



---

# RESEARCH REPORT DOOR HARDWARE SPEND & MAINTENANCE COSTS

---

# RESEARCH REPORT

# DOOR HARDWARE SPEND & MAINTENANCE COSTS

During the early 1980's a piece of research was commissioned by the Property Service Agency (PSA) which was a former agency of the UK Government, to look in to the value of ironmongery in a construction project, and also the percentage of overall maintenance cost that ironmongery was responsible for (note that this research would have been specifically concerned with public sector buildings). This research was said to state that ironmongery would be worth 1% of a project, whereas it would account for 80% of the overall maintenance.

This figure has been often quoted since then, yet no follow up research has happened in the interim to see how these figures have withstood the test of time. To that extent the GAI, working in conjunction with AMA Research Limited, a UK leader in building construction market research, have now conducted a research project to put these findings to the test against a background of modern methods of construction and an ironmongery world which has been hugely impacted by modern technology and enhanced product standards.

## METHODOLOGY

In terms of methodology the project was formed of two parts:-

- Part 1 would focus on understanding what proportion of a project's value is taken up by ironmongery.
- Part 2 would investigate the level of maintenance required for these products in terms of overall maintenance costs.

## SCOPE

The scope of this research was widely increased from the original project as it incorporated both mechanical and electrical hardware, and the following end-use sectors were all within the scope of the project:

- Private sector offices.
- Public sector offices.
- Retail.
- Hotels.
- Health.
- Education.
- Transport – i.e. airports, railway stations, etc.

Product sectors under review would include the following:-

- Mechanical hardware – e.g. hinges, lockcases, door closing devices, etc.
- Electrical hardware – such as electric locks.

# PART 1 - COST MODEL ANALYSIS

## BUILDING COSTS v IRONMONGERY SPEND

This analysis involved the determination of total building costs for new build projects within various end-use sectors and identification of the proportion of the total build costs attributable to ironmongery.

In respect of this the data was obtained through a variety of means including data provided by Barbour ABI, AMA Research's own library of reports which was supplemented with a series of interviews with architectural ironmongers, manufacturers, distributors and installers of ironmongery to give clarity on key issues. Many GAI member companies played a key part in this research.

Figure 1 (below) summarises the findings of part 1, in relation to ironmongery as a percentage of total building costs.

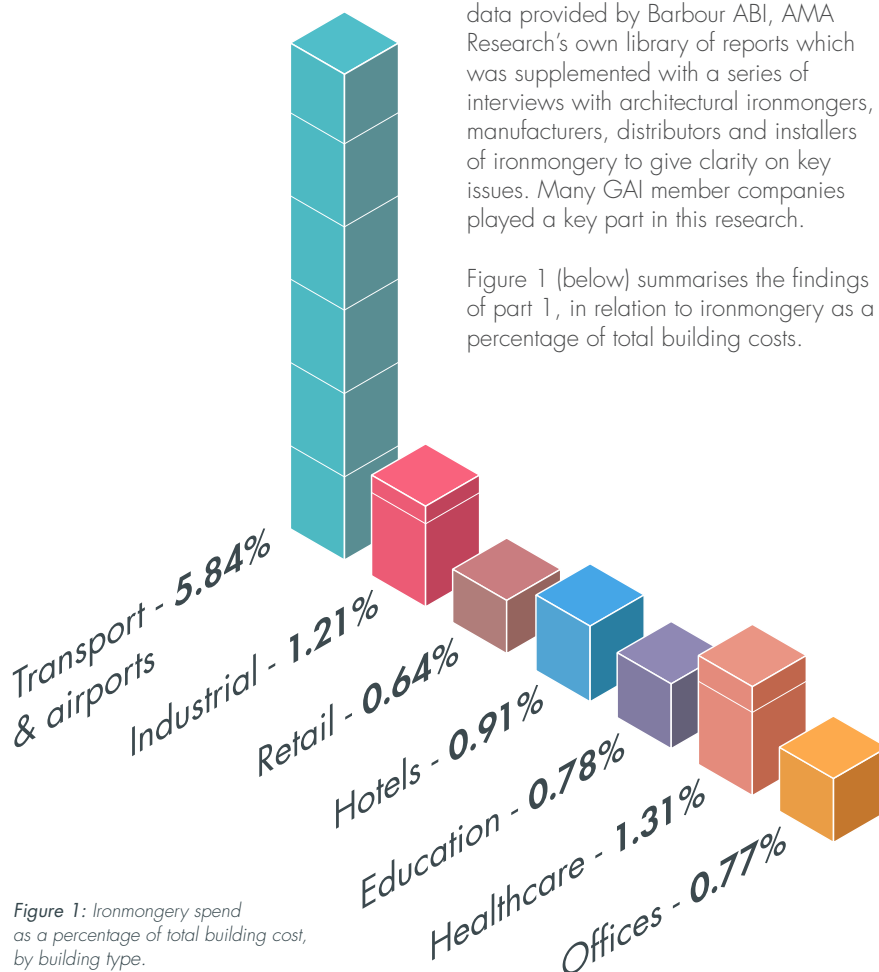


Figure 1: Ironmongery spend as a percentage of total building cost, by building type.

Source: GAI/AMA Research Ltd

### RELEVANT POINTS FROM THE RESEARCH

- Individuality of each project emphasised by research respondents.
- Education, healthcare and hotel sectors used larger volume of doors per project when compared to industrial and retail sectors.
- The sectors with the lowest average values were retail, offices and education with average percentage of total building costs below 0.8%.
- Both the industrial sector and health care tended to have higher specification for ironmongery resulting in average cost of between 1.2% and 1.31% of total building costs.
- The inclusion of some specialist psychiatric and secure hospital units within the cost model analysis may have contributed to the higher average for ironmongery due to the inclusion of some specialist hardware features such as anti-ligature products.
- Transport and airports have the highest average for ironmongery as percentage of total building costs due to the need for more limited access for some areas as well as the higher incidence of electronic locks and controlled access devices within these settings.

## ANALYSIS & EXPANSION

With the exception of airports, the broad analysis indicates that in the majority of sectors, ironmongery accounts for less than 2% of total building costs. This also shows that the overall spend on ironmongery is very much sector-specific and that the previous figure looked at in the 1980's at approximately 1% of the construction value spent on ironmongery is not inconsistent with today's findings in some sectors, although in some cases it is much higher.

The interviews with GAI member companies did also provide further background to these numbers.

Many were aware of the original research from PSA and some of the attempts that had been made to update it in the intervening years, with the main reaction to the statement being:-

*"Things have certainly moved on since then."*

When pressed to expand on this statement, a number of points were raised by respondents and including the following:-

- Product innovations – much simpler products were used in the 1980's and locking technologies have moved on significantly.
- Increased specification criteria – due to tighter Building Regulations and, more recently, increased focus on safety because of the Grenfell Tower tragedy.

- The impact of Grenfell Tower has also been felt in the commercial sector as there has been a significant tightening up on specification and performance of fire doors in particular.
- Higher specification products are now being used in initial installation, backed by manufacturers guarantees.
- Insurance companies are now setting minimum standards for door and window hardware for commercial applications.
- Development of sector specific products with differing performance criteria.
- Prices remain under pressure due to price competitive imports, particularly from the Far East.
- Whilst product innovations have continued, pricing has not progressed at the same pace.

## BREAKDOWN OF COSTS BETWEEN DOOR AND HARDWARE

As part of this research, we sought to investigate the percentage breakdown between the costings for the door leaf itself and the hardware, with the findings illustrated in Figure 2 (below).

It was also found through the research that the highest average spend on doors and hardware is in the office sector. The retail, healthcare and hotel sectors were on average 40% less than this and the industrial and education sector 50% less than this.

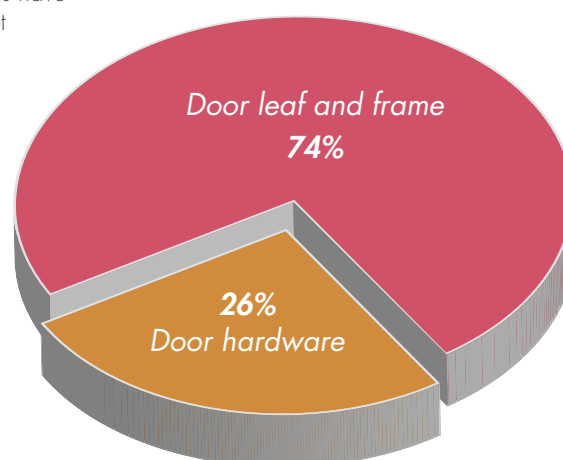


Figure 2: Percentage breakdown of spend of the total doorset.  
Source: GAI/AMA Research Ltd

# PART 2

## IRONMONGERY AND MAINTENANCE COSTS

The second part of the research explored the maintenance aspects of ironmongery and whether the second half of the findings in the 1980's, namely if "Ironmongery is responsible for 80% of maintenance during the life of a building" was still relevant in today's business environment.

During the research process for this part of the programme representatives from the following types of organisations were contacted:-

- Facilities Management Organisations.
- Door Maintenance Companies.
- Certified UK Installers.

The analysis is based on a representative sample of projects within each end-use sector where comprehensive cost modelling data was available. Figure 3 (below) illustrates the overall analysis.

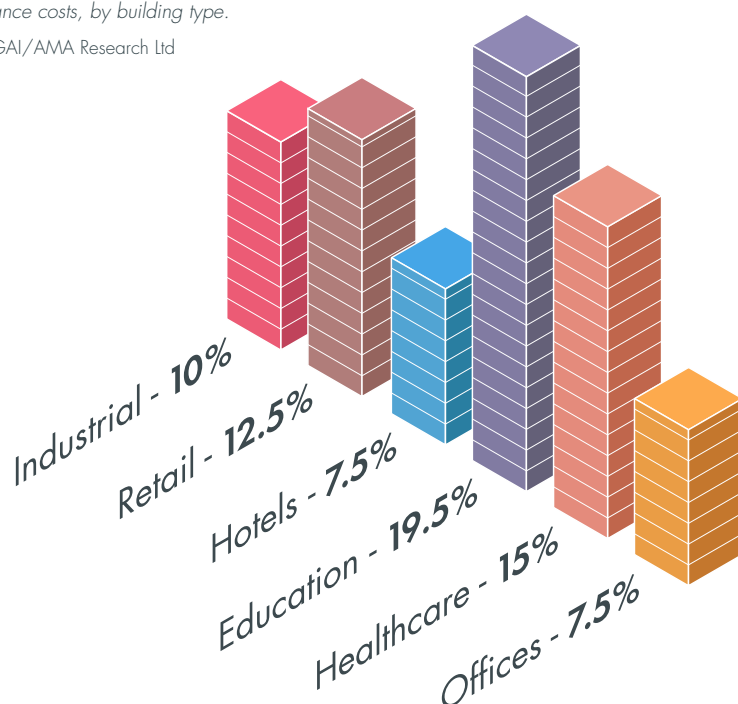
The figures contained within the table are broad estimates as many respondents indicated that they wouldn't know exact figures without referring to detailed paperwork. The overall impression is that maintenance/replacement of ironmongery is only a small part of the overall maintenance schedule. It is also perceived that ironmongery is an easily replaceable product by those in charge of maintenance and therefore does not have the same negative ramifications of, for example, the failure of the heating system.

However, a key point raised by respondents was that when any part of the door failed – door leaf, frame, hardware – it presented a major issue for the building occupier as the premises, or part of the premises, would not be capable of being secured properly. This made ironmongery product failure, and the need for replacement, a significant issue - usually one that had to be dealt with either immediately or later the same day.

It should be emphasised that the figures in the above table relate to existing hardware products. This would not include those ironmongery products installed as part of refurbishment or upgrade of an office or retail unit carried out by interior fit out organisations, rather than building maintenance or facilities management organisations.

**Figure 3:** Ironmongery maintenance costs as a percentage of total maintenance costs, by building type.

Source: GAI/AMA Research Ltd



# DOOR HARDWARE SPEND & MAINTENANCE COSTS CONCLUSIONS

- The 1% spend on ironmongery from the 1980's is now very much sector specific according to the research.
- Some sectors are higher than that, with healthcare and industrial sectors specifically spending between 1 and 2%, therefore tending towards higher specification.
- Transport and airports have a significantly higher spend, thus showing the importance of high security and high specification.
- The market has moved on significantly since the 1980's, particularly in terms of building maintenance as newer aspects of maintenance have been introduced and now represent a higher percentage of annual maintenance costs. These include more sophisticated heating and ventilation systems, air conditioning systems and computer technology.
- The impact of increased health and safety regulations and an increase to the UK minimum wage has also impacted this area.
- Advances in technology such as access control products as well as increases in the level of product standards are deemed to have had an impact on spend in the sector.
- Whilst the new research figures on maintenance are lower than the original research it still details the importance of correctly specified ironmongery when up to 19.5% of a maintenance budget can taken up by a product which is on average less than 2% of a project spend.
- Ironmongery also continues to have a significant impact on the value of maintenance and, whilst this percentage of this appears to have decreased since the last research in the 1980's it is still of huge worth as it is now estimated as being between 7.5% to 19.5% of overall maintenance costs, again depending on market sector.
- A key point raised by respondents was that when any part of the door failed – door leaf, frame, hardware – it presented a major issue for the building occupier as the premises, or part of the premises, would not be capable of being secured properly. This made ironmongery product failure, and the need for replacement, a significant issue - usually one that had to be dealt with either immediately or later the same day.

As many are aware, what is manufactured, specified and supplied in terms of ironmongery is of huge consequence to the construction industry. The increased spend and the substantive impact of this key item on maintenance budgets as demonstrated in the findings of this research still goes a long way towards confirming this.



© The Guild of Architectural Ironmongers Ltd,  
**Ironmongers' Hall, Shaftesbury Place,**  
**Aldersgate Street, London EC2Y 8AA**  
T: +44 (0)20 3370 8540 E: [info@gai.org.uk](mailto:info@gai.org.uk) [www.gai.org.uk](http://www.gai.org.uk)

