

MISTRAL INSTALLATION ADVICE

(1) GETTING STARTED

Important Notices

Before working with any Karonia products you must:

- Read all the processing and installation literature relating to those products.
- Watch the relative training videos available either on the Karonia website or on the MISTRAL DVD included in the Karonia Installation Kit.
- Check the Karonia website for any literature or training video updates at www.karonia.com.

Ensure that you have made full consideration of and are working in compliance with all health and safety legislation.

You are responsible for your working environment and those in it. ALWAYS carry out a full risk assessment on that environment and the operations to be carried out.

Introduction to MISTRAL

What is MISTRAL by Karonia?

The MISTRAL product range is a combination of the enhancement of the technology behind solid surface worktops, and the development of a product format that best suits the required applications. The result is a 25mm thick luxury solid surface worktop range with features and benefits that offer advantages to all parties from designer to stockist to studio to installer to end user.

Product Features

The MISTRAL product range is designed to be able to be easy to install and yet offer more opportunities for the installer to add value to the services they offer with straight-forward processes that enhance the end result of the installed product;

Pure SOLID Solid Surface:

- No MDF or particleboard substrate, a 100% true solid surface worktop!
- Non-porous, so even in bathrooms there is no moisture ingress!
- 25mm thick product format means that even Belfast sinks are compatible!

Strong, Seamless Joints:

- 100% solid surface to solid surface jointing face provides great joint strength!
- The resultant joints are inconspicuous leaving a beautiful, seamless finish!

Limitless Design Options:

- Cut-outs for appliances can be cut anywhere, no special modules needed!
- Imaginative curves and shapes can be created with ease and no end-capping is required!

Simple to Install:

- Installation can be done with standard tooling, just like wood worktops!
- No special tools, no templating, you save the time and keep the profit!

Material Benefits

Solid surface technology offers a wide range of characteristics which are the result of the particular composition of the solid surface mix. By understanding the final application of the solid surface product the specific characteristics that are most advantageous can be selected. The MISTRAL product has been designed, not only to incorporate the usual features of solid surface products, but to enhance the effectiveness of these qualities;

Durable and Hygienic:

- The 25mm thickness of MISTRAL maximizes the natural strength and durability of solid surface.
- The seamless jointing capabilities in addition the fact that the MISTRAL surfaces are non-porous means that they do not harbour bacteria.

Chemical, Stain and UV Resistant:

- The design of MISTRAL's composition ensured great resistant strength giving the ability to repel a large majority of the usual household chemicals and stains.
- Even if highly concentrated chemicals are spilled onto the surface it may well only require a little attention with a light abrasive pad or paper.
- MISTRAL has great UV stability making it resistant to discolouration or fading.

Inspirational Colours:

- Using the inherent abilities of solid surface technology we have developed colours to achieve luxurious aesthetics with real depth and lustre.
- Our range of colours is designed to offer decors to match all manner of design schemes.

Easy to Maintain and Replenish:

- MISTRAL worktops are easy to care for and clean as part of the normal domestic routine with no hard to clean joints.
- Any general wear or scuff marks can be abraded away using our Karonia Care and Maintenance Kit leaving the worktops looking as though they had just been installed.

Product Information

Worksurfaces and Support Products

All our worksurfaces and support products are supplied square-edged all the way round with a linear 400 grit surface finish.

<u>Product</u>	<u>Length (mm)</u>	<u>Width (mm)</u>	<u>Thickness (mm)</u>	<u>Weight (kg)</u>
MISTRAL Standard Worktop	3010	625	25	73 - 92
MISTRAL Breakfast Bar	2000	900	25	70 - 88
MISTRAL Sheet	3010	625	12	35 - 44
MISTRAL Upstand	3010	75	12	4 - 5

Please note that due to the particular composition of each colour there are variations in the finished product's weight dependant on the colour used, hence the product weights are shown as a range.

Technical Notes

Please note that darker colours will show signs of general wear and tear more readily and are not recommended for high traffic areas.

All our cast products are manufactured to the following tolerance levels:

Overall Length Variation	± 3mm
Overall Width Variation	± 3mm
Overall Thickness Variation	± 0.75mm
Variation on Diagonals	≤3mm
Surface Level	± 1.25mm
Squareness	± 0.75mm
Edge straightness	≤1.5mm

For MSDS information relating to MISTRAL by Karonia products please visit www.karonia.com.

Health and Safety Information

General Information

Please conform to all necessary and relevant safety requirements including health and safety guidelines in accordance with all relevant health and safety legislation.

Karonia Solid Surface material is non-toxic and there are no known hazards associated with it however, the processes involved during fabrication and installation produce dust from the material which is classed as nuisance dust. Methylmethacrylate vapour is also released from the material during machining which has a detectable odour. Consideration must be given to the following points to abate any adverse affects that are possible as a result of excessive exposure.

It is important to ensure that the area in which work is to take place is well ventilated to allow the methylmethacrylate vapour to dissipate, and it is also essential that you employ a dust extraction system to remove the material debris created during processing.

Emergency First Aid

If an individual is exposed to excessive vapour, remove them from the area and get them to fresh air. Monitor their condition and if problems persist consult a medical professional. If any adhesive, catalyst or resin comes into contact with your skin, wash for 15 minutes with soap and water. If the contact is with your eyes, immediately wash thoroughly for 15 minutes and seek medical assistance.

For more information please contact your distributor, or visit www.karonia.com for Material Safety Data Sheets.

Handling and Storage

Handling Advice

When carrying Karonia worktops use good lifting practices and ensure to take notice of the product weights. All worktop and sheet products should be carried singularly and kept vertical (up on its long edge) so as to avoid any damage and to best maintain control while carrying them.

MISTRAL worktops are heavy and should always be carried by a minimum of two people.

As with all solid surface products, MISTRAL worktops and sheets are more susceptible to damage in cold temperatures so please ensure to handle them with care.

If you perform any cut-out operations prior to transporting the worktops to site, clamp plywood board to either side of the worktop to support the cut-out area.

Storage Guidance

It is important that MISTRAL by Karonia products are stored in the prescribed manner to ensure that they are kept in the best condition for the benefit of both the installer and the end-user.

Storing Worktops - Ensure that Karonia worktops are stored flat and that the weight is supported along its full length. When stacking, check for any particles that may get between the worktops to prevent any abrasion that may cause damage to the worksurfaces. Always store worktops indoors and ensure the area is dry and well ventilated. The storage area must also be free from extreme temperature variation.

Storing Adhesive - Keep level in storage and employ a first in first out (FIFO) stock management policy. The adhesive should be ideally stored at a temperature of approximately 5 degrees Celsius. This can extend the shelf life of the product to 12 months from the date of manufacture.

Tooling and Equipment

It is always best practice to ensure that you review all necessary procedures and the tooling required to perform them as well as all the necessary protective equipment that proper health and safety practice prescribes.

Safety Equipment

It is your responsibility to consider all the tasks that you will be required to perform as part of the installation process and to assess the specific risks for each of these processes.

- Always use a dust mask and eye protection while performing any processing tasks on the material.
- When using adhesive, resin, or catalyst always wear gloves and eye protection as these components may cause irritation to the skin. Always wash your hands after use and dispose of all waste responsibly including gloves, spent cartridges, unused adhesive.
- Ensure that the working environment is well ventilated.

Essential Tooling

MISTRAL by Karonia has the practicality of hardwood in that tooling that will work with hardwood is adequate for use with our solid surface. While the material used for the worktops is harder than wood, it does not require the specialist tools as materials such as granite and marble do. However, consideration should always be given to any special requirements of the particular installation site or appliances that may require more specialized tooling.

Circular Saw

Used for sizing worksurface and support products on site, but should not used to create a finished edge.

- 1200 watt minimum power
- Only use high quality TCT triple chip blades; some manufacturers have blades specified for solid surface material which will have greater longevity.
- Cut depth minimum of 30mm

Extraction

Used to effectively remove dust and material debris during processing tasks to ensure a clean and comfortable working environment.

Panel Saw

Used for sizing worksurface and support products in a workshop prior to installation, but should not be used to create a finished edge.

- Only use high quality TCT triple chip blades; some manufacturers have blades specified for solid surface material which will have greater longevity.
- As a result of not having a chipboard, particleboard or MDF substrate our worktops can also be used with water-cooled cutting equipment and even waterjet cutters.

Router

Used to perform trimming operations, cut-outs, shaping, edge profiling, and other detailing tasks such as adding drainer grooves.

- 2 ½ HP / 1850 watt minimum power.
- Only use high quality tungsten carbide cutters.
- We recommend the use of a spiral up-cutter router bit as they employ the router's power more evenly, creating a smoother result, and its upcut action aids effective debris extraction.
- However, a twin-fluted router is adequate.

Jig Saw

Used to perform overmount cut-outs for appliances such as hobs, and drop-on sinks, but is not recommended for sizing worksurface and support products.

- 700 watt minimum power
- Only use high quality TCT triple chip blades; some manufacturers have blades specified for solid surface material which will have greater longevity.

Adhesive/Mastic Gun

Used with the plastic adapter to express the adhesive from the adhesive cartridge through the mixer nozzle at a 10:1 ratio.

Random Orbital Sander

Used with abrasive papers, abrasive pads, and sponge polishing disc to smooth joints, perform finishing operations, and apply Countertop Magic.

- 600 watt minimum power (for 150mm sander), 400 watt minimum power (for 125mm sander)
- Speed requirement of 6,000–10,000rpm
- Ideally the sander should have a 3-5mm orbit.

Seaming Tool

Used to pull jointing faces together, level the top surfaces, and hold the worktops in place during the jointing procedure.

- It is recommended that you use the Karonia Seaming Tool Kit.
- Alternatively, wood blocks can be hot melt glued to the surfaces and then the tops pulled together with sash clamps. In this case you would need to use biscuits to level the tops

Clamps

Used to hold items in place while they are being jointed such as built up edges or downstands.

Examples include spring and F-clamps.

Jigs

Used to guide the router when performing operations such as undermount and overmount cut-outs, joint smoothing, and adding drainer grooves.

Consumables

Items such as the abrasive papers used during finishing or heat reflective tape that is used to line hob cuts outs. All the consumables that are required on most typical installation projects are contained in the Karonia Installation Kit.

Design and Layout Considerations

Planning

When designing a worksurface project, consideration must be given to the product quantities required and also to the positioning of worktop joints and cut-outs. This will ensure optimisation of product use, reducing waste and the related costs. There are also certain guidelines, as detailed below, that must be followed so as to install the worktops and all appliances and accessories in the correct manner. As long as these parameters are observed, designers and architects are free to utilise the potential that the flexibility of the Karonia worktop ranges offer.

Be sure to consider all layout optimisation options to ensure best product use and the simplest installation method.

Joint Layouts and Positioning

It is good practice to plan the location of all joints and cut-outs to obtain an appreciation of the requisite work needed to install the worktops, and any factors that may hinder the completion of this work. This may be due to positioning of other furniture within the room, or specific features that may affect design or layout decisions.

To ensure that the integrity of both joints and the worksurface itself, ensure that the following points are observed:

- Never extend joints across any cut-outs such as hobs and sinks, or over unsupported areas.
- Allow a minimum offset of 100mm from any cut-outs.
- The maximum unsupported space between units for appliances is 600mm providing they are fully supported at the back and both sides.
- Consideration of support should also be given where a cabinet is larger than 600mm to ensure that adequate support for the worktop is present.
- Unsupported overhangs should be a maximum of 300mm.

Thermal Expansion

A gap of 3mm should be left at each end of the worktop so as to allow for expansion. Testing data indicates that the coefficient of linear thermal expansion for Karonia Solid Surface is 1mm for every metre. The gap should be filled with a silicone based sealant. If any materials are attached to the solid surface material then appreciation should be given to the differences in expansion rates and an elastic adhesive should be used.

Appliance Considerations

Any heat generating appliances, such as an AGA, that are adjacent to the worktop should be positioned a minimum of 50mm from the end.

There are no restrictions on the positioning of dishwashers as there is no danger of moisture ingress due to the fact that MISTRAL has no MDF or particleboard substrate.

Pre-Installation Advice

Material Acclimatisation

All material should be given time to meet room temperature prior to installation (24 hours). This is especially important for adhesives as environmental temperature affects the curing time for the adhesive and room temperature allows for consistent performance. For the installation of Karonia products the ambient temperature should ideally be between 17°C (62°F) and 26°C (80°F). Ensure that worktops are stored flat during this acclimatization process and are not stored vertically on one edge.

Time Management

When planning each installation, give full consideration to the effect of adhesive curing times on the project. Ensure that you have tasks that can be completed while the adhesive is curing so that you maximize the efficiency of your installation programme.

Another key point to consider is that all tops are supplied with a 400 grit linear finish so when performing tasks such as joint smoothing, only finish below this level around the immediate area not the whole of the worksurface. This economy of finishing will ensure that the job is successfully completed in a shorter time.

Measurements and Quantities

Prior to commencing installation, make sure that you have the necessary products to complete the job including all support products and accessories. Check that any pre-fabricated elements, such as hob or sink cut-out are dimensionally accurate, and if any cut-outs are to be done on site, ensure that measurements are correct against the related appliances.

Working Environment Conditions

Ensure that the site is dry and secure, that is to say that windows, doors etc are fitted. Also consider the room temperature, so as to appreciate the possible effects on adhesive curing times. Remember that the colder the environmental temperature, the longer the curing times. The ambient temperature should be at least 16°C to ensure a successful cure process and no greater than 26°C as the adhesive would cure too rapidly to use.

Furniture Preparation

Ensure that the fitting location is as expected and that there are no additional factors present that may affect the worktop installation. This includes factors such as the site dimensions, wall alignment and levels or any additional furniture.

Check that all appliances and furniture that need to be in place prior to worktop installation are positioned adequately. It is essential that the carcasses on which the worktops are to be fitted have been properly levelled on both axis and attached to the wall.

It is also good practice to fit wall-hung worktop support battens across the full length of the worktop. This is a necessity between widely spaced base cabinets.

All the cabinets onto which the worktops are to be installed should be fitted on a horizontal plane and should be leveled to a tolerance of no more than 3mm for every 3m run of cabinetry. This prescribed variance can be corrected by shimming the cabinets. However, if the level of the cabinets is outside this tolerance, they should be reset and then realigned.

Ensure that there is sufficient clearance between base cabinet and any wall cabinets for the installation of the worktops and any support products such as splashback panelling.

Check all service pipes, power cables and sockets are installed and that all appliances fit in their allocated positions.

Accessibility

Check the access to the working environment in advance to ensure no delays to the installation time.

Make sure that consideration is given to the following:

- Check the distance between the delivery vehicle and the installation area to inform whether any handling equipment is necessary.
- Ensure there are no obstacles on your route from the delivery vehicle to the installation area.
- Check the entrance size and internal ceiling heights to ensure there will be no handling issues.

Unpacking the Worktops

Turn them face down and run a knife down the tape to open. Take care to only use a small bladed knife and hold away from the top where possible while cutting so as not to scratch the underside of the worktop just in case the reverse is visible in the finished application.

Ensure to make a note of the batch numbers on each of the worktops for later reference as they are required as part of the warranty registration details.

Each individual worktop surface is covered with a protective plastic film. Before using the worktop, this plastic film must be removed. Upon removal of the film there will be residual adhesive on the surface. To remove this, use a household cleaner, such as Cif Powercream. Apply the cleaner to the surface with a cloth, leave it for a short period and then wipe off the residue and dry the surface thoroughly. By doing this there will be no hindrance of tooling travel during the installation processes.

Retain the packaging if you will be required to cover the worktops once you have completed the installation. This may occur when other tradesman are required for tasks.

Always dispose of all packaging responsibly in accordance with local and national guidelines.

Colour Consistency and Damage Check

Karonia Solid Surface products are rigorously checked to ensure colour consistency, however it is always best practice when using two or more products together to check colour consistency prior to installation. To do this put the worksurfaces together and lightly sand across them with an abrasive pad and then wipe with denatured alcohol. This will give the most accurate basis for comparison. If any disparity is apparent please contact your supplier immediately.

When you receive your product always check the packaging for any signs of damage first, and then unpack and check it thoroughly. This enables you to identify any damage caused during transport. If there is any damage, contact your distributor before using the product.

Any claims relating to colour consistency or damage in transit that are made after the products have been processed, whether for pre-site fabrication or installation, are not covered by the Karonia Product Warranty.

MISTRAL INSTALLATION ADVICE

(2) CUTTING

General Advice

Safety

- Use appropriate safety equipment such as eye protection while performing any cutting tasks.
- Always use effective extraction to remove debris from the working environment.

Tooling

- Ensure that the saw blade you are using is sharp and chip-free.
- Set the blade so that it extends 10mm below the worktop while the cut is being performed.
- If you are using a panel dimension saw in a workshop, set the height of the blade to a maximum of 50mm from the saw bed.

Performing the Process

- Never use a saw to create a finished edge, always oversize by 2mm and finish the edge with a router trim.
- Check measurements repeatedly to avoid costly and time-consuming errors.
- Always allow slow or soft start tools to obtain full speed before beginning the cut.
- Perform the cut at a slow and even pace.
- Use speed-cramps to hold the worktop in place whilst cutting.
- Ensure all pieces, including offcuts, are adequately supported.

Cutting to Length

When cutting a worktop to length always consider the following:

- The use of a cutting track or straight edge is vital to ensure that the cut is accurate.
- Measure the required length and set the guide accordingly.
- Use the appropriate clamps to ensure there is no movement of the guide during the cutting process.
- Ensure that the cut is made perpendicular to the front edge when cutting to create a joint or a finished end that meets other furniture, such as a tall cupboard unit.

Scribing to a Wall

When scribing a worktop to a wall always consider the following:

- Use a pencil to mark the required cut line on the surface of the worktop. We recommend using a scribing tool such as the Trend Scribing Tool (Code: M/PB01).
- If this line is straight it will be possible to use a circular saw and perform the cut in the same manner as you would cut to length, except that the cut will be angled.
- Ideally, try to plot a straight line cut through the scribed line, remembering you have a margin for error dependant on the upstand/tiling used above the worktop.
- However if a straight cut cannot be achieved the cut will have to be performed using a jigsaw with a fine tooth blade.
- When scribing the worktop to the wall with a saw or jigsaw, always sand the top and bottom edges with P240 grit sandpaper to remove any micro fractures that may be created by the rough cutting action.

MISTRAL INSTALLATION ADVICE

(3) ROUTING

General Advice

Safety

- Use appropriate safety equipment such as eye protection while performing any routing tasks.
- Always use effective extraction to remove debris from the working environment.
- Use a chip catcher and any other router accessories to aid with the control of debris.

Tooling

- Ensure that the router bits you use are sharp and chip-free.
- Ensure that the bearings on the router are sound to prevent router chatter.

Performing the Operation

- Check measurements repeatedly to avoid costly and time-consuming errors.
- Always allow slow or soft start tools to obtain full speed before beginning the cut.
- Perform the routing operation at a constant pace and at the speed recommended by the router bit manufacturer.
- Use speed-cramps to hold the worktop in place whilst performing routing operations.
- Ensure all pieces, including offcuts, are adequately supported.

Trimming

When trimming to create finished ends or smooth faces for jointing always consider the following:

- The use of a router guide or straight edge is vital to ensure that the trim is accurate.
- Measure the required length and set the guide accordingly.
- Use the appropriate clamps to ensure there is no movement of the guide during the routing process.
- Mirror routing can be used to create faces for both sides of a joint.

Other Routing Operations

Cut-outs, worktop profiling and shaping, as well as detailing tasks such as creating drainer grooves all use a router. While each of these operations has an infosheet to describe how they should be performed, here are some general tips that are relevant to all and should always be considered when performing router operations:

- All jigs used should be smooth and damage free to ensure good profile matching.
- Jigs should be securely fixed with clamps to ensure no movement during the operation.
- Utilise two sizes of guide bush to allow for a final trim once the cut-out or shape has been formed to get the best finish.
- Always consider if a sacrificial piece of MDF can be used to assist in debris control.

MISTRAL INSTALLATION ADVICE

(4) ADHESIVE SET-UP

General Advice

Safety

- Use appropriate safety equipment while using the adhesive such as eye protection and gloves.
- Ensure that the working environment is well ventilated.
- Dispose of unused adhesive, spent adhesive cartridges, gloves and any other resultant waste responsibly and in accordance with local and national regulations.

Considerations of Use

- Cover all surfaces to avoid any spills coming into contact with them.
- Allow the material and adhesive to acclimatise to the fitting environment prior to use (Ideally for at least 12 hours).
- Note the ambient temperature and consider its effect on curing times. (The higher the temperature the quicker the curing time).
- Average working time for the adhesive is approximately 10 minutes when working at temperatures between 16-26 degrees Celsius (61-78 degrees Fahrenheit)
- Do not cut the end of the mixer tip as this will alter the mix ratio.

Using the Adhesive

Preparing the Adhesive Cartridge

- Unscrew the cartridge cap and remove the red stopper (retain).
- Place the mixer nozzle over the end of the cartridge and then place the cap back over the top of the mixer nozzle and fasten securely.
- Pull the rod of the cartridge gun back to its full extent.
- Place the plastic adapter into the bottom of the cartridge and insert both into the gun.
- Continually squeeze the trigger of the gun until pressure is placed firmly on the back of the plastic adapter.
- When using a new cartridge run out a bead of approximately 200-250mm onto a piece of scrap card. This will ensure that the adhesive is thoroughly mixed prior to use.

Unspent Cartridge Retention

- If there is still adhesive remaining in the cartridge it can be stored and used on a subsequent project even though the glue has cured in the nozzle.
- Remove the nozzle and then replace the red stopper back in the top of the cartridge.
- Securely fasten the cartridge cap back on the top of the cartridge.
- Prior to subsequent use run a small bead onto a piece of scrap card to ensure that the adhesive is flowing properly and is thoroughly mixed.

MISTRAL INSTALLATION ADVICE

(5) JOINTING

General Advice

Safety

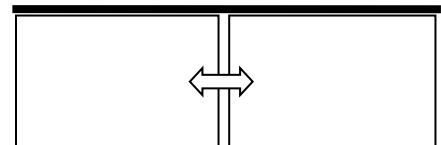
- Use appropriate safety equipment while performing any jointing tasks.
- Always use effective extraction to remove debris from the working environment.
- Ensure that the working environment is well ventilated.
- Ensure suitable protection for all cupboard interiors and floors.

Joint Layouts

Our worktops are supplied square edged instead of being profiled, which removes the requirement for cutting mason's mitre joints. All you will need to do is trim the jointing faces as appropriate and continue the process as set out in the sections below. The following joint layouts are those which you may encounter, the use of which will be determined by the project configuration:

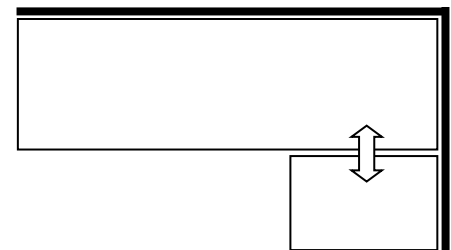
Straight Joint

This joint layout is used to extend straight worktop runs. The trims required are to both the short faces.



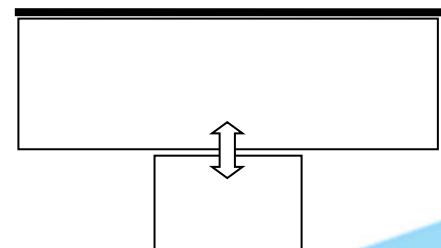
Corner Joint

This joint, as the name suggests, is employed when two worktops meet at a corner. The trims required are to the long face of the worktop that runs all the way into the corner and the short face of the worktop that butts up to it.



Peninsula Joint

This particular layout is typically used where a worktop extends out from a perimeter worktop run. The trims required are to the short face of the worktop piece being used as the peninsula and the long face of the worktop that it butts up to.



Joint Preparation

Trim the Jointing Faces

- Set your guide or track to ensure the accuracy of the trim.
- A trim of 1mm is ideal, the less the router has to remove the better the finish.
- Trim the face with your router, keeping a constant and even pace.
- Visually inspect the face to check if it is smooth, and if it is not, repeat the trimming process.

'Dry Fit' the Worktops

- Pull the worktops together to check that they fit well with no gaps or chips in the top and front edges.
- To check the quality of the fit, wipe across the surfaces of the worktops with a denatured alcohol wipe to remove any debris.
- If there are any gaps or chips in the top and front edges at this stage, repeat the trimming process.

Key the Jointing Faces

- To aid the jointing process it is best to key the joint faces prior to jointing.
- Use a block of wood to hold on the top surface to protect the top edge as you sand.
- Key the face using a sanding block with 120 grit sandpaper.

Ensure to protect the jointing faces and edges between preparation and jointing.

Having a sharp top edge and smooth jointing faces is the key to a thoroughly inconspicuous joint.

Jointing Procedure

Prior to jointing ensure that you have prepared the adhesive cartridge as prescribed in our 'Adhesive Set-up' instructions.

Applying the Adhesive

- Wipe the jointing faces with denatured alcohol to remove any debris that may contaminate the adhesive during the jointing process. Allow the area to air dry.
- Express a small amount of adhesive to ensure it is sufficiently viscous and thoroughly mixed.
- Apply the adhesive to each face in turn running a bead along the width of the joint and high on the face to avoid underside run-off.

- Use a plastic spatula to spread the adhesive evenly across the whole of the jointing face.
- Pull the worktops together to leave approximately a 3mm gap and then run a further bead of adhesive across the top of this gap, as well as any visible ends.
- When the adhesive has sunk into the gap the joint is ready to be pulled together.

Pulling the Joint Together

- Pull the worktops together and secure using your chosen seaming method.
- We would recommend Karonia's Seaming Tool Suction Clamps as they are the easiest way of both pulling together, and levelling the joint.
- Ensure that you clean the suction cups and the surface onto which they are to be placed with denatured alcohol and allow to air dry before fixing them to the surface.
- Alternatively, you may use wood blocks hot melted onto the surface pulled together with sash cramps.
- Do not apply excess force on the seaming tool when pulling the joint together.
- At this point also make sure that the ends have been pulled together level.
- When jointing shorter pieces ensure that the worktops remain in the horizontal plane as they have a tendency to 'jack-knife'. This can be prevented with a loose fitting speed clamp.
- When the joint is being pulled together a small bead of excess adhesive will be expelled along the length of the joint. This shows that there is adequate adhesive in the joint all the way along.
- The Karonia Seaming Tool can then be used to help level the joint with its threaded vertical clamps.
- The joint must then be left to cure for approximately 40 minutes.

Joint Smoothing

Once the joint has cured, the seaming tools can be removed. There will be a line of excess adhesive left on the surface which needs to be removed so that the jointed seam is level with the worktop surface.

Remember to apply the joint smoothing process to the ends of the joint as appropriate and underneath any visible edges.

Router Skim

A router can be used to remove a substantial amount of this excess glue.

- Place a standard worktop jig over the seam and clamp it into place.
- If the joint is in situ, use two strips of MDF spaced 30mm apart over the joint instead of the worktop jig.
- Select and attach a 30mm guide bush to the router base.
- Adjust the router's plunge depth to ensure that it does not go below the level of the worktop.
- Run the router across the top of the seam, skimming the excess adhesive off as you pass.
- Increase the plunge depth further and repeat the router pass until the majority of the adhesive is removed, always ensuring that you do not go below the level of the worktop.
- If the router skim technique has been performed, there will be no need to use the duck tape and 240 grit sandpaper, so in this instance begin sanding at the 320 grit level as described below.

Sanding the Joint

A sander can be used to remove the excess glue on the joint seam and then smooth the jointing area back level with the rest of the surface.

- Position a strip of duck tape on each side of the joint to make sure that only the excess adhesive comes into contact with the rough sandpaper.
- Use 240 grit sandpaper and run the sander up and down the joint seam, sanding the excess adhesive away.
- Keep the sander level at all times and apply an even pressure
- Once you have sanded away the majority of the excess adhesive, remove the duck tape and thoroughly wipe the area with a cloth to remove any debris.
- Continue the sanding with 320 grit sandpaper alternating between a north – south and then an east – west sanding pattern, working one and a half sanding pad widths either side of the joint.
- Remember to continually wipe away residual dust from the surface and the sanding pad itself to prevent uneven sanding results.
- Feather out your sanding area with each sanding level to avoid 'dishing' of the joint.
- The smoothing process moves from this stage into the finishing procedures, the levels of which are dependent on the desired end finish.

MISTRAL INSTALLATION ADVICE

(6) SHAPING AND EDGE PROFILING

General Advice

Safety

- Use appropriate safety equipment while performing any shaping or edge profiling tasks.
- Always use effective extraction to remove debris from the working environment.

Tooling

- Ensure that the router bits you use are sharp and chip-free.
- Ensure that the bearings on the router are sound to prevent router chatter.
- Check that the jig you are using is completely smooth and damage free.

Performing the Operation

- Check measurements repeatedly to avoid costly and time-consuming errors.
- Always allow slow or soft start tools to obtain full speed before beginning the cut.
- Perform the operation at a constant pace, in line with the recommendations of the router bit manufacturer.
- Use speed-cramps to hold the worktop in place whilst performing routing operations.
- Ensure all pieces, including offcuts, are adequately supported.
- Always use a router to create a finished edge.
- The smoother the face that the profiler bearing runs on the better they travel and the better the end result.

Shaping

- Place your jig on the worktop, secure it with clamps and then mark its position.
- Mark the outline of your shape by running an offset scribe pencil (e.g. Trend M/KWS01) around the jig.
- Use a jigsaw to remove the excess material following the outside of the pencil line, leaving a small amount to be trimmed with a router to give the final finish.
- Replace the jig on the worktop and securely clamp it in place.

- Use a router and trim the remainder of the excess material so that you are left with a smooth finished shape.
- The shape is then ready to be profiled and finished to the customers' specifications.

Edge Profiling

- Ensure that if the face adjacent to the edge that requires profiling has been machined, a router has been used to create the finished edge.
- For simpler profile designs such as a 6mm radius, you will need the smooth finish as the profiler bearing will run on the face of the worktop and any imperfections will be transferred to the profile.
- In the cases of these simpler profile designs, a small profiling router will be sufficient as it will offer greater agility.
- Run the router along the edges that require profiling, keeping a steady and constant pace.
- If the design is more complex such as an ogee profile, you may need to run the router against a guide or jig, depending on the configuration of the router bit required to create the profile.
- Place the jig or guide on the worktop surface and secure it with clamps.
- For this type of profile use the same router that you use to trim and the worktops as these complex shapes need more power than the profiler has.
- Once you have profiled all edges as required, finish them to the same level as the worktop surface.

MISTRAL INSTALLATION ADVICE

(7) CUT-OUTS

General Advice

Safety

- Use appropriate safety equipment while performing any jointing tasks.
- Always use effective extraction to remove debris from the working environment.

Tooling

- Ensure that the router bits you use are sharp and chip-free.
- Ensure that the bearings on the router are sound to prevent router chatter.
- Jigs must have minimum corner radii of 10mm.

Performing the Operation

- Check measurements repeatedly to avoid costly and time-consuming errors.
- Always allow slow or soft start tools to obtain full speed before beginning the cut.
- Perform the operation at a constant pace, in line with the recommendations of the router bit manufacturer.
- Use speed-cramps to hold the worktop in place whilst performing routing operations.
- Ensure all pieces, especially the cut-outs, are adequately supported.
- Always follow manufacturers' guidelines when fitting sinks or appliances.

Undermount Cut-outs

These cut-outs should always be made with a jig and a router to ensure the accuracy and quality of the finished result.

- Place a sacrificial piece of 12mm MDF under the part of the worktop that you are performing the cut-out to aid debris control.
- Place the appropriate jig on the surface of the worktop and secure in place with clamps.
- Ensure that the jig is square to the front edge of the worktop (assuming that the sink hole is square to the outside of the jig).
- We would recommend that when forming the cut-out you use a 30mm and 32mm guide bush.

- Use the 32mm guide bush to create the cut-out, doing so with at least two router passes.
- Once the cut-out has been created remove the offcut, making sure that you do not damage the internal cut-out edges.
- The excess cut-out material should be left on site in case of any future instance of damage that requires specialist repair.
- Use the 30mm guide bush to provide a smooth finish with a single router pass.
- Now profile the internal top and bottom edges as required and finish to the specified level to match the worktop surface.

Overmount Cut-outs

Ideally, these cut-outs should be made with a jig and a router for improved quality and accuracy of finish, but here we shall describe the alternative method.

- Place your template onto the surface and mark the surface around it with a pencil.
- Remove the template and measure the centre points for your corner holes.
- Drill a pilot hole with a 3mm drill bit in each of the corners to ensure that the spade bit used subsequently can be easily located.
- Use a 20mm spade bit to cut the holes in each of the corners.
- Insert the blade of the jigsaw into one of the corner holes and follow the pencil line to create the cut-out.
- Cut the left and right sides first and then attach the seaming tools onto the cut-out and the main part of the worktop to support the cut-out while you cut the other two sides.
- The excess cut-out material should be left on site in case of any future instance of damage that requires specialist repair.
- The internal edge of the cut-out must be sanded with 240 grit sandpaper to remove any micro fractures caused by the rough jigsaw cut and then the debris removed with denatured alcohol.
- If the cut-out is to be used for a hob, ensure that there is a 6mm gap between the hob and the cut-out face all the way round.
- If the cut-out is to be used for a hob, two layers of aluminium heat reflective tape should be placed around the internal face of the cut-out, overlapping the top by approximately 3mm.

MISTRAL INSTALLATION ADVICE

(8) DRAINER GROOVES

General Advice

Safety

- Use appropriate safety equipment while performing any routing tasks.
- Always use effective extraction to remove debris from the working environment.

Tooling

- Ensure that the router bits you use are sharp and chip-free.
- Ensure that the bearings on the router are sound to prevent router chatter.

Performing the Operation

- Check measurements repeatedly to avoid costly and time-consuming errors.
- Always allow slow or soft start tools to obtain full speed before beginning the cut.
- Perform the operation at a constant pace, in line with the recommendations of the router bit manufacturer.
- Use speed-cramps to hold the worktop in place whilst performing routing operations.

Creating Drainer Grooves

- Place your drainer groove jig onto the worktop surface and clamp securely into place ensuring that the clamps do not hinder router travel.
- Make sure that you align the jig correctly against the edge of the sink both horizontally and vertically.
- Put masking tape round the edges of the jig to help control any debris created.
- Using a domed router bit and the correct guide bush for the jig, run the router in each of the groove channels on the jig travelling towards the sink.
- Two passes are required to create each groove, running the guide bush along one side of the jig channel first, and then the other side for the second pass.

- The depth of the grooves is a matter of customer specification however; we would recommend that, for ease of finishing, the start of the groove is at least 2-3mm deep. We would strongly recommend that you set the router depth using waste material first.
- Repeat this process for each of the grooves required.
- Once the grooves have been created, remove the jig.
- Using a piece of 320grit sandpaper smooth the base of the groove by hand to remove any router mark.
- Denatured alcohol wipes can be used to draw any debris from the groove during the sanding process.
- The grooves should then be hand finished to match the rest of the worktop surface.

MISTRAL INSTALLATION ADVICE

(9) FINISHING

General Advice

Safety

- Use appropriate safety equipment such as eye protection while performing any cutting tasks.
- Always use effective extraction to remove debris from the working environment.

Tooling

- For the best results ensure the sander is running at its maximum speed.
- Extraction is essential!
- Use good quality sandpapers and abrasive pads.
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Performing the Process

- Keep the sander level at all times and apply even pressure to it.
- Do not skip sanding grades.
- Continually wipe debris away from the surface to ensure a consistent and even finish.

Protect the finished surfaces if there are other trades who still have tasks to complete in the area.

Sanding to a Finish

Technique

The finishing technique is important to ensure an even finish across the whole of the work surface.

Remember to finish all edges and any router detailing, such as drainer grooves, to the same level as the worktop surface.

- The method to be used is to alternate between a north – south and an east – west finishing pattern, overlapping 50% of the sanding pad width as you perform these motions.
- A minimum of two repeats of each finishing pattern per grit level is required.

- After each pass with the sander, it is important to wipe any residual dust from the surface as this will cause added friction between the sander and the surface and lead to uneven finishing.
- The sanding pad should also be brushed to remove any build up of dust and changed if necessary.
- It is important as you move through the finishing process to slowly feather out towards the rest of the work surface that has not been processed so as, once again, ensure an even finish.

Recommended Finishing Levels

Here is a table to illustrate how the recommended finishing levels relate to the sanding stages that you will have already gone through when performing other processing tasks.

	Matte Finish	Satin Finish
Sanding Stage	240 grit	240 grit
	320 grit	320 grit
Post-Processing/Base Level	400 grit	400 grit
Finishing Stage		600 grit
	Abrasive Pad (Grey)	Abrasive Pad (Grey)

Higher Finishing Levels

Mistral worksurfaces can be finished to levels that are higher than the recommended matte and satin finishes. If you choose to do so please adhere to the following:

- Maintain good technique and do not skip finishing grades.
- Advise the end user that surfaces with a higher level of finish will show general wear and scuff marks more readily than those finished at the recommended matte and satin levels.
- Advise the end user in relation to the extra requirements for performing care and maintenance tasks.

Polishing

Once the surface has been finished it can be polished with Countertop Magic. This not only helps to protect the surface from general wear and scuff marks, but also brings out its lustre and shine.

- Before you begin polishing ensure that the surface is free from any debris left by the finishing process.
- If you use denatured alcohol allow the surface to air dry, or if you use a damp cloth be sure that you dry the surface thoroughly before polishing.
- Apply a good amount of Countertop Magic onto the surface and then, by hand, use a polishing sponge to spread the polish evenly over the surface.
- Place the sponge on the sander and use it to work the polish into the surface using the north south, east west patterns.
- Any edges that are visible are to be treated in the same manner.