8. SOURCES OF INFORMATION ABOUT STATIC ELECTRICITY

8.1 GENERAL

Internet Websites - search under electrostatic, static electricity, etc. and for companies and organisations (Google is a useful 'search engine'). Many companies and organisations involved with static electricity have their own Websites, and many include links to other relevant sites.

8.2 ORGANISATIONS ORGANISING CONFERENCES & MEETINGS:

Electrostatics Group, The Institute of Physics, 76 Portland Place, London, W1N 4AA (Tel: +44 (0)171 470 4800 Fax: +44 (0)171 470 4848 email: conferences@iop.org Website: http://www.iop.org/IOP/Groups/SE/). Basic research, atmospheric electricity, biological aspects, measurements, hazards & applications. 2-3 Group meetings a year and an international conference in UK every 4 years: 1971 - 2007. Conference proceedings are published by Institute of Physics (Contact Kathryn Cantley, IoP Publishing, Dirac House, Temple Back, Bristol, BS1 6BE (email: kathryn.cantley@ioppublishing.co.uk)

A European Conference on Static Electricity is held every 4 years (alternates bi-annually with Institute of Physics Conference). These are held in different countries throughout Europe - in 2001 it was in Koscielisko, Poland. Selected papers are published in special issues of *Journal of Electrostatics.*

Institution of Electrical Engineers, Savoy Place London, WC2R 0BL (Tel: 0171 240 1871) organises occasional meetings and colloquia.

EOS/ESD Association (7900 Turin Road, Bldg 3, Suite 2, Rome, NY 13440-2069,USA Fax: +1 315 339 6793 email: eosesd@aol.com website: www.eosesd.org) - a Symposium each autumn in US - mainly concerned with interaction of static with microelectronics. Conference papers are published. ESDA is also responsible for generation of formal Standards.

IEEE-IAS (Institution of Electrical and Electronic Engineers - Industrial Applications Society) - organises a conference in US each year, early October, with a section on electrostatics. Concerned with measurements, hazards and applications. Selected papers are published.

Electrostatics Society of America (ESA). Organises a Conference each summer. Their Website is at: http://www.electrostatics.org).

Meetings of other organisations which may have relevance are: The Dielectrics Society, International Aerospace and Ground Conferences on 'Lightning and Static Electricity'.

8.3 INFORMATION ON MEETINGS

A list of meetings likely to be relevant to people interested in electrostatics is kept on the JCI Website at http://www.jci.co.uk/meet.html. This includes telephone, Fax and email addresses as well as hyperlinks where these are known. Information on meetings is also held on the Journal of Electrostatics Website (http:// www.ee.rochester.edu/journals/elstat/).

8.4 JOURNALS FOR PUBLICATION OF PAPERS:

Journal of Electrostatics - published 6 times a year by Elsevier. Editor Mark Horenstein (email: mnh@bu.edu). The contents of the Journal for the last several years are listed on the Journal

Website: http://www.ee.rochester.edu/journals/elstat/.

There is an on-line *'ESD Journal'* at: http://www.esdjournal.com/

The EOS/ESD Association publishes a Newsletter *'Threshold'* every other month on their Website.

8.5 DIRECTORIES: Kompass, Kelly's, Dial Industry – and the Internet (e.g. Google)

8.6 STANDARDS:

There are a number of national and international organisations involved in the preparation of formal Standards. Some 'Standard' documents are well presented and useful – others do not reflect best present appreciations of methods of measurement and/or assessment. A number of Standards continue to be referenced while out of date and/or outside their area of application. It is hence always appropriate to examine the validity and relevance of Standards to user requirements. This is particularly true in the area of assessment of materials.

8.6.1 British Standards Institution :

389 Chiswick High Road, London W4 4AL. Tel: +44 181 996 7000 Fax: +44 181 996 7001
email: standards@bsi.org.uk Website: www.bsi.org.uk/bsi

BS 5958: Part 1: 1991 Code of practice for Control of undesirable static electricity: Part 1. General considerations

BS 5958: Part 2: 1991 Code of practice for Control of undesirable static electricity: Part 2. Recommendations for particular industrial situations

BS 7506: Part 1: 1995 Methods for Measurements in electrostatics Part 1. Guide to basic electrostatics

BS 7506: Part 2: 1996 Methods for Measurements in electrostatics Part 2. Test methods

8.6.2 European & International Standards: (available from BSI and other National Standards Organisations, websites: www.cenorm.be/ and www.cenelec.be/)

CENELEC Report R044-001: 1999 Safety of machinery - Guidance and recommendations for the avoidance of hazards due to static electricity
(Note: this standard is due to be superseded by CLC/TR 50404 Electrostatics - Code of practice for the avoidance of hazards due to static electricity, which is the final satges of development)

EN 1149-1:1995 Protective clothing - Electrostatic properties Part 1. Surface resistivity (test methods and requirements)
(Note: this standard is due to be re-issued as an update during 2003)

EN 1149-2:1997 Protective clothing - Electrostatic properties Part 2. Test method for the measurement of the electrical resistance through a material (vertical resistance)

prEN 1149-3: 2002 Protective clothing – Electrostatic properties Part 3. Test methods for the measurement of charge decay

EN 100015-1:1992 Harmonised system of quality control assessment for electronic components 'Basic specification: Protection of electrostatic sensitive devices Part 1: General requirements'
(Note: this standard is now withdrawn an superseded by the EN version of IEC 61340-5-1)

ISO 6356: 2000 Textile floor coverings - Assessment of static electrical propensity - Walking test

ISO 10965:1998 Textile floor coverings - determination of electrical resistance

8.6.3 International Electrotechnical Commission IEC TC101: (IEC Home Page:

www.iec.ch)

IEC TC101 'Dashboard'[Yes, this is all one URL!]: www.iec.ch/cgi-bin/procgi.pl/www/iecwww.p?wwwlang=E&wwwprog=TCboard.p&committee=SC&TC=TC+101

IEC 61340-2-1 Electrostatics – Part 2-1: Measurement methods - Ability of materials and products to dissipate static electric charge

IEC TR 61340-2-2 Electrostatics – Part 2-2: Measurement methods – Measurement of chargeability

IEC 61340-2-3 Electrostatics – Part 2-3: Methods of test for determining the resistance and resistivity of solid planar materials used to avoid electrostatic charge accumulation

IEC 61340-3-1 Electrostatics – Part 3-1: Methods for simulation of electrostatic effects – Human body model (HBM) – Component testing

IEC 61340-3-2 Electrostatics – Part 3-2: Methods for simulation of electrostatic effects – Machine model (MM) – Component testing

IEC 61340-4-1 Electrostatics - Part 4: Standard test methods for specific applications Section 1: Electrostatic behaviour of floor coverings and installed floors

IEC 61340-4-3 Electrostatics – Part 4-3: Standard test methods for specific applications - Footwear

IEC 61340-5-1 TR2 Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements
(Note: published in Europe as a full standard under number EN 61340-5-1)

IEC 61340-5-2 TR2 Electrostatics - Part 5-2: Protection of electronic devices from electrostatic phenomena - User guide

8.6.4 US Standards:
EOS/ESD Association (7900 Turin Road, Bldg 3**,** Suite 2, Rome, NY 13440-2069,USA, Tel: +1 315 339 6937, Fax: +1 315 339 6793, email: eosesd@aol.com, website: www.eosesd.org)

The ESD Association has issued a series of Standards and these are best accessed via the ESDA Website

National Fire Protection Association (1 Batterymarch Park, Quincy, Massachusetts 02269-9101 Tel: +1 617 984 7249, Fax: +1 617 770 3500)

Available in Europe from ILI, Index House, Ascot, Berks. SL5 7EU Tel: +44 1344 636 300, Fax: +44 1344 291 194, email: standards@ili.co.uk, website: www.ili.co.uk

ANSI/NFPA 77 Static Electricity 1993 Edition

NFPA 99 Standard for Health Care Facilities 1996 Edition

8.6.5 Japanese Standards:
Japanese Industrial Standard JIS L 1094 - 1988 Testing Methods for Electrostatic Propensity of Woven and Knitted Fabrics

8.7 Shell Safety Guide 'Static Electricity - Technical and Safety Aspects' 1988

8.8 BOOKS:
J. A. Cross *'Electrostatics: Principles, problems and applications'* Adam Hilger, Bristol

M. Glor *'Electrostatic hazards in powder handling'* Research Studies Press 1988

W. D. Greason *'Electrostatic discharge in electronics'* Research Studies Press 1992

H. Haas *'Electrostatic hazards: Their evaluation and control'* Verlag Chemie 1977

G. Lüttgens; M. Glor *'Understanding and controlling static electricity'* Expert Verlag 1989

G. Lüttgens; N. Wilson *'Electrostatic hazards'* Butterworth-Heinemann, 1997

D. M. Taylor and P. E. Secker: *'Industrial electrostatics: Fundamentals and measurements'* Research Studies Press, from John Wiley 1994

J. F. Hughes *'Electrostatic particle charging: Industrial and health care applications'* Research Studies Press, from John Wiley 1997

J Pionteck & G Wypych *"Encyclopedia of Polymer and Plastics Additives"*
Chemtek Publishing ISBN 1-895198-34-8 First Edition, 2007