

WASC 2228

Extract from  
Listed Buildings  
Booklet  
- N. Site Building  
Function

# EXTRACT FROM LISTED BUILDINGS BOOKLET

WASC 2228

## NORTH SITE BUILDINGS, FUNCTION, WAI REFS. 21

Following the move from Woolwich an extensive programme of building refurbishment was undertaken -

- The concrete blast walls - 'traverses' and railway lines alongside the incorporating mills were removed, partly by German prisoner of war labour and the buildings gradually converted to laboratories
- The railway ran along an open raised veranda. The height was necessary due to the flooding which affected the site. When the conversion to laboratories took place the veranda was glassed in to allow weather protected movement along the range of mills

The Victorian builders had built well, with a high standard of workmanship. Little structural work was needed for conversion, the majority of work concentrated on interior refurbishment and equipment installation. The Mills configuration with individual bays proved eminently suitable for installation of laboratories and small scale processing. Thus what could have been an abandoned Victorian relic became instead an establishment which was to play a leading part in Britain's advance into high-tech defence in the second half of the 20<sup>th</sup> century.

Whether and how to preserve the buildings of Britain's industrial past is now a subject of national interest, the solution now often being found in converting them to commercial or cultural use. The Mills conversion was one of the earliest, and successful, examples of what has come to be known as adaptive re-use, long before the concept came to the fore.

The work of the Establishment covered research, development and advice on all Service non nuclear explosives and propellants, including rocket propellant / motors, from the fundamental organic chemistry through to pilot scale production and later expanded particularly into non metallic, rubber and plastic, and composite engineering materials research. This included manufacture of a diffuse range of specialised rubber and plastic defence related components, such as seals for gun mounts and radomes for fighter aircraft, and high strength composites. The Establishment also manufactured a range of specialised propellants such as the ejector material for aircraft ejector seats.

A major part of the research involved was carried out in the listed incorporating mills. The following is a representative overview of the science activity in these buildings (for the completeness of the record buildings not listed are also included).

Building	Mills Group	Function
L119	Not listed	Elemental microanalysis. Abel Heat Test
L122	Not listed	Main Laboratory - Analytical Services
L134 }	Not	Materials - rubbers and plastics, research into defence applications
L137 }	Listed	
L143	Not listed	Manufacture of rubber and plastic defence components
L145	F	Compatibility and Stability - Chemical and instrumental analysis of explosives stability in service and compatibility with other materials, employing and carrying on continuous research into such fields as

- chromotography, spectroscopy and thermochemical and microanalysis
- L146 Not listed Crystallography
- L148 G Adhesion and Rheology - Adhesion strength measurement in its effect on sealant efficiency. Mechanical properties of adhesives and rocket propellants. Initiators and igniferous explosives – research on and development of sensitive explosives
- L149 E Safety - Advice to users of explosives and propellants on their safety. Involving safety and hazard tests, including the Rotter Impact Test Issue of safety certificates, research into matters such as electrostatic hazards, fragment attack on rocket motors. Detonation – Studies of the release of energy from explosives, including assessment of underwater explosives
- L151 Not listed Explosives and Initiators
- L153 D Gas Kinetics - Study of gas phase reactions relevant to combustion and stability of explosives Pressure of detonation - Study of possible use of pressure of detonation to produce improved catalysts for chemical production
- L157 C Research into strengthening of thermoplastics by fibres – asbestos, glass, carbon and strengthening of metals by ceramic 'whiskers' to produce composite materials
- L159 Not listed Explosives
- L168 Listed 'Whiskers' - Manufacture of silicon carbide and silicon nitride wool fibres to strengthen metals. Fabrication of plastic and metal composites
- L198 Not listed Microthermal analysis
- H10 Demolished Gas Chromatography / Mass Spectrometry
- Newton's Pool Underwater Testing

WAI  
1133/2  
CD2, FASS  
SFP 97

421

140/1  
270/3

413/11  
270/7

### Other Cordite related Listed Buildings

*No undue haste must ever be made and no greater force applied than is absolutely necessary*

Mills Factory Rule Book 1884

#### 1. Safety – The Magazines

A number of other cordite related listed buildings were related to safety. The phrase ' powder magazine ' tends to convey an image of a substantial building storing large quantities of gunpowder, often away from the site of manufacture and often built in grandiose style symbolising the power of the Authorities. However a different type of

LES TUCKER