

WASC 2068

~~EDE~~ Publicity
Summary incl
Publications, patents
1969-70

PUBLICITY 1st July, 1969 - 30th June, 1970

During the twelve month period a wide variety of media has been used to publicize the Establishment's activities thus bringing them to the attention of Industry. The media have included ERDE publications, Mintech publications, national press, local press, scientific and technical press, sound radio, television, films, exhibitions and lectures. A Summary Chart appears on p. 17.

1. ERDE publications

a. Establishment brochure

A revised version of the ERDE brochure entitled "Research and development activities and facilities" was made available on a nationwide basis through the Regional Office organisation.

b. Patents

Eleven open patent applications were made.

Improvements in or relating to preparation of nitrophenols.
D.A. Salter and R.J.J. Simkins, 42571/69, 27.8.69.

Whisker-metal composites. J.C. Cannell, R.S. Leaper and N.J. Parratt,
44612/69, 10.9.69.

Acid salt of lead dinitroresorcinatate.
G.W.C. Taylor, A.T. Thomas and R.J.E. Williams, 46392/69, 19.9.69.

Manufacture of cyclic compounds. D.H. Richards and N.F. Scilly,
47527/69, 26.9.69.

Improvements in or relating to a process for making composite polymeric materials. A.W.H. Pryde and G.E.G. Bagg, 49365/69, 8.10.69.

Improvements in or relating to electron emitters. F.S. Baker,
159/70, 2.1.70.

Improvements in or relating to the manufacture of fuseheads.
A.T. Thomas and R.J. Williams, 5356/70, 4.2.70.

Means for analysing the performances of beam specimens in bending.
D.A.G. Eldridge, 9610/70, 27.2.70.

Improvements in or relating to the detection of nitro and nitroso compounds.
R.J.J. Simkins and G.S. Welby, 24596/70, 21.5.70.

/Manufacture

Manufacture of organic compounds.

P.J. Pearce, D.H. Richards and N.F. Scilly, 28491/70, 12.6.70.

Improvements in the manufacture of silicon carbide.

T.J. Lewis, 28492/70, 12.6.70.

c. Unlimited reports

Twelve unlimited reports were issued and made available for civil use through the National Lending Library and TRC.

Conductive rubbers.

B.E. Brokenbrow, B.L. Hollingsworth and A.L. Stokoe. ERDE 18/R/68.

The preparation of some bis-(β -diketones). J.A. Bell. ERDE 3/M/69.

The tensile properties of plastic propellant RD 2404/Lot 19.

R.W. Bryant, W.A. Dukes and R.A. Gledhill. ERDE 5/M/69.

Eight-channel automatic recording viscometer. D.H.L. Mansell.

ERDE 10/M/69.

Accelerated and climatic ageing of polyurethanes.

B.L. Hollingsworth, K.J. Ledbury and A.L. Stokoe. ERDE 9/R/69.

Forced convection heat transfer to supercritical cryogenic hydrogen:

Part 1: Literature survey. J.C. Beech. ERDE 1/S/69.

Fibre-filled thermoplastics: Part 1: Asbestos.

B.E. Brokenbrow, B.L. Hollingsworth, K.J. Ledbury and D. Sims. ERDE TR 2.

The structure and behaviour of polycarbonate film: Part 1: Film cast from solution. B.J. MacNulty. ERDE TR 7.

The binder/oxidant interface in plastic propellant. T.P. Hobin.

ERDE TR 10.

Calorimetric values (water liquid) of propellant ingredients.

L.E. Grindrod. ERDE TN 3.

The tensile properties of plastic propellant RD 2428.

R.W. Bryant, W.A. Dukes and R.A. Gledhill. ERDE TN 11.

A design for a rotary machine to assess the friction sensitiveness of explosives and propellants. J.G. Rankine and H.C. Turner. ERDE TN 16.

/a.

d. Open literature publications

The following papers by ERDE staff appeared in technical journals; some papers on more basic studies have been omitted.

The glycerine process for the alignment of fibres and whiskers.
G.E.G. Bagg, M.E.N. Evans and A.W.H. Pryde. Composites, 1969, 1, 2, 97.

Asbestos fillers in rubber. B. Brokenbrow, D. Sims and A.L. Stokoe.
Rub. J., 1969, 151, 10, 61.

Conductive rubbers. B. Brokenbrow, D. Sims and A.L. Stokoe.
Rub. J., 1969, 151, 12, 30.

Thermal stability of polysulphone. A. Davis.
Makromol. Chem., 1969, 128, 2142.

Stability of polycarbonate. A. Davis and J.H. Golden.
J. Macromol. Sci-Revs. Macromol Chem. 1969, C3, 1, 49.

New fibre-filled thermoplastics. Part 1. The future for asbestos.
B.L. Hollingsworth. Composites, 1969, 1, 1, 28.

New fibre-filled thermoplastics. Part 2. Reinforcement by high modulus fibres. B.L. Hollingsworth and D. Sims. Composites, 1969, 1, 2, 80.

Whisker alignment by the alignate process.
N.J. Parratt. Composites, 1969, 1, 1, 25.

Synthesis and properties of regular copolymers. Part 1. Reactions involving aliphatic dihalides. D.H. Richards, N.F. Scilly and F. Williams. Polymer, 1969, 10, 8, 603.

Synthesis and properties of regular copolymers. Part 2. Spectroscopic analysis of regular copolymers of vinyl compounds with aliphatic dihalides. D.H. Richards, N.F. Scilly and S.M. Hutchinson. Polymer, 1969, 10, 8, 611.

Field emission from silicon carbide whiskers.
F.S. Baker. Nature, 1970, 225, 539.

Comparison of the thermal and thermo-oxidative stability of polycarbonate, polyphenylene oxide, polysulphone and two polyarylates.
A. Davis. Makromol. Chem., 1970, 132, 23.

The electron irradiation stability of polysulphone.
A. Davis, J.H. Golden, M. Gleeves and M.B. Huglin. Makromol. Chem. 1969, 129, 63.

Mechanical testing of whiskers. J. Cook. Composites, 1, 3, 176.

/Study

Study of the reactions of surface hydroxyl groups of a chrysotile asbestos with organic silanes by means of infrared spectroscopy. H. Edwards. J. Appl. Chem., 1970, 20, 76.

The rotary cantilever fatigue test. W.J. Pullen. Composites, 1970, 1, 4, 239.

2. Mintech publications

a. Techlinks

Twelve Techlinks based on ERDE work were issued during the period.

- 395. Safety spectacles, goggles and visors.
- 468. Conductive rubbers.
- 475. A timing unit and sample changer for spectrometers.
- 477. Continuous increment double-pulse generator.
- 484. A multirange electrical thermometer.
- 489. 8-Channel automatic recording viscometer.
- 495. A differential temperature detector.
- 500. Flow rate alarm.
- 537. Continuous tape cassette.
- 538. A flexural test apparatus for plastics or metals.
- 546. Advisory service on electrostatic and explosion hazards.
- 574. High speed dynamic fatigue testing of composite materials.

Over 80 requests for further information have been received from Industry as a direct result of the issue of these Techlinks.

/b.

b. New Technology

During the period from July 1969 to April 1970 when New Technology ceased regular publication four articles appeared describing the activities and services of the Establishment.

Testing materials by exposure - "down under" and at home.
B.L. Hollingsworth. September 1969, (32), 3.

Work for industry in Mintech Research Establishments. ERDE.
November 1969, (34), 6.

ERDE advises on adhesives and sealants. November 1969, (34), 7.

Electrostatics and bursting containers. R.M.H. Wyatt.
April 1970, (39), 5.

Over 140 requests for further information were received from Industry during the period as a direct result of the appearance of these articles.

3. Press coverage

a. National Press

Three articles have appeared in the national daily press covering aspects of the work of the Establishment.

Carbon fibre for centrifugal stress. Financial Times, 27.11.1969.
(An account of the ERDE short fibre alignment process).

Powders "shocked" into activity. Financial Times, 1.12.1969.
(An account of ERDE research into the explosive shocking of powders).

Device to check skyjacks. Daily Telegraph, 3.4.1970.
(An account of the ERDE "Dynamite Sniffer").

b. Local Press

Three articles concerning ERDE have appeared in the Waltham Abbey weekly newspapers.

ERDE's enormous potential economic value to nation. Minister tells Weekly Telegraph of vital work. Cheshunt and Waltham Weekly Telegraph, 29.8.1969. (Account of visit by Mr. Gerald Fowler, Joint Parliamentary Secretary, Ministry of Technology).

/Cheshunt

Cheshunt and Waltham Mercury, 29.8.1969. (Unheadlined account of Mr. Gerald Fowler's visit to ERDE).

Scientists may beat skypirates. Cheshunt and Waltham Weekly Telegraph, 10.4.1970. (Account of the ERDE "Dynamite Sniffer").

c. Technical Press

Ten articles, the majority written by visiting journalists, have appeared in technical journals.

Ajour, (Norway), September 1969. (An account of an ear protector based on the "ERDE fender").

Strong competition for carbon fibres. Electrical Review, 3.10.1969. (An account of the ERDE work on silicon carbide).

Carbon fibre can snatch nuclear prize for Britain. The Engineer, 1.1.70, 7. (An account of the ERDE fibre alignment process).

Adhesive and sealant service. Light Production Engineering, January 1970, 7.

Fibre alignment increases density of composites. Design Engineering, February 1970, 86-87. (An account of the ERDE fibre alignment process).

Some outdoor tests are being conducted in Australia. B.L. Hollingsworth. Australian Plastics and Rubber Journal, February 1970. (An account of materials evaluation studies at the Joint Tropical Research Unit and at ERDE).

Wide range thermometer. Electrical Times, 19.2.1970, 13. (A description of the ERDE multi-range temperature indicator covering the range -200°C to 500°C).

Fibre classifying results in improved composites. Design Engineering, March 1970, 76-77. (An account of the ERDE fibre classification process).

Whiskers challenge fibre-in-metal composites. The Engineer, 12.3.1970, 42-44. (An account of the ERDE work on silicon carbide whiskers).

Choose the right polymer. Light Production Engineering, May 1970. (An account of the ERDE Non-metallic Materials Branch written by A. Spillard Industrial Liaison Officer at Hendon).

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4. Broadcasting

During the period there have been three broadcasts in which the Establishment has participated.

a. Radio

Testing materials by exposure to different weather conditions.
B.L. Hollingsworth. BBC External Services. October 1969.

b. Television

After the Iron Age. BBC 2 "Horizon" programme, 9th March 1970, which included ERDE work on whisker growth and composite materials.

Tomorrow today. COI television programme, September 1969, covering silicon carbide whisker growth at ERDE.

5. Exhibitions

The Establishment was represented at two exhibitions.

New polymer materials and small molecules. Stockholm Trade Fair, October 1969.

A new system for assessing the dynamic mechanical properties of non-metallic materials. Physical Society Exhibition. March 1970.

6. Lectures

The following external lectures were delivered by ERDE staff.

Mechanical testing of whiskers and fibres. J. Cook. July 1969.

Repetitive recording of infrared spectra using an automatic sampler changer. R.T.M. Fraser, July 1969.

Aspects of the growth of silicon carbide whiskers. T.J. Lewis. July 1969.

Stability and compatibility testing of explosives and propellants. N.J. Blay and I. Dunstan. September 1969.

Processing short fibres for composites. N.J. Parratt. October 1969.

Stress distribution in adhesive joints. L. Greenwood. November 1969.

Solid propellants for rockets. G.H.S. Young. November 1969.

/History

History of the Establishment. M. McLaren. November 1969 and February 1970.

Silicon carbide as a reinforcement. N.J. Parratt. December 1969.

Some aspects of thermal- and photochemical autoxidation. N. Uri. December 1969.

Explosives. G.K. Adams. January 1970.

Whiskers for strength. C.C. Evans. April 1970.

Compatibility testing of primary explosives and pyrotechnics. N.J. Blay and I. Dunstan. May 1970.

Compiled by M. McLaren
Library Services
ERDE

September 1970

Summary Chart of ERDE Publicity Activities

Coverage Publicity	General	Composite Materials	Whiskers	Explosives & Propellants	Chemical	Polymer	Equipment & Instrumentation	Adhesion	Enquiries received
ERDE Brochure	1								*
Patents		2	1	2	2	1	1		*
Unlimited reports				4	1	3	1		*
Open literature		5	2			4			*
Techlinks				2		3	7		92
New Technology	1			1		1		1	141
Press coverage	2	6		1	2	2	2	1	200
Broadcasting	1	2				1			*
Exhibitions						2			*
Lectures	2	2	3	4	1		1	1	*

* No quantitative information is available against these headings.