



PALACE OF WESTMINSTER, LONDON

HARGREAVES DRAINAGE

Hargreaves Drainage has made thousands of cast iron gutters in its time in many profiles and sizes, but at 400mm deep and 460mm wide, rarely any as big as the gutters required for the Palace of Westminster. Gutter sizes are determined by the size and pitch of the roof and the amount of rainwater they will have to cope with. The castings were needed as a result of the restoration work currently being undertaken on the very large roof of this most iconic of buildings.

Many of the originals are in pretty good condition but three in particular were feeling the pace somewhat after 160 years and replacement, as opposed to restoration, was the order of the day. Our Victorian forebears would have made a wooden pattern and separate wooden core box for castings like this.

With modern resins we can make a wooden 'slug', take a resin from this to make the core box and then add the metal width to the 'slug' to make the pattern. We can then easily adjust the pattern and the length of the core for the different lengths of the gutters.



Slug in progress next to original

Finished slug

There are several advantages to working in this way as opposed to how Victorian craftsmen would have had to do it. First and most obviously this work method saves time and cost for our clients. Second it reduces the chance for human error in making separate patterns and core boxes using templates and geometry.

Taking the resin to make the core box directly from the slug means there is no chance for discrepancy, and it is then a straightforward, if a meticulous, job to add the metal width using strips of plywood to create the pattern.



Resin core box made from slug

Metal width is added for the pattern

This method has become more prevalent in foundries and pattern shops over the last 30 years with improvements in resin technology and quality. It is just one example of the many advances in technology and materials that have occurred since the Victorian era. This is why foundries like Hargreaves can produce any casting that the Victorians did and probably of a higher quality.



Sand core

Sand mould in box

The remaining process of making the sand moulds and cores, pouring the molten iron from the blast furnace and fettling is pretty much the same as it was for the foundry that made the originals. We just have better materials, such as the resin sand we use which is sturdier, safer and easier to use than traditional green sand. In addition, we now have power tools. Also in this day and age we can recycle scrap iron without any loss in its performance or properties, and these gutters were made from 100% recycled iron.



Mould box being fitted over core



Finished casting

Once primed and painted the finished gutters will be fitted to the Palace roof and they would be expected to last for at least another 160 years.



<http://www.hargreavesdrainage.com>