the health and safety of workers at work.
- **Directive 89/654/EEC** of the Council, of 30 November 1989 concerning the minimum health and safety requirements for the workplace.
- **Directive 95/63/EC** of the Council, of 5 December 1995 on the minimum health and safety requirements for the use of personal protective equipment by workers at work.
- **Directive 90/269/EEC** of the Council, of 29 May 1990 on the minimum health and safety requirements for the manual handling of loads involving risks to workers, in particular back and neck injuries.
- **Directive 92/57/EEC** of the Council, of 24 June 1992 on the minimum safety and health requirements to be applied at temporary or mobile construction sites.
- **Directive 92/58/EEC** of the Council, of 24 June 1992 on the minimum requirements for the provision of health and safety signs at work.
- **Directive 89/655/EEC Directive 95/63/EC Directive 2001/45/EC** of the European Parliament and of the Council of 27 June 2001 amending Council Directive 89/655/EEC concerning the minimum health and safety requirements for the use of work equipment by workers at work.
- **Directive 2002/44/EC** of the European Parliament and of the Council of 25 June 2002 amending Council Directive 89/655/EEC concerning the minimum health and safety requirements for the use of work equipment by workers at work.
- **Directive 2003/10/EC** of the European Parliament and of the Council of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration).
- **Directive 2006/42/EC** of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC (recast).
- UNE-EN 13374. Provisional edge protection systems. Product specifications, test methods.





Declaration of conformity: NEVI lifting hook



Declaration of conformity: Lifting ring

DECLARATION OF CONFORMITY

According to the Machinery Directive 2006/42/EC

Hereby, ULMA C and E, S. Coop., Established in Paseo Otadui 3 20560 Oñati, declares that the product whose item number and name are stated below complies with aspects of design and manufacture concerned with the safety of persons as required by the relevant EU directive. This statement is valid until the product is modified in any way.

Item Number: <u>9165401</u> Name: <u>EYE BOLT SCREW M20 DIN580</u>

Item Number: <u>9057200</u> Name: <u>HEXAGONAL NUT M20 DIN985-8 ZINC COATED</u>

Oñati, 14th November 2019

Signed

Iñaki Irizar, Technical Director Responsible for Preparing theTEchnical File Barrio Garibai nº 9, 20560 Oñati

Signed



Aitor Ayastuy , General Manager



Components and accessories

		kg
BASIC ELEM	IENTS	
LGR Panel 3x0.7 PLUS P	1856050	74.26
LGR Panel 3x0.5 PLUS P	1856065	58.4
LGR Panel 3x0.7 PLY P	1856650	71
LGR Panel 3x0.5 PLY P	1856665	58
LGR Panel 3x0.7 PLUS G	1856450	74
LGR Panel 3x0.5 PLUS G	1856465	58
LGR Panel 3x0.7 PLY G	1856637	70.9
LGR Panel 3x0.5 PLY G	1856635	56.1

		kg	
LGR Panel 0.5x0.7 PLUS P	1856075	16.9	_
LGR Panel 0.5x0.5 PLUS P	1856080	12.9	
LGR Panel 0.5x0.7 PLY P	1856675	16.3	
LGR Panel 0.5x0.5 PLY P	1856680	12.5	
LGR Panel 0.5x0.7 PLUS G	1856475	16.9	
LGR Panel 0.5x0.5 PLUS G	1856480	12.9	
LGR Panel 0.5x0.7 PLY G	1856657	12.5	
LGR Panel 0.5x0.5 PLY G	1856655	12.5	



NEVI Lifting hook 1920835 8







Chamfer strip LGR 3 m

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LGR Panel 1x0.7 PLUS P	1856060	29.5
LGR Panel 1x0.5 PLUS P	1856070	22.6
LGR Panel 1x0.7 PLY P	1856660	28.3
LGR Panel 1x0.5 PLY P	1856670	21.9
LGR Panel 1x0.7 PLUS G	1856460	29.5
LGR Panel 1x0.5 PLUS G	1856470	22.6
LGR Panel 1x0.7 PLY G	1856617	28.3
LGR Panel 1x0.5 PLY G	1856615	21.9











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