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'Careers in Research'  
1969



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# Careers in Research

1969

MINISTRY OF TECHNOLOGY

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# **Explosives Research and Development Establishment**

**Waltham Abbey, Essex**

## **STAFF**

About 900

The Explosives Research and Development Establishment is the principal chemical research establishment in the Ministry. Despite its title, its work is not exclusively concerned with explosives technology. Inorganic, organic, analytical and, in particular, physico-chemical research is carried out and there is a chemical engineering branch.

The range of interests is very wide and covers polymers and the inorganic structural material fields as well as those of propellants and explosives. Current research topics include:

- New organic polymers; synthesis, characterization and stability
- Processing and mechanical property evaluation of rubbers, plastics and composite materials
- The growth and mechanical properties of ceramic 'whiskers'
- Rheology of heavily loaded two phase systems and the mixing of stiff pastes
- Adhesives and adhesive strength properties
- Synthesis, analysis and thermochemical properties of organic and inorganic compounds and the development of pilot plant manufacturing processes
- Formulation of new solid propellants and the study of ballistic and mechanical properties
- The development of explosive compositions and research on explosion and detonation
- Heat transfer properties of fluids
- Development and research on chemical and processing plant, instrumentation and remote control mechanisms

The staff includes 175 professionally qualified officers, the majority in chemical science but some in physics and engineering sciences. Five members of the scientific staff hold senior appointments based on individual merit. Close contacts are maintained with universities, affording opportunities and freedom for academic work. The most modern equipments such as NMR, mass spectrometers, infra red spectrographs are available. Excellent supporting facilities include a very well equipped glass technology section and a library containing a comprehensive selection of appropriate scientific works and publications.

An adjacent modern housing estate provides living accommodation of good standard for married scientific staff joining the Establishment.

More detailed information is given in a brochure obtainable on request from the Director, Explosives Research and Development Establishment, Waltham Abbey, Essex.



Removing silicon nitride whiskers from one of the experimental high temperature reactors at ERDE