



CAST IRON AIR BRICK COMPANY

Building Architectural Enhancements

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Specification Sheet – CiabMTM-2018

www.castironairbricks.co.uk

CAST IRON SQUARE HOLE

MADE TO MEASURE GRILLES

**Items MTM4 – MTM5 – MTM6 - MTM7 – MTM8 – MTM9
MTM10 – MTM12 – MTM15**



Cast iron made to measure grilles are cut to order from 3ft long grey iron grilles we have in stock. These grilles were cast at the foundry in sand moulds bonded with resin to a fine cast finish and then delivered to us and stored primed black to prevent them rusting. Using these grilles (nine different widths) we then cut them to create over 250 different sized grilles. We can supply them drilled or undrilled in the corners, with or without copper fly screen and paint them before delivery. The made to measure grilles are normally ready for dispatch the following week after the customer has placed the order.

HISTORY

Cast iron grilles installed in old buildings come in all shapes and sizes. That's because at the turn of the 20th century there were thousands of iron foundries in Great Britain and each one supplied local building companies with their own grilles. There was some standardisation, as the majority of clay bricks were 9x3 inch this meant a cast iron air brick had to be the same size, but apart from that it was a free for all with grilles, vents and gratings. Grilles cast in foundries in one town were rarely the same size as those in foundries in other towns.

Now for any property developer, to get a grille cast, in Victorian times, wasn't too difficult. After all, there would have been a few foundries to choose from and with dozens of properties being built all at the same time, foundries must have gladly accepted the commission to create a pattern for a bespoke grille. The pattern would be used to cast dozens and dozens or maybe hundreds of grilles for the street of houses or a factory building so the time to make the pattern was worthwhile. The foundry would be paid to make the pattern, but to really make a profit, the foundry made its money on the castings. The more castings made, the more profit made. Making patterns is time consuming and is really only worthwhile when it's to create products in demand and not one offs. That was in Victorian times but the economics of production for foundries is still the same even today.

Since the 1950s the number of iron foundries in Britain has been in a rapid decline and this decline has continued throughout the 20th century and into the 21st. Competition from abroad, especially China has forced many foundries to close as they've been unable to compete on price. It's not all been bad news though as those that are left have survived for a reason. They've specialised on castings that they're good at producing and they've become more efficient, turning down "one offs" in favour of more profitable "production jobs" that repeat year after year. And now in 2018 British foundries are thriving, there's a queue of work, every British foundry has a full order book and a waiting list. Companies who'd switched production to China have found prices rising and quality falling and are returning production back to the UK.

Problem Solver

Our Victorian buildings are fitted with an array of different sized grilles, some original, some Edwardian and others post war and all in varying degrees of decay. No longer are there foundries in every town and the remaining British foundries are not interested in making a single grille and those that are need a hefty price for the pattern and several months to produce one. It might be possible to find a replica in the reclamation yards or on ebay but in the unlikely event of finding one just the right size there's also the problem that a second hand grille could be as old as the grille being replaced and have a limited lifespan. So it has been almost impossible to find a bespoke cast iron grille made to a specific size which is why we created the "made to measure" cast iron square hole grille range.

We're able to cut a cast iron grille for you in square hole pattern, which is a traditional Georgian and Victorian style, and have it delivered to you or to site a week later. We've 250 different sizes to choose from and the sizes are all predetermined so instead of emailing or waiting on the phone while we get the tape measure out, you can check for yourself and know immediately what we can do. You can therefore have a brand new cast iron grille that looks like an original but will last another 100 years or so and will finish off your restoration to perfection.

Examples

We've supplied made to measure grilles to numerous properties around the UK and abroad and have been making and cutting square hole grilles for around ten years. In 2013 we supplied some 8" cast iron square hole grilles to Kier Construction for their delicate restoration of the 13th century college of Peterhouse at Cambridge university and more recently, 2018, to Sherlock Interiors for an equally delicate restoration of Islington Londons iconic Grade 2 listed, Lowndes House.

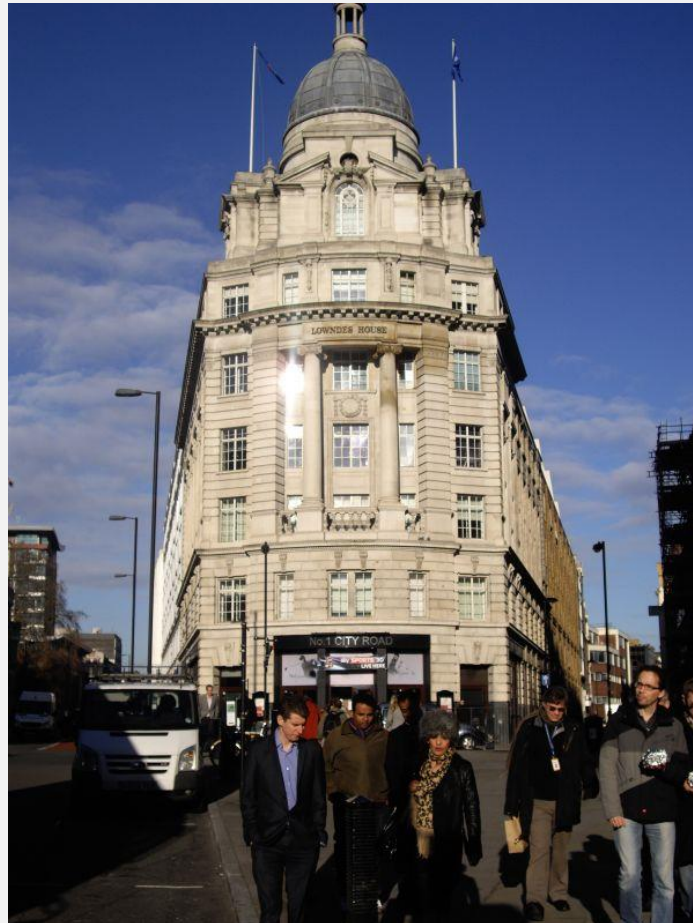


Photo – Jerry, British Listed Buildings.co.uk

Finish

The material we use to cut made to measure grilles is not stored bare metal but lightly primed in black matt to prevent it from rusting in storage. We are therefore only able to offer the finish as painted. We supply grilles as standard, finished painted in black gloss two part epoxy paint and this normally takes a week. We can however release grilles earlier in the primed black paint but please note the ends where the grilles have been cut will be a ground finish and the ends, and the grille will rust much faster than gloss finish. We can also supply bespoke RAL painted grilles to match customers' existing brickwork or requirements. Please note that for items painted in such a way there is an additional charge for this and it will add 1-2 weeks onto the delivery time. All made to measure grilles are cut to order therefore we do not accept returns on them regardless of the paint finish.

Environmental Benefits and Longevity

The cast iron made to measure square hole grilles are cut and finished in Devon, England and are expected to last a lifetime. They are made in a traditional green sand method in the foundry in Scotland where they have been traditionally made since before Victorian times.

Cast iron is not affected by UV and is fire resistant and fully recyclable. The cast iron used in the manufacture of this product is sourced from scrap iron with the addition of a small amount of pig iron. On average, 95% of the casting is recycled material. The moulds used to create the castings are generated using sand that is packed in a box with one of our patterns and this sand is used again and again to create further castings.

Casting in the UK has ensured all our products are made to strict emission and pollution levels in accordance with the latest legislation and that the workers creating these products are fairly paid and have a safe working environment in which to earn a living.

Melting iron requires a substantial amount of energy from either gas or electricity and to offset the CO2 emissions from this process we have planted over 300 trees in our own 3 acre wood. The annual absorption of CO2 from our wood is enough to ensure the production of our castings is carbon neutral.

As we don't import any of our products, the mileage from foundry to our finishing workshop and distribution bay in North Devon is very low keeping our carbon footprint small and once installed we expect this air brick to last a life time.

Maintenance

The made to measure grilles are supplied painted in black. We use a three part epoxy primer followed by two part epoxy black gloss top coat which is extremely hard wearing. If the grilles are used as part of pavement or walkway they are going to get scratched and or exposed to salt they will need repainting at some point. The gloss paint will dull over time and is likely to dull to a satin sheen in a year or two. We can supply the grilles in a light black matt primer which is the storage primer and prevents them rusting in in the workshop before they are used. If you would like this finish your grilles will be ready much quicker but please note that the grilles will rust much quicker than the fully painted ones and the ends were they are cut will be an unpainted bare ground finish. Should the grilles start to rust this will form a protective layer to prevent further corrosion and requires no further maintenance.

If using mesh with the grilles to keep out insects and flies, regular inspection of the mesh is advised and cleaning were necessary by vacuuming the surface of the mesh to clear away dust and debris.

Notes for architects

The made to measure grilles offer property developers the opportunity to fit an authentic, cast iron grille into almost any size hole within a week or so of ordering. They can be used either as a vent grille or as a drainage grille. They have the option of being drilled in the corners for securing to a wall and also to have flyscreen mesh supplied. It is important that mesh is not used if the grilles are being used as drainage gratings as the mesh will block very quickly.

The square hole pattern is ideal for cutting to size. The original full size 3ft grilles have thick borders top and bottom and at each end. When cut, the thick borders remain top and bottom and the ends are ground to leave a 5-6mm border so the new grille has a border all the way round. The square hole pattern is the only pattern that is suitable for cutting to size and retain a strength border on all four sides after being cut. No other design of grille we have is suitable for this process.

Grilles we have in stock, are cut using a Japanese, diamond encrusted stainless steel cutting blade and then hand ground at the ends and painted. This means we can supply cast iron made to measure grilles several months quicker than having them cast to order in bespoke moulds. This takes a week to ten days to get them to you but if that is still too long and you need them in 2-3 days, consider asking for the without the gloss finish as described in maintenance above.

We have measured every grille we have to work out the exact sizes we can cut them to. These sizes are listed in our made to measure size guide. Although we say “made to measure” this does of course mean the grilles still have to be cut across a rib where the hole size ends so it is not finite. On average this means we can cut to around any size + or – 15mm. For example, looking at the size guide for a 6” (150mm) made to measure grille, if a customer wanted the grille cut to 12” long (305mm) we would be able to cut undersize at 295mm or oversize at 316mm. If we cut the grille at 305mm it would leave one side with jagged “fingers” of iron which not only are sharp but also brittle leaving the grille weak and likely to crack. An example is shown below, we wouldn’t be prepared to supply a grille in this condition.



The size guide with each size we can cut to is available as a PDF on our website in the made to measure grilles section as a PDF here...

<https://www.castironairbricks.co.uk/product/made-to-measure-square-hole-grilles/>

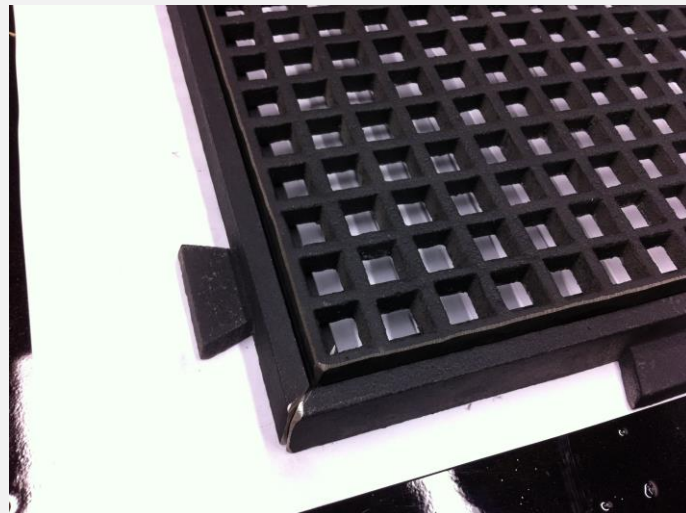
or can be downloaded direct from here...

<https://www.castironairbricks.co.uk/shop/wp-content/uploads/2014/08/Made-to-Measure.pdf>

The guide shows the free area of each grille that we can create and is indispensable for working out sizes of grilles where amount of ventilation is important. Please note that adding mesh will reduce the free area by 33% so ensure a big enough grille is specified to compensate for the mesh if applicable. The guide lists the 3ft (910mm) long grilles we can cut in order from smallest width to largest width and shows the materials, thickness, square hole size, the thickness of the ribs between the holes and also the width of the borders top and bottom. Once cut the end borders are the same thickness as the ribs illustrated in the photo showing the 3 examples below. We are not able to show you or your client exactly what your grille will look like because it hasn't been made yet but you can get an idea of all the dimensions from the guide as it also shows the number of rows and columns of holes and therefore the total number of holes (so we can work out the free area in mm²)

We can possibly cut squares to allow for drain pipes to pass through or to avoid abutting an obstacle so please forward any sketches or ideas you have and we'll advise if we can do it and give you a price. We have done something similar for the Manchester Whitworth Art Gallery where we created grilles for the entrance and cut out a square to allow for the down pipes. It might be that cutting a piece out of the grille will create a weakness and if that's the case we will advise as we wouldn't be prepared to dispatch a product that won't arrive at the destination in one piece.

We can also provide made to measure bearers cut to size to sit the grilles in and possibly build a cast iron frame for the bearers which is something we have done for North Ealing Primary School in London. There are numerous scenarios in framing any cast iron grilles with cast iron bearers so it is best to contact us with your ideas and we will try to accommodate and get a price to you. Mitred corners using cast iron bearers looks wonderful when done properly but it's tricky to cut them perfectly to size and therefore expensive. Cast iron can't be welded so the frame is supplied as four loose pieces so requires some degree of skill on site to lay them correctly.



For more details please see our website...

<https://www.castironairbricks.co.uk/product/made-to-measure-square-hole-grilles/>

Alternatively email or call us

Sales@castironairbricks.co.uk

01598 711999

Delivery for this product painted black is normally 7-10 days or 14-21 days painted to customer supplied RAL.

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