Product sheet

OPERATION AND MAINTENANCE

KITCHEN ADELE PROJECT

Manufacturer

LUBE INDUSTRIES Srl Via dell'industria, 4 - Treia (MC) - Italy

Product Name

Kitchen cabinets, **ADELE PROJECT** model

Caution

This product data sheet complies with the specifications set out by Italian Legislative Decree **no. 206 dated 6th September 2005 "Consumer Code"**.

Material Used - Veneer Adele Project

- **Doors and deep drawer front panels (Oak)**

  24 mm MDF (class E1) panel, veneered on both sides with striped European oak board, thickness 5 mm; edged on 4 sides with glued-on 8 mm strips of striped European oak, water lacquer with non-yellowing open-pore coating, matt finish (10 gloss), water colour finish.

- **Doors and deep drawer front panels (Ash)**

  24 mm MDF (class E1) panel, veneered on both sides with ash board, thickness 5 mm; edged on 4 sides with glued-on 8 mm strips of ash, water lacquer with non-yellowing open-pore coating, matt finish (10 gloss), water colour finish.

- **Doors and deep drawer front panels (Heat-Treated Ash)**

  24 mm MDF (class E1) panel, veneered on both sides with ash board, thickness 5 mm; edged on 4 sides with glued-on 8 mm strips of ash. The edge and veneer wood has been heat treated at between 180° and 230° to give the material its natural coffee colour without any lacquering, as well as reducing the material's tendency to shrink, expand and absorb humidity.

- **Doors and deep drawer front panels (With paint)**

  Door as above with spray-painted water colour decorations.

- **Drawer front panels**

  As for solid doors.

- **Glass doors**

  Frame as for solid doors; 4 mm thick tempered glass, satin finish.

- **Glass doors (Aluminium Frame)**

  The frame is a 6060 extruded aluminium profile which has undergone chemical oxidation, brushed, with brill finish and 4 mm thick tempered satin-finish light or stop sol glass.

- **Handle**

  Galvanised zamac handle, satin finish (code 420; code 956); gloss chrome outer finish and satin inner finish (code 462); gloss chrome finish (code 413; code 502; code 464; code 489; code 464; code 488; code 499; code 496; code 492; code 440; code 495; code 479C; code 941C); centre finish brill, side finish chrome (code 493);

gloss silver finish (code 490; code 418); matt beige finish (code 941A); aluminium with brushed steel galvanised finish (code 730); aluminium with chrome finish (code 790C; code 475C) or brown lacquer finish (code 680M; code 790M; code 479M; code 475M); brill finish (code 680B); matt white (code 479B).

Material Used - Lacquered Adele Project

- **Doors and deep drawer front panels (Gloss Lacquered)**

  MDF (class E1) veneer panels lacquered with polyester resin white primer and brushed gloss polyurethane lacquer catalysed with non-yellowing isocyanate (lacquered finish without chrome, lead or cadmium); available in a range of stock and custom colours, also with metal effect.

- **Doors and deep drawer front panels (Matt Lacquered)**

  MDF (class E1) veneer panels lacquered with polyester resin white primer and soft matt polyurethane lacquer catalysed with non-yellowing isocyanate (lacquered finish without chrome, lead or cadmium); available in a range of stock and custom colours, also with metal effect.

- **Drawer front panels**

  As for solid doors.

- **Glass doors**

  Frame as for solid doors; tempered glass, thickness 4 mm, satin-finish.

- **Glass doors (Aluminium Frame)**

  The frame is a 6060 extruded aluminium profile which has undergone chemical oxidation, brushed, with brill finish and 4 mm thick tempered satin-finish light or stop sol glass.

- **Handle**

  Galvanised zamac handle, satin finish (code 420; code 956); gloss chrome outer finish and satin inner finish (code 462); gloss chrome finish (code 413; code 502; code 464; code 489; code 464; code 488; code 499; code 496; code 492; code 440; code 495; code 479C; code 941C); centre finish brill, side finish chrome (code 493); gloss silver finish (code 490; code 418); matt beige finish (code 941A); aluminium with brushed steel galvanised finish (code 730); aluminium with chrome finish (code 790C; code 475C) or brown lacquer finish (code 680M; code 790M; code 479M; code 475M); brill finish (code 680B); matt white (code 479B).

Material Used - Glass Adele Project

- **Doors and deep/shallow drawer front panels**

Frame made of 6060 extruded aluminium profile which has undergone chemical oxidation, brushed, with matt "brill" finish, thickness 24 mm, to which is glued an extralight gloss tempered glass panel, thickness 4 mm, water coloured internally in a variety of colours, or extralight matt tempered glass with painted and refired flower decoration, also with internal water colour in a variety of colours; the handle is a fixed aluminium profile integrated into the frame itself.

- **Doors and deep/shallow drawer front panels (Silver King Bronze)**

Frame made of 6060 extruded aluminium profile which has undergone chemical oxidation, brushed, brill finish, thickness 24 mm, to which is glued a transparent embossed PVC panel with marble veining united with a silver laminate. the handle is a fixed aluminium profile, integrated into the frame itself.

- **Handle**

Galvanised zamac handle, satin finish (code 420; code 956); gloss chrome outer finish and satin inner finish (code 462); gloss chrome finish (code 413; code 502; code 464; code 489; code 464; code 488; code 499; code 496; code 492; code 440; code 495; code 479C; code 941C); centre finish brill, side finish chrome (code 493); gloss silver finish (code 490; code 418); matt beige finish (code 941A); aluminium with brushed steel galvanised finish (code 730); aluminium with chrome finish (code 790C; code 475C) or brown lacquer finish (code 680M; code 790M; code 479M; code 475M); brill finish (code 680B); matt white (code 479B).

Components Description

- **Structure of casing and shelves**

Consists of 18 mm thick melamine faced wood particle board panels conforming to standard F**** (extremely low formaldehyde emissions). The shelves are 16 mm thick and have an incorporated adjustable bracket with anti-detachment device; tempered glass versions (6 mm thick) with ground edges are also available.

- **Edging**

ABS edging (0.5 mm thick) glued on using a thermosetting polyurethane adhesive (casing sides), or laminate edging (0.3 mm thick) glued on using hot-melt adhesive (shelves).

- **Back panels**

2.5 mm thick MDF panels (class E1) faced with finishing foil, glued on using vinyl products.

- **Worktop**

Laminate worktop: 38 or 58 mm thick water-repellent wood particle board coated with high pressure laminate (HPL). For worktops in other materials, please refer to the "Useful information" section.

• Sink

In sheet 18/10 stainless steel made using a single-casting or electrically welded tubs, with a smooth or "embossed" finish. For sinks in other materials, please refer to the "Useful information" section.

• Brackets

Faced bracket: melamine faced wood particle board panel (class E1); ABS edging.
Veneered bracket: wood particle board panel (class E1) veneered with "slices" of wood (which vary depending on the model) and lacquered using acrylic/polyurethane products.

• Frames

In pine wood or MDF (class E1) veneered with "slices" of wood (which vary depending on the model); acrylic/polyurethane lacquering.

• Sink unit base coating

In chequered aluminium or lacquered plastic to protect the sink unit from water seepage.

• Feet

In knock-resistant plastic material (PVC) and height-adjustable, these are screwed to the bottom of the cabinet using special bushing, without requiring any drilling in the lower part of the casing (thus completely avoiding the creation of areas in which dirt may accumulate or through which water could leak into the base and sink cabinets).
They are also available in aluminium and can be adjusted and mounted on a special base structure (also made using an aluminium profile).

• Skirting

These elements may be made using anodised or lacquered aluminium, or PVC coated with decorative melamine foil, and have a rubber seal at the top and bottom.

• Regrigerator unit base

In rigid plastic material (PVC), drilled in the centre to allow any leaking water to escape and to protect the main cabinet column.

• Backsplash for worktops

In aluminium or rigid knock-resistant PVC with laminate decoration.

- **Hinges**

  In sheet steel and zamak alloy, copper-plated and nickel-plated for resistance to corrosion; adjustable in three directions.

- **Drawers and total extraction deep drawers (internal structure)**

  The structure may consist of a 16 mm thick wood particle base (extremely low formaldehyde emission conforming to the F**** standard) faced in grey laminate with side and back panels in galvanised and lacquered sheet steel for protection against corrosion. Alternatively the structure can be made entirely of solid ash and plywood; sliding takes place by means of total extraction runners with a grooved system for anti-detachment locking and automatic closure which is activated in the final 4 cm. The soft-close system (blu-motion) is also supplied as standard.

- **Plate draining racks and baskets**

  In electrically welded metal wire; they may be plasticised with polymer resin, nickel-plated or chrome-plated and coated with a transparent plastic sheath (Crominox finish).

- **Tables**

  Top: may be a wood particle panel (class E1) coated with HPL plastic laminate (see laminate worktop) or veneered with "slices" of wood and lacquered with water-based, polyurethane or acrylic shades, or it may be made using glass, granite or natural stone.
  Borders and base structure: these may be made using metal or plywood panels, faced or veneered with "slices" of wood (these vary depending on the model).
  Legs: these may be made using metal or solid wood; lacquering is carried out using acrylic/polyurethane products.

- **Chairs and stools**

  Structure: this may be in tubular metal lacquered with thermosetting powders, or in solid wood lacquered using water-based (impregnating) and acrylic/polyurethane products (base).
  Seat and Backrest: these may be made using synthetic material (methacrylate), solid wood, plywood, upholstered fabric or simulated wicker.

Note: each type of chair or table is identified at the site of purchase by the relevant adhesive label on the packaging.

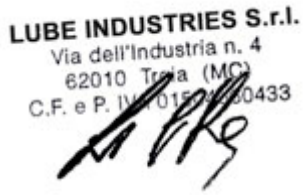
Safety

- **Formaldehyde emissions**

Declaration of Conformity - Formaldehyde Emissions

The undersigned SILEONI PACIFICO, legal representative of the company LUBE INDUSTRIES Srl, Via dell'Industria 4, Treia (MC), hereby declares, with exclusive responsibility, that all wood-based components used in the kitchens it produces conform to the standard UNI EN 13986:2005 "Wood-based panels for use in construction: properties, evaluation of conformity and labelling", exclusively for the information provided in annex B1 of the standard indicating "E1 formaldehyde classes", in accordance with the specifications set out in Italian Ministerial Decree dated 10th October 2008 (formaldehyde emission < 0.1 ppm or < 1.24 mg/l, in accordance with standard EN 717-1).
It also declares that - for the components forming the structure of the cabinets only - the specifications set out in standard JIS A 1460 for F** classification (formaldehyde emission < 0.3 mg/l) have been observed.**

Treia, 05/10/2010



• Permitted loads

Wall unit supports (hooks): max. flexing resistance up to 145 kg.
Drawer runners (partial extraction): max. dynamic load 25 kg; static 40 kg.
Drawer runners (total extraction): max. dynamic load 30 kg; static 50 kg.
Hinges: wear tests did not result in any significant signs of deterioration after 80,000 cycles (70x60 cm door weighing 8.8 kg with 2 hinges, subjected to repeated opening and closing).
Max. tensile strength when opened: 130 N (in the test conditions specified above).
Tempered glass panels: if broken, these glass panels shatter into small pieces so as not to create dangerous and sharp shards.

• Safety standard uni-en 1153

All main kitchen components comply with the construction safety requirements specified in standard UNI-EN 1153, par. 6.2.
Furthermore, they comply with the safety requirements in par. 8 of the abovementioned standard, relating to:
- tipping up of shelves (par. 8.1)
- shelf supports (par. 8.2)
- vertical load on doors (par. 8.3)
- sliding doors and roller shutters (par. 8.4)
- drawers (par. 8.5)
- load on tops (par. 8.7)
- knocks on glass components (par .8.9)
- glass shattering (par. 8.10)
- stability (par. 9)
- load on wall unit support hooks (par. 8.8.3)

• Assembly

- Make sure that assembly is carried out by authorised personnel, and do not make any modifications to the cabinets as this may compromise structure stability; in fact, the units are at risk of tipping over or collapsing if they are not installed properly.

- Also check the suitability of the wall/ceiling and make sure the fixing devices can withstand the forces generated.

• Enviroment

When replacing the cabinets, do not dispose of them as normal; contact the solid urban waste disposal authority so that it can be taken to an approriate waste disposal site.

Useful Information

• Worktops

Laminate worktop

The plastic high-pressure laminate (HPL) coating the worktop is a very strong material which guarantees high quality standards in terms of resistance to scratches, heat, stains, knocks and abrasion, in compliance with EN 438.

Marble or granite worktop

These are very delicate due to their porosity (although granite is less porous) and are therefore more likely to be stained by any liquids spilt on the surface; marble is also particularly susceptible to attack from even weak acids contained, for example, in vinegar or lemon juice. The Manufacturer will supply a suitable pore-blocking treatment to encourage stain removal; this treatment should be applied once or twice a year for optimal surface protection.

Marble or granite agglomerate worktop

Made using an agglomerate of 95-96% natural marble or granite with a grading from 0 to 90 mm combined with 4-5% polyester resin; it shares all the features of marble or granite and therefore requires the same level of care; its main advantage is that it offers greater flexibility in terms of worktop shapes and, in the event of abrasion or chipping (caused by heavy objects falling onto the surface), it can be repaired using special kits.

Synthetic worktop

The worktop is made using a sheet of variable thickness (from 6 mm to 20 mm) created by mixing 75-95% mineral powders (such as quartz, natural stone, etc.) with pigments (2-5%) and acrylic resins (8-25%), supported if necessary by a wooden panel (class E1) or synthetic panel (polystyrene, styrene, Eulithe®) of variable thickness; the edging may be made using the same material as the surface or constructed using profiles in other materials (aluminium, wooden edging, ABS, etc.).
This worktop, depending on its resin content, offers considerable advantages as it is solid, resistant to abrasion, can be repaired, does not react to chemical agents, is not porous and therefore does not absorb liquids. It is not always easy to recyle.

Stratified laminate worktop

Constructed using laminate with a 10 mm thick supporting resin layer, glued to a 38 mm thick wood particle board panel (class E1) which is water- and fire-resistant. Thanks to its mechanical characterstics, it is extremely resistant to abrasion and knocks, and is completely waterproof.

Stainless steel worktop

This consists of a wood particle board panel (class E1) coated with 1 mm thick AISI 304 2B sheet steel and finished with scotch brite; it is completely stain-resistant and offers particularly high levels of food hygiene. However, sharp objects or abrasive products should not be used as they may damage the surface, which offers little scratch resistance. A great advantage of this product is that kitchen sinks and hobs can be welded directly to it, thus creating continuity and avoiding joins in which dirt may collect.

Tiled worktop

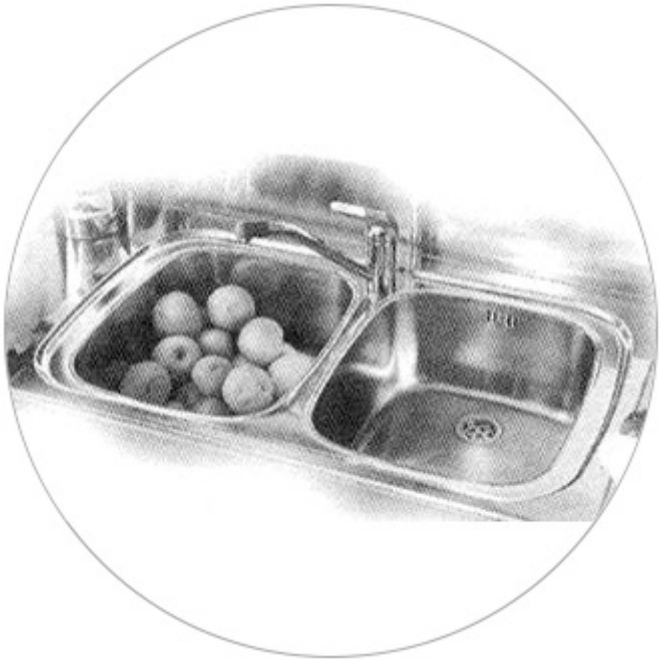
Made using glazed ceramic, porcelain stoneware or natural stone tiles applied to a water-repellent plywood panel and grouted with a waterproof product; the ceramic surface is stain-resistant, but the glaze may be chipped if struck with a sharp object.
STONEWARE = Ceramic made using a white or coloured vitrified paste, without a glaze. Clinker, earthenware and extra-fine stoneware for domestic use also belong to this category.
PORCELAIN STONEWARE = Tiles made using pressing techniques, with a very low overall porosity, consisting of a light paste which can be uniformly coloured or shaded using a mixture of powders and granules of various colours and sizes. The composition of the paste is very similar to that of light-coloured stoneware, but only raw materials with a very low ferrous oxide percentage are selected. The paste is pressed wth specific loads 50% greater than those used for glazed light stoneware. Baking takes less than an hour at a temperature of approximately 1200?. The tiles may also be polished before or after they are laid, in order to enhance their aesthetic features. This material is resistant to frost, acids and alkali, with extremely low porosity and high mechanical resistance.

Glass worktop

This consists of a sheet of 12 mm thick extra-light glass which has been coloured and powertech tempered for greater resistance to knocks; it is glued to a water-repellent wooden support (wood particle board panel, class E1 V70) of variable thickness, with an anodised aluminium profile applied along the edge.
This worktop is waterproof, stain-resistant and hygienic.

Cleaning recommendations

Laminate, synthetic and tiled worktops should be cleaned using a sponge soaked in normal liquid detergent, and very abrasive products should be avoided. Steam cleaners should never be used on tiled worktops; we recommed using anti-limescale gel products instead.
Stainless steel worktops tend to be marked by the limescale in water, but special products are now available which remove these marks easily. Do not use detergents containing chlorine or its compounds, and do not use abrasive products (creams, powder detergents, metal scourers, etc.) as steel tends to be scratched easily.
Finally, only use soap and water to clean marble, granite and agglomerate surfaces; do not use liquid detergents. Any dirt or spillages should be removed immediately, because after a while the various substances may seep into the pores of the material; however, if any rings or stains form, simply rub with a paste of bicarbonate and water, leave for a few minutes and then wipe wth a damp washing-up sponge. It is also very important to repeat the waterproofing treatment at regular intervals, using suitable products.



Sinks

Stainless steel sink

These fall into two categories: single-casting models made using a single sheet, with shallower tubs and thinner steel, and those with welded tubs which are deeper, squarer and therefore offer a greater capacity.
Steel sinks tend to show water marks and limescale deposits easily; however, these can be removed using the special products currently available on the market. An embossed or "scratch-resistant" finish consisting of raised geometric patterns on the surface is also available; this increases the scratch resistance of the sink, but makes cleaning more difficult.

Resin sink

Made using cast resins and polymeric minerals, this is resistant to chemical agents and stains, but may lose elasticity over time and break if subjected to thermal shocks (a sudden switch from cold to hot water, for example); it is initially very easy to clean, but this process becomes more complicated over time as microscratches form in the surface and capture dirt. It is not easy to recyle. For detailed information about the features of the various sink materials, please refer to the worktops section.

- **Wood**

Wood is a natural material with specific features; differences in grain or shade between the various parts cannot therefore be considered as cause for complaint. Lube Industries has, nevertheless, introduced strict finish and wood matching checks as part of its Quality system, in order to minimise the possibility of any problems occurring.
Exposing wood to direct sunlight may cause discolouration. Over time, wood matures and may change colour slightly; this is not a defect. Finally, bear in mind that it behaves like a living product, even after processing, and will expand or contract depending on the humidity level of the surrounding environment.

Advice: Cleaning and Maintenance

• Wooden or veneered parts

Clean gently using a damp cloth and dry thoroughly; do not use detergents and sprays which are not specifically designed for wood, as these could damage the lacquer finish; dry any water droplets or steam to avoid damaging the lacquer, particularly below the sink. Never use products containing solvents (acetone, ammonia, etc.).

• Plastic laminate, polymer-coated or melamine-faced parts

Clean using a soft cloth (microfibre) dampened with warm water and neutral soap. Always rinse treated surfaces thoroughly. Do not use aggressive products (e.g. degreasers), alcohol, solvents or other detergents, nor abrasive sponges and similar supports, as they may permanently scratch the parts being treated.

• Lacquered parts

Clean usinga soft cloth and liquid detergent, then rinse and dry carefully; do not use abrasives or products containing alcohol or solvents (acetone, trilene or ammonia).

• Worktops

Worktops in laminate, synthetic and tiled material should be cleaned using a sponge soaked in normal liquid detergent and very abrasive products should be avoided. Steam cleaners should never be used on tiled worktops; we recommed using anti-limescale gel products instead. Worktops in stainless steel tend to be marked by the limescale in water, but special products are now available which remove these marks easily. Do not use detergents containing chlorine or its compounds, and do not use abrasive products (creams, powder detergents, metal scourers, etc.) as steel tends to be scratched easily.
Finally, only use soap and water to clean marble, granite and agglomerate surfaces; do not use liquid detergents. Any dirt or spillages should be removed immediately, because after a while the various substances may seep into the pores of the material; however, if any rings or stains form, simply rub with a paste of bicarbonate and water, leave for a few minutes and then wipe wth a damp washing-up sponge. It is also very important to repeat the waterproofing treatment at regular intervals, using suitable products.

• Sinks

For sinks in various materials (steel or synthetic resins such as fragranite, cristalite or ekotek), follow the instructions for worktops in the same material.
Do not leave opened packets or bottles of detergent or other acidic products underneath stainless steel sinks, as the fumes released may cause rusting and corrosion.

• Chairs and Tables

To clean tabletops, simply follow the relevant instructions for each worktop material; for veneered or wooden tops, please refer to the paragraph relating to wood.
Finally, from time to time, make sure the tapping screws fixing the legs in place are tightened properly.
As for the wooden or lacquered chairs, follow the instructions provided in previous paragraphs; chairs with a metal frame can normally be cleaned using a soft cloth slightly dampened with water or alcohol; natural or synthetic wicker seats do not require any special care, but should be protected with a cushion to guarantee

durability.
Finally, bear in mind that the chairs are not suitable for outdoor use, and that all four legs should always be in contact with the floor.

• Various components

Hinges: to ensure the hinges last longer, never force the door opening angle, and do not lean on then when they are open; do not leave opened packets or bottles of detergent or other chemical products near them as they may cause rusting.
Edging: edging may break due to the heat emitted by the oven or the steam released by the dishwasher; to glue its edging materials, **Lube Industries** uses thermosetting polyurethane adhesives which are highly resistant to heat and moisture. Nevertheless, we suggest the dishwasher is only opened once it has cooled completely, and that any droplets are dried thoroughly.
Brackets and frames: refer to the instructions provided in previous paragraphs, relating to laminate worktops and wood.
Aluminium frames and skirting: clean using a soft cloth and liquid detergent, rinse and dry thoroughly; never use abrasive products.
Knobs and handles: these are coated with a special stain- and mark-resistant film; abrasive products and solvents (aceton, trilene or ammonia) should therefore be avoided as they may damage it. Use a damp cloth instead and dry thoroughly.

Domestic Appliances

• General advice

Domestic appliances should be positioned logically in order to achieve optimal operating and handling conditions.

Check the condition of the electricity mains regularly, in particular the efficiency of the earthing system.
Do not service the appliance before unplugging it or switching it off at the wall.
Do not start or touch domestic appliances when barefoot or when the floor is wet.
We advise against the use of adaptors and multiple sockets; the appliance plug should be the only one connected to the power point in order to avoid overheating and short circuits. Furthermore, the electricity supply in the kitchen must include a main differential switch that, in turn, controls an individual safety switch for each appliance.

CAUTION

Always adhere strictly to the Maufacturer's instructions (provided in the manuals supplied with each appliance) and, if requesting assistance, contact the service centres authorised by the Manufacturer directly (you will find this information in the manuals and warranty certificates).

Glossary

• Stainless steel

This steel is resistant to corrosion and several chemical agents; it must contain at least 12% chrome; 18/10 stainless steel means it is 18% di chrome and 10% nickel. Its hygienic nature means it is often used in the food sector (pans, sinks, worktops).

• Acrylic (front panels and doors)

These doors consist of a chipboard support externally coated (visible part) with 1.4 mm thick gloss finish (>80 gloss) methacrylate (ABS+Pmma) and internally coated with 1.2 mm thick embossed methacrylate (polystyrene). Profiles are usually finished with gloss lacquered ABS edging. This material looks very similar to the gloss lacquered finish; it is non-toxic and durable, retaining all its original shine, and does not yellow with age. It is also resistant to ultraviolet rays and moisture. It is not resistant to acetone, ink or ethyl butyl acetate.

• Alkorcell

Consists of apolypropylene (PP) decorative sheet for indoor use and does not contain halogens, plasticisers or formaldehyde.
It is suitable for coating wood-based surfaces and is used in the production of cabinet components. A thermosetting lacquer gives the sheet the required properties for these applications.
When working with different gluing systems, the sheet is faced on the back with a primer and gluing takes place using dispersion, hot-melt or solvent adhesives.

• Aluminium

Silvery-white metal, flexible and very light, mainly used in the aeronautical industry. Used in both die-cast and drawn forms, it is painted or protected using anodising processes to make the uppermost layers scratch- and corrosion-resistant.

• ABS

An acronym that stands for Acrylonitrile Butadiene Styrene, a high-resistance synthetic resin-based polymer used to make packaging, television set casing, toys, etc., etc.

• Central panel

Central panel of a door, generally made using veneered or coated chipboard.

• Melamine foil

Foil impregnated with melamine resins; it is available in various colours or wood grain effects. It is used to coat chipboard panels which are then known as "melamine faced panels".

• Hot-melt adhesives

Adhesives which are applied when melted, then harden as they cool, while the two glued elements are being pressed together. They also offer reversibility as, if reheated to temperatures between approximately 60° and 100°C, they soften and temporarily lose their adhesive properties.

• Thermosetting adhesives

Resins which exploit their adhesive properties as a result of chemical reactions, activated in part by the heat. The most important adhesives in the furnishing industry are made using a combination of formaldehyde and other basic resins. As they undergo an instant chemical reaction, they are irreversible and can therefore withstand high temperatures. The polyurethane adhesives used by Lube Industries to glue the casing edges are of this type.

• Formaldehyde

Formaldehyde is a substance used in the production of many adhesives and resins, which are in turn used in the processing of wood panels. Panels produced in this way may release formaldehyde molecules into the surrounding environment, in gas form. This emission, considered as damaging to human health, is regulated by specific standards and legislation in many countries around the world.
In **Europe** (in Italy the **Ministerial Decree 10/10/2008** is applied), for example, the current limit is set at 0.1 ppm and the corresponding panel is categorised as E1.
The definition of E1 comes from a decree published in Germany in 1986, to regulate formaldehyde emissions: "... It is strictly prohibited to release wood-based products onto the market if they originally had an air balance concentration exceeding the value set out by law, i.e. 0.1 ppm (0.124 mg/mc)". From that moment on, this became the standard for all panel manufacturers; however, it should be remembered that until the Ministerial Decree dated 10/10/2008 was passed, there were no legal constraints regulating wood panel formaldehyde emission in Italy.
In **Japan** there is a classification of emissions which depends on the intended application of the product and panels are therefore classified from F* to F**** in accordance with standard JIS; F**** is currently the most stringent standard in the world governing formaldehyde emission (< 0.3 mg/litre, which is 4 times less than the E1 panel and incorrectly called E0).
In **California**, the American state which has always been most demonstrative in terms of health and the environment, a law has established new emission limits for all wood-based products. In particular, emission levels will have to be under 0.18 ppm (parts per million) during an initial phase (2009) and under 0.09 ppm in the second phase (2011), when it will become one of the most stringent standards in the world. The reference method used to measure values is described in the American standard ASTM E 1333-96 (2002) (large chamber method). Unfortunately, there is currently no official correlation between the values obtained using the ASTM method and those obtained using the method applied in Europe (EN 717-1). The relevant products will have to possess third party certification, issued by organisations authorised by the California Air Resource Board (CARB certification).
All the above information concerns the standards used as legal references in various parts of the world; there is also a series of voluntary "commercial" marks and certifications (Note: these are not compulsory) distinguishing the panels which satisfy one or more of the abovementioned standards.
Of particular note is the internal protocol implemented by IKEA , which has established limits and regular checking processes - for all its products - that are very similar to those set out by the Californian standard.
In the same vein, accredited laboratories such as Catas and Cosmob have developed their own seals of approval (CQA for the former and Cosmob Qualitas Praemium Formaldeide for the latter), which also guarantee compliance with the most stringent Japanese and American standards.
Some panel producers have also developed their own brands around the issue of formaldehyde emission. For example, the Saviola Group has created the LEB panel for the worldwide market, which must therefore meet Japanese standards (F****) and gain American CARB ceritification; this means products and emission levels must undergo regular checks. The LEB panel also, therefore, holds CQA and Cosmob Qualitas Praemium

Formaldeide certification.
Lube Industries has specifed the use of class E1 materials only as a compulsory minimum requirement for some time; it also checks panel emissions through regular sample testing, in order to check emission limits. Moreover, it has decided to use only material with very low formaldehyde emission to make the components used to construct its **kitchen structures**: these comply with the F**** standard, as defined by the **JIS** regulation. This standard is certified by the Japanese government, which issues the most stringent regulations in terms of environmental protection. (< 0.3 mg/litre, which is 4 times less than the E1 panel).

• Degree of brightness

This is the gloss value of a painted surface, recorded using the glossmeter instrument:
- matt: up to 10 gloss
- semi-matt: from 11 to 35 gloss
- semi-gloss: from 36 to 60 gloss
- gloss: from 61 to 80 gloss
- high-gloss: over 80 gloss.

• Water-repellent

In the furnishing industry, "unfinished" chipboard, MDF or plywood panels are said to be water-repellent if, for a specified period established in accordance with applicable standards, they resist swelling caused by water seeping into the wood fibres. This resistance is not absolute; there is a scale of values in which the maximum value corresponds to the definition of a water-repellent panel. Of course, other factors contribute to the water-resistant nature of the panel, such as the type of facing used and the adhesive/sealant applied to the edges.

• Laminate

Also known by its commercial name, "formica", it consists of phenolic resins (base) and melamine resins (decorative foil) glued together in order to form sheets which are approximately 0.6 mm thick. It is used to coat wooden panels (laminate panels).
Laminate with a base resin thickness over 1 mm is called stratified laminate; thanks to its mechanical features, this can be used as a self-supporting panel without requiring application to wooden panels.

• Postforming laminate

Application of a laminate surface to an uneven substratum (in general this is curved or profiled), as in the case of machined panel edging.

• HPL laminate

HPL stands for High Pressure Laminates; laminates of this type comply with standard EN 438/1 and offer exceptional strength, as well as resistance to scratches, wear, knocks, chemical agents and fire. They are mainly used for worktops.

• MDF panels

MDF means medium density fibreboard and is made using branches and wood processing offcuts. It is environmentally friendly as its production does not require trees to be felled. It consists of wood fibres obtained through the use of steam and special grinders, held together with thermosetting adhesive. The fibres (very similar to cotton fibres), once pressed, give the panels good mechanical features, excellent dimensional stability and solidity around the edges, making them essential in the production of lacquered and PVC faced panels and, for large surfaces, where wood may experience flatness issues. However, they are heavy and usually offer little resistance to water.

- **Melamine faced panel**

  Chipboard panel faced with sheets of foil which have been impregnated with melamine resins.

-

Chipboard panels

Technically defined as wood particle board, it is made using wood processing offcuts and remaining tree branches; it is therefore an environmentally-friendly product as it does not require any further tree felling. It conists of wood chips and particles which are pressed and glued together using thermosetting adhesives. It is usually used after being veneered, faced with melamine foil or PVC/laminate-coated to give the panel the desired aesthetic properties.
From a mechanical point of view, the chipboard panel offers excellent dimensional stability, making it essential for application over large surface areas to overcome the flatness issues presented by solid wood; it is also much lighter than an MDF panel. However, it also offers little resistance to moisture, especially in its unprocessed state. The materials normally used to coat it guarantee water resistance, depending on the type of coating and method used.

- **Plywood panel**

  Five or more layers of wood with interlacing fibres, glued together using water and moisture-resistant adhesives.

- **Veneer**

  Also called a "slice", this is a thin sheet of wood (approximately 0.6 mm thick) created by shearing tree trunks. It is used to coat the various wooden panels (MDF, chipboard, solid wood, etc.) which are then called veneered panels.

- **Plating**

  Coating an unfinished panel with various materials such as laminate, PVC, veneers, etc.

- **PVC**

  Polyvinyl chloride is one of the most commonly used plastic materials in the furnishing industry. It is used to coat both structural elements and doors alike. It is considered toxic, but in reality it is only dangerous during the manufacturing and disposal processes (if it is not burnt in specific incinerators it releases dioxins). It can be

coloured and can be used to imitate a wood grain effect. As it is a thermoplastic material, it is not particularly heat-resistant, melting at a temperature between 75° and 95°C.

• Serigraphy

A special printing method in which ink is passed through a silk fabric mesh (serigraphic screen) which has been clogged in the areas that do not require printing. When working with glass, a further high-temperature procedure can be applied to temper the serigraphy so that it melts into the glass and becomes permanent.

• Lacquer thickness

The thickness of the film of dry lacquer on the element is measured according to the amount of lacquer applied:
- open pore: up to 5 microns thick
- semi-open pore: from 6 to 20 microns thick
- semi-closed pore: from 21 to 60 microns thick
- closed pore: over 60 microns thick.

• Frame

Solid support structure, generally rectangular, created by joining four or more strips together in a suitable manner. If the frame is rectangular, the vertical elements are called uprights and the horizontal elements are called crosspieces.

• Acrylic lacquer

Highly light-resistant lacquer which offers the best protection against yellowing. It is mainly applied to light coloured woods, where any yellowing of the lacquer would cause a particularly unpleasant alteration in colour. It gives the wood a very natural appearance, as it can be applied very thinly without creating the effect of a transparent film placed over the panel of wood.

• Polyurethane lacquer

This is the most commonly used product in the woodworking sector as it is cheap and easy to apply. As it offers little resistance to light, it tends to become yellow and is therefore not suitable for application to light coloured woods.

• Polyester lacquer

This is normally used to create thick layers of lacquer with excellent mechanical resistance (lacquered panels). As it is harder than acrylic or polyurethane lacquers, it is normally used on tabletops and other elements which are subjected to heavy wear. It can be polished (gloss lacquered) using systems with increasingly fine grains, until a visually striking mirror effect has been achieved.
Polyester lacquers also do not offer great resistance to light and are therefore not suitable for application to very light coloured products which become yellow easily.

- **Water-based lacquer**

This is used for the new environmentally-friendly lacquering systems in which the solvent applied is water. This has helped to resolve some pressing environmental issues (bear in mind that, in some cases, up to 70% of the applied product evaporates as it is drying, in the form of polluting solvents). Water-based lacquers are still in their trial phase.

- **Tempered glass**

Hardened glass offering extra resistance to knocks as a result of the tempering process. This procedure consists of heating the glass to high temperatures (650°C) and then cooling it quickly using powerful jets of air.

- **Zamak**

An alloy consisting of extra-pure zinc, aluminium and magnesium; in addition to its fair chemical inertia, it also responds well to die-casting processes. In the furnishing sector it is primarily used to make knobs and handles.

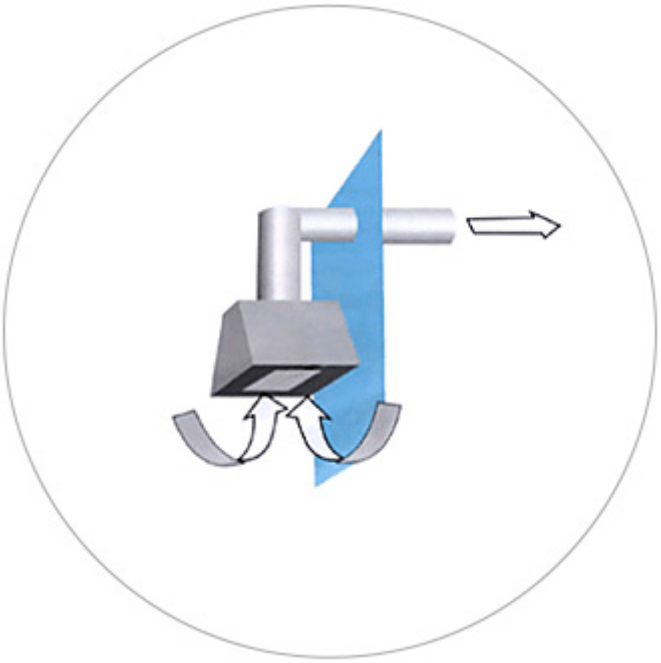
Use and Maintenance

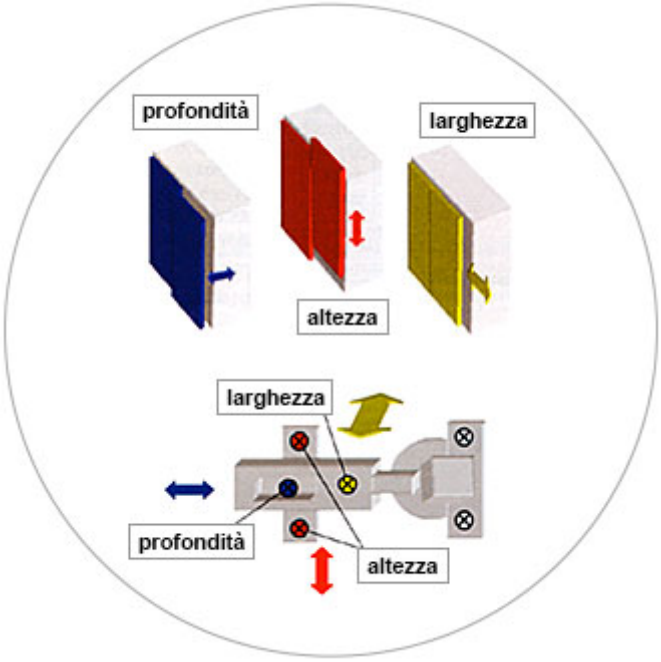
- **Tall refrigerator unit**

For the refrigerator to operate correctly, the tall unit must offer constant ventilation; this is provided by a special plastic pre-drilled plastic base which allows air to enter from under the unit door and to flow out at the top. Therefore, nothing should be placed on top of or underneath the tall units. We also advise against placing the refrigerator near sources of heat, such as an oven, hob or radiator. Make sure that all tall units are secured using a suitable wall fixing plate to prevent them from tipping over.

- **Extractor hood**

It is important to use the extractor hood because it captures fumes and releases them outside; it must, however, be connected to a special flue with a suitable pipe. Do not connect the extractor hood to a flue already used for other waste gases (produced by boilers or chimneys, for example).
The disposable synthetic fibre grease filter should be replaced every 2 months. The metal grease filter should be cleaned in the diswasher every 2 months.



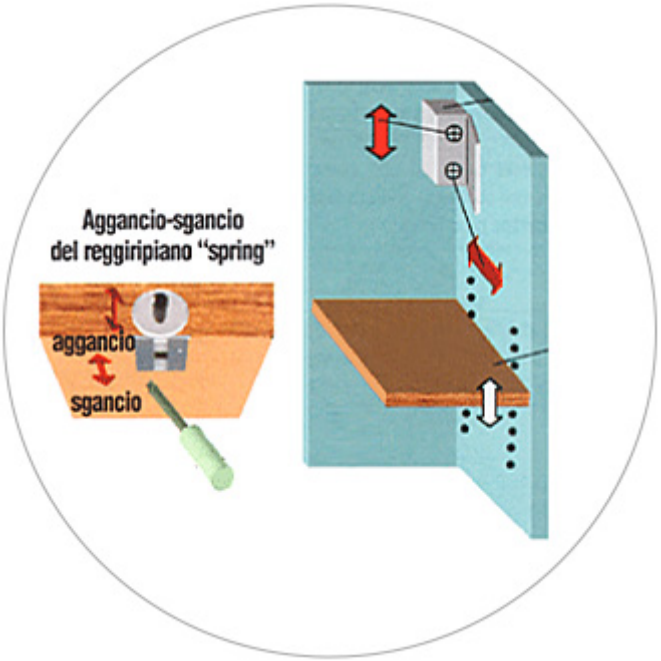


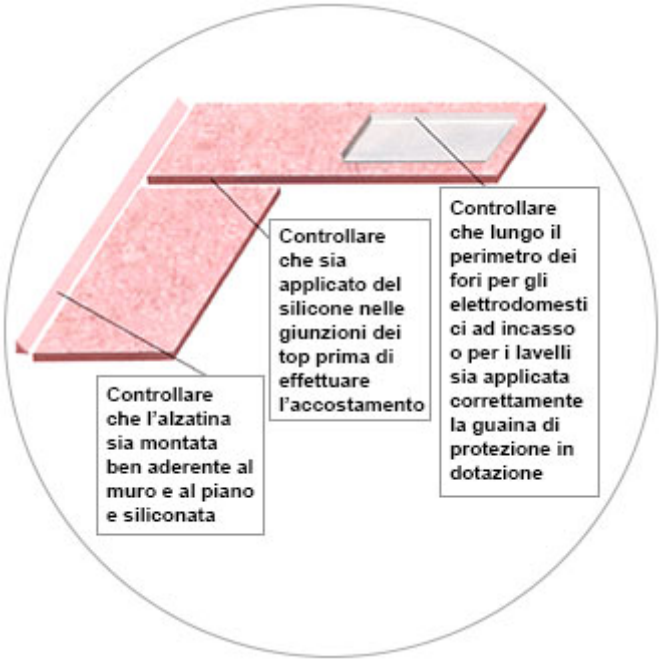
• Hinges

Over time, the door hinges may become misaligned. They can, however, be readjusted: the three arrows in the figure illustrate how to adjust the height, width and depth of each door. The depth adjustment hinge can also be used to remove the door from the unit completely.

• Wall unit - Shelf support hook

The wall unit is fastened to the wall unit support bar with hooks which can be used to adjust the height and depth measurements of the unit by means of special screws located underneath a plastic flap, as illustrated in the figure.
The shelf support devices allow secure installation inside the unit and prevent the shelves from tipping up.
Simply use a screwdriver (as illustrated in the figure) to fit or remove a shelf.
A series of holes has been drilled in the side of the unit so that the shelf can be positioned at the desired height.





• Worktop

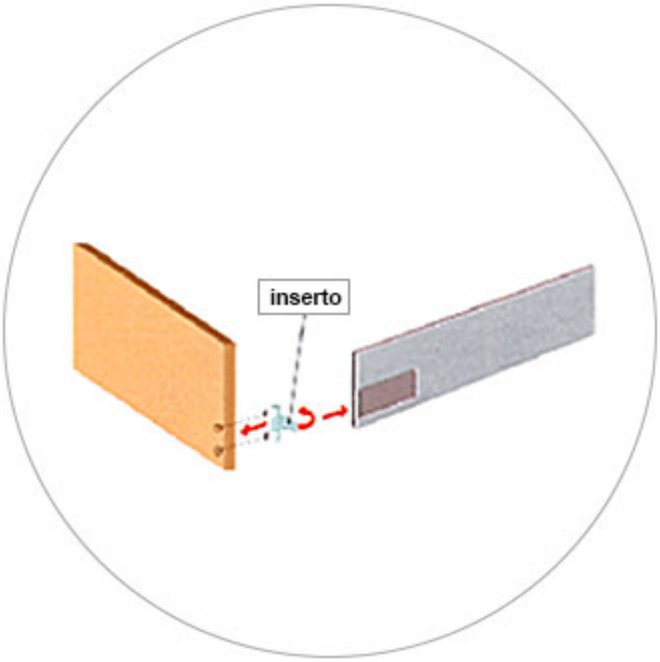
1. Make sure that the protective sheath provided has been applied correctly around the openings for fitted domestic appliances or sinks.
2. Make sure silicone is applied to the joins in the top before bringing the pieces together.
3. Make sure the backsplash has been secured to the wall and worktop, then sealed with silicone if necessary.

• Feet and skirting

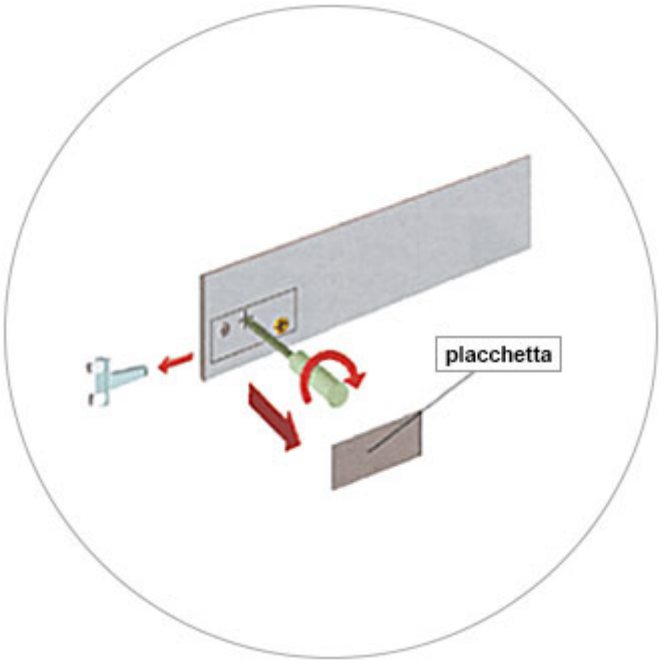
To facilitate work underneath the units, the kitchen skirting is fastened to the feet using snap-on plastic hooks; simply push or pull the skirting as required. These hooks may be aligned with the feet thanks to a special runner on the skirting itself.
The height of tall and base unit feet can be adjusted if the floor is not perfectly even, so that the kitchen is level; simply turn the threaded base of each foot as illustrated in the figure.

- **Total extraction drawers**

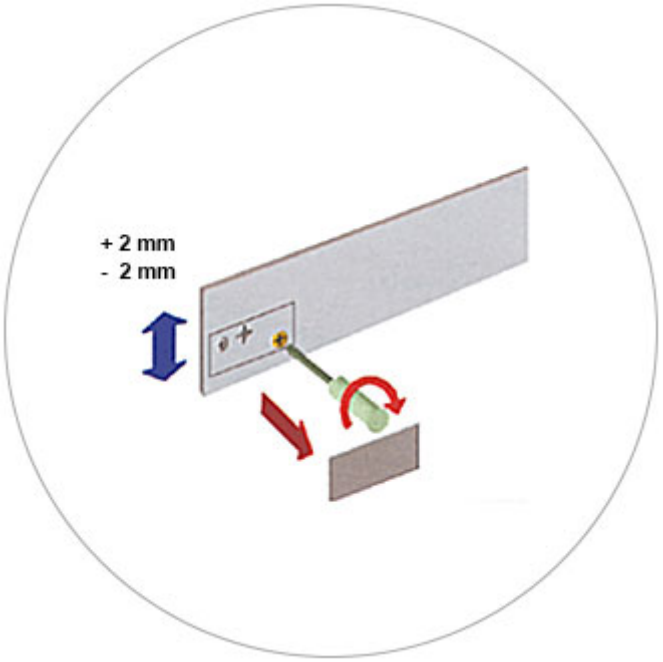
To **attach** the drawer front, simply fit the special expansion insert to the front panel and fix it in place as illustrated in the figure; then simply bring the front panel with the secured inserts closer to the side panels until the springs slot into the grooves.



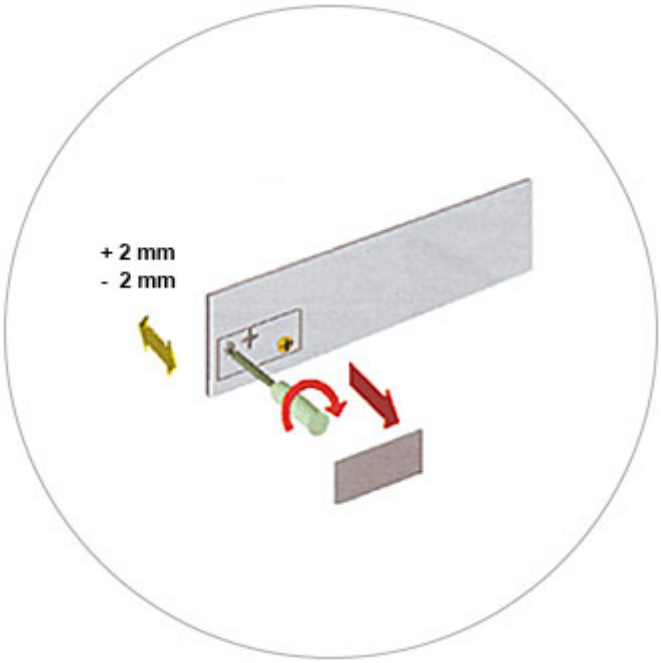
To **detach** the drawer front panel, simply insert a crosshead screwdriver into the relevant slot after removing the protective plastic; next, turn it in a clockwise direction until the panel comes loose.



To **adjust the height** of the front panel, use the gold-coloured screw as illustrated in the figure.

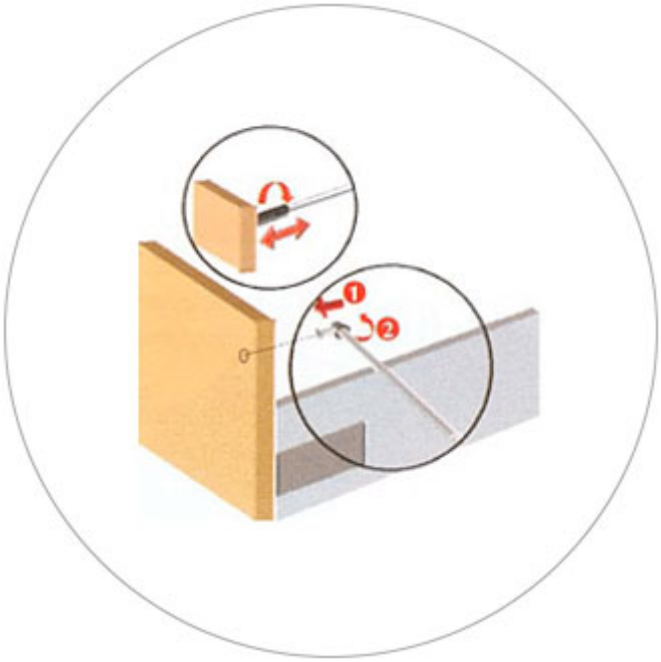


To **adjust the drawer side panels**, use the grey plastic bushing as illustrated in the figure.



To **adjust the angle of the front panel**, proceed as illustrated in the figure and turn the rail.

To install the rails:
1) insert the rail
2) lift the back of the rail
3) slot the rail into the back panel.



Wall unit support bar installation dimensions in accordance with the height of the wall units and the feet h=15 cm

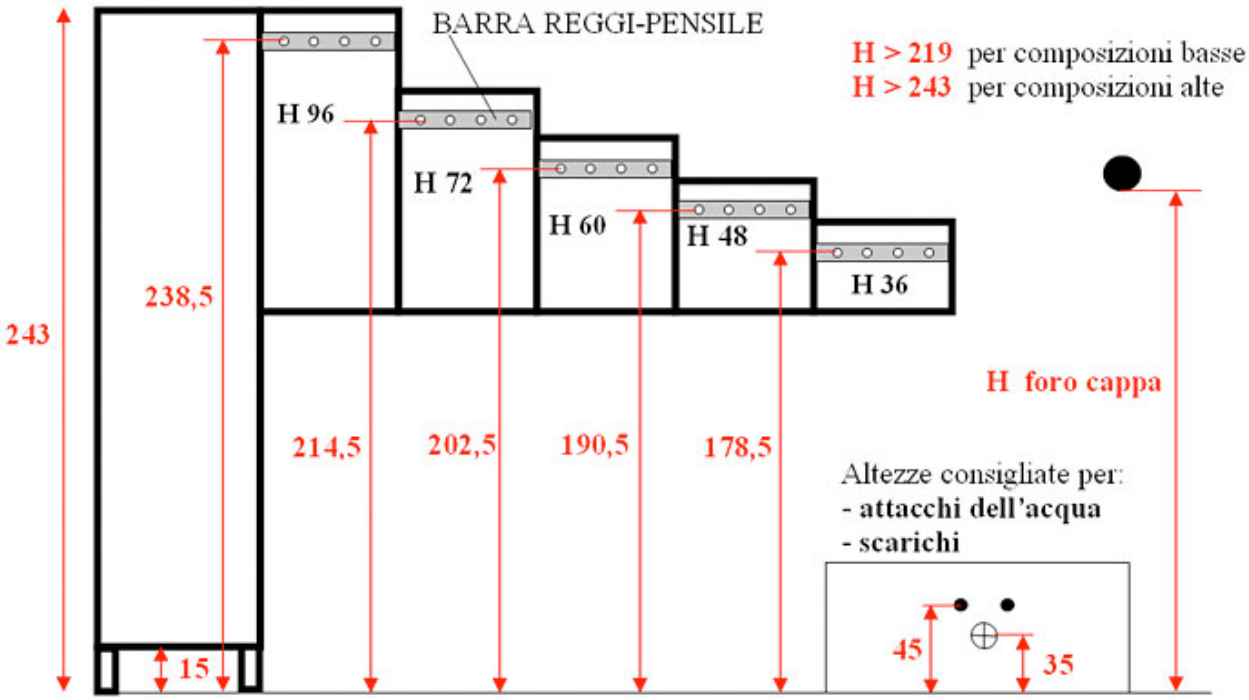
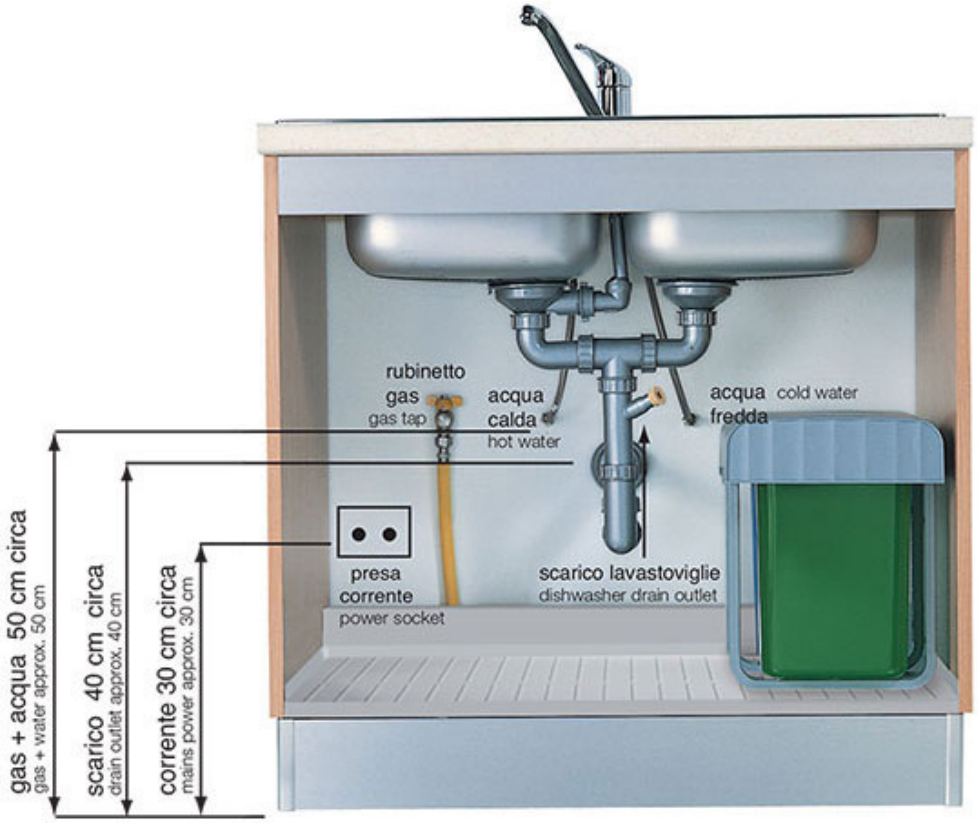
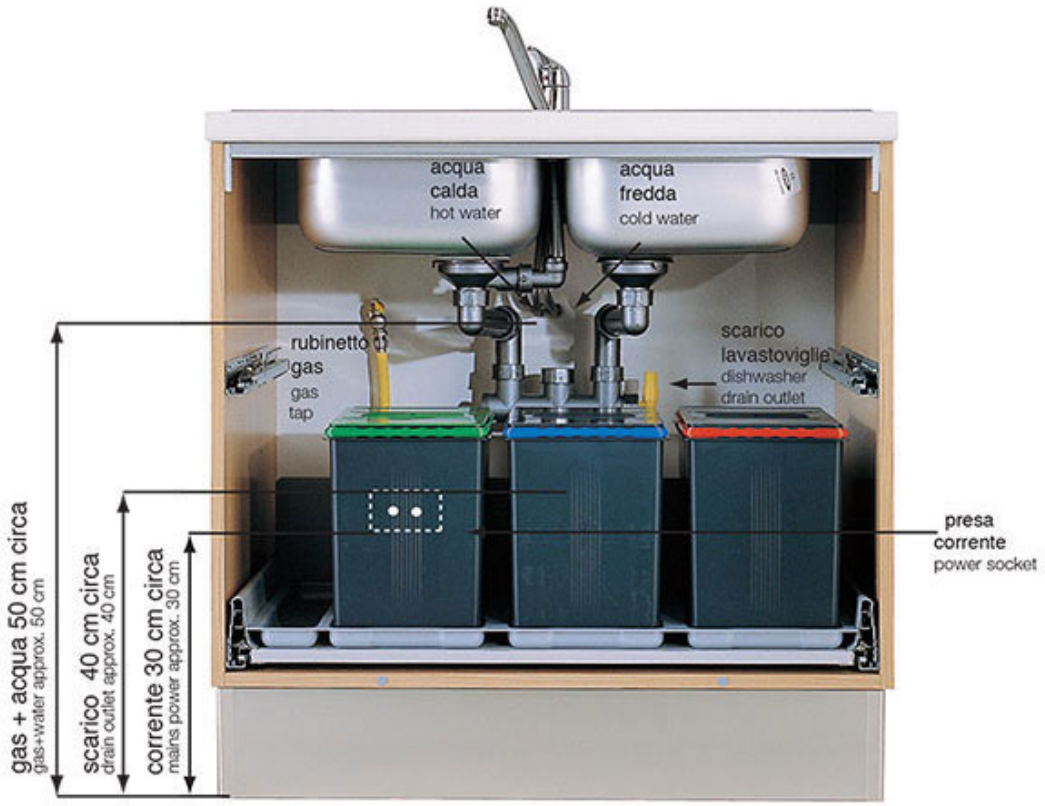


Diagram of electrical, water and gas connections

- **Under-sink unit with doors**



- **Under-sink unit with two deep drawers and space-saving drain pipe**


acqua
calda
hot water
acqua
fredda
cold water
rubinetto
gas
gas
tap
scarico
lavastoviglie
dishwasher
drain outlet
presa
corrente
power socket
gas + acqua 50 cm circa
gas+water approx. 50 cm
scarico 40 cm circa
drain outlet approx. 40 cm
corrente 30 cm circa
mains power approx. 30 cm