



The Fibreoptic Industry Association

www.fia-online.co.uk

NEWSLETTER

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THE FIBREOPTIC INDUSTRY ASSOCIATION

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A warm welcome to the following NEW MEMBERS

Corporate
 612 - C&M ENGINEERING SERVICES LTD.
 609 - FABER MAUNSELL
 608 - THE SIEMON COMPANY LTD.
Overseas Associate
 611 - STANDARDS AUSTRALIA (rejoining)

Personal
 610 - Mr. Clinton Thesen

FIA and the TIA-B

The **FIA** is to co-host a new technical support group called the **TIA-B**, **Telecommunications Infrastructure Advisory Board**. This will address balanced cabling technology and associated electrotechnical matters (including mains power, earthing and bonding etc.) in addition to the infrastructure topics already covered by **FIA** Technical Support Documents.

The establishment of the **TIA-B** significantly increases the technical support content provided to the membership of all the host organisations. We hope that **FIA** members will recognise the opportunity that such an extension of provision represents. For more information see page 2.

FIA Approved Installer status for Lightguide Technologies

Lightguide Technologies Limited has become the second **FIA** member to meet the requirements of the new Mk.II **FIA Approved Installer Scheme**. Two other companies are currently in the early stages of approval.

The **FIA** has published a special Newsletter covering the changes to the AIS. To download it go to www.fia-online.co.uk/pdf/NL/AISNewsletter-L4883b.pdf. Full details are to be found on www.fia-online.co.uk/eais01.htm

FIA-online.co.uk

Visit the site and familiarise yourselves with its content - to access member-only pages you will need your **NEW** membership password issued in January 2007. If you do not know what it is contact your **FIA** principal contact - failing that contact the **FIA** Secretariat

BSI and FIA
BIP 0007:2004

Telecommunication cabling and equipment installations: A guide to requirements and responsibilities

Don't forget – the **FIA** sponsored the **BIP** in support of **BS 6701:2004** - it's a free download to members.

FIBREOPTIC INDUSTRY ASSOCIATION

The FIA is a Company Limited by Guarantee

Management Council

Paul Bateson - Chairman
(Optical Test and Calibration)
 Peter Lythgoe - Vice Chairman
(Lythgoes)
 John Marson - Commercial Director
(Twistnet Communications)
 Mike Gilmore - Technical Director and Treasurer
*(The Cabling Partnership
 e-Ready Building Limited)*

Industry Sector Directors

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(Optical Test and Calibration)
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(Lucid Optical Services Ltd.)
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(The Siemon Company)
 Sydney Hogg - Passive Components
(Schneider Electric UK Limited)
 Peter Lythgoe - Installation
(Lythgoes)
 Phil Whitehead
(Ortronics)

FIA co-hosts the TIA-B

Since its inception, the Fibreoptic Industry Association (FIA) has held the position that it should only provide direct support for matters within the scope of the fibre optics industry. It has repeatedly avoided straying into areas covered by other industry associations and trade bodies. The recent demise of CITA (Communications and Information Technology Association) - formerly the UK TIA - has forced a review of this long-standing position.

Such a review is inevitable since the telecommunications infrastructure industry has been supported by, in no particular order, the FIA, CITA and the Electrical Contractors Association via their Information Technology, Electronics and Control group (ECA-ITEC). Removing one of the elements of the triumvirate suggests that either a new group has to fill the gap or the existing bodies have to make some changes to cover the shortfall.

There is significant membership overlap between these organisations. Somewhat surprisingly CITA had the smallest membership but almost 20% of CITA members were also FIA members. Others may have been ECA-ITEC members. It is true that not all CITA members were directly involved in infrastructure - a number were telecommunications equipment or service suppliers and these may find a new home elsewhere, possibly within the CMA. However, many CITA members are consultants and installers of telecommunication infrastructures. The FIA has therefore decided to make a landmark move to support those disenfranchised organisations.

The FIA will co-host an organisation called the **TIA-B (Telecommunications Infrastructure Advisory Board)**. The TIA-B will address all telecommunications media and specifically include the areas that CITA used to address (e.g. balanced cabling). The TIA-B will be primarily a technical body that will directly benefit from the historic commitment to, and substantial sponsorship of, international, European and UK standardisation activities across all telecommunications media by the FIA via its Technical Directorate.

The objective of the TIA-B is to:

- allow information from the FIA standards commitment to be presented to a wider audience and to cover a wider range of telecommunications technologies;
- support FIA members who wish the quality of technical support documentation, query resolution and arbitration/audit services already provided by the FIA to its core technology to be extended to all telecommunications infrastructure cabling media;
- produce technical services including BSI-endorsed publications to support the "copper" cabling infrastructure sector;
- allow services already offered by the FIA and to be extended to cover all telecommunications infrastructure cabling media.

The management structure of the TIA-B is already in place. Any member of a TIA-B host is automatically a member of TIA-B. An inaugural TIA-B meeting will be held in September.

It is vital for the FIA to forge stronger links with the electrotechnical area. This is entirely in line with the general desire of the infrastructure community to reduce the number of trade associations to which they have to turn for advice. As a result, an offer has recently been made by the FIA to the ECA-ITEC to co-host the TIA-B and we await their response, hopefully by the end of this year. Such co-hosts will undoubtedly add value to the services offered by the TIA-B.

The FIA is offering free membership for ex-CITA members until January 2008 at which point they will be offered membership of the FIA at the same fee structure as existing FIA members. We feel that this offer is appropriate since CITA members may have already paid their annual fees and a 5-month waiver of further trade association fees to join the TIA-B is fair and reasonable.



www.fia-online.co.uk/TIA-B

TIA-B Inaugural Meeting: 10th September 2007

The inaugural meeting of the Telecommunications Infrastructure Advisory Board is to be held at 2.00pm on 10th September 2007 at the IET, Savoy Place, London. The meeting will be free-of-charge to all FIA members and also to members of ECA-ITEC.



Outline information covering the formation and operation of the **TIA-B** can already be found at www.fia-online.co.uk/TIA-B. However the meeting will provide much greater detail on these topics and provides the first opportunity for TIA-B members to influence the type of products and services to be developed by the Board. FIA members will be receiving invitations by e-mail (and downloadable from the TIA-B web-site) in early August.

**Are you an FIA member?
 Have you got any NEWS?**

This Newsletter is provided as a means of maintaining communication between and with our Members. It can, therefore, promote the activities of Members to other Members. Articles, product information, news items etc. are always welcome. Please send the information via email (jpg illustrations) to Jane Morrison via jane@fiasec.demon.co.uk

Trade Associations within the Standards Process

By Mike Gilmore, FIA Technical Director

As usual, once every few years industry associations have an urge to gaze at their own navels and wonder what their role is. The question of "what are trade associations for?" rather depends not upon the trade association itself but on its environment. For example, in the United States the primary trade association for telecommunications industries, the TIA, has been a formal standards-making body for many years. By comparison, the United Kingdom is blessed with BSI that has the formal backing of government as the national standards making and management body. Therefore, in the UK, a trade association has little role to play in the independent production of standards. The exceptions to this implicit rule such as "learned bodies", including the IET, only exist to prove the rule.

Trade associations can contribute a great deal to standardisation. For telecommunications infrastructure standards, BSI Technical Committee TCT/7 has representatives of all three major trade associations, the ECA (Electrical Contractors Association), the FIA and the UK TIA (recently renamed CITA - not to be confused with the US TIA). Nominated persons from each trade association direct the work of the Technical Committee. This does not automatically prevent trade associations from undertaking their own work in the area of standardisation. On the contrary, there are two activities in which trade associations do important work. The first is where a specific topic requires an "industry standard" and which standards bodies have not yet addressed (or where a topic is moving too quickly for a standard to be developed). The second is where a published standard requires interpretation (as many sadly do) or further explanation/guidance. However, there is a need for some control of such documents to prevent the work of one trade association conflicting with that of another. To that end the FIA are going to propose a review of the controls and processes within the BSI Technical Committees with which they are involved.

Membership of BSI committees provides benefits to trade associations and their members – primarily that they have access to, and influence on, early drafts of international, European and British standards.

The FIA take maximum advantage by allowing all their members to review those drafts and generate comments via the Standards Forum which are then submitted to the national body. However, membership cannot be a one-way street.

As the work of standards committees is open to review and comment by trade associations, so should the "standards" work of those associations (and other members of Technical Committees) be open to scrutiny by the relevant Technical Committee. Trade associations should advise the Technical Committee of any "standardisation" plans in order to minimise duplication. The FIA, ECA and the UK TIA did just this on the ground-breaking BIP0007 document which covered guidance to BS 6701:2004. All three groups published the resulting, identical, document made available free-of-charge to their members.

The FIA will propose a mechanism by which interpretations of, and guidance to, standards are "sanctioned" by the Technical Committee responsible for the base standard. In this way trade associations and their members can feel confident of the value of the interpretations that they produce. This would also prevent uncontrolled, inaccurate and conflicting interpretations. There is real danger of this at the moment not only from trade associations but also from training and competence organisations such as City & Guilds and BICSI who are not represented in the relevant BSI groups.

The concept of sanctioned interpretation of standards is very important to the FIA which has produced a great number of such documents over the past few years.

This article was published in Networking+ in April 2007



FIA Standards Forum

- **documents available for download and comment NOW**

The Standards Forum now offers **FIA** Members the opportunity to comment on the standards in development by the fibre optics and cabling committees in ISO/IEC, IEC, CENELEC and BSI. These cover a range of optical fibre products such as optical fibres, cables, connectors and system components together with the design, installation and commissioning standards for cabling.

To get involved – go to the members-only area of the **FIA** site area, type in your password, go to Standards Forum and follow the instructions.

New cost structure for **FIA** Qualification Scheme

The cost structure for registration and ongoing maintenance of your award under the **FIA** Qualification Scheme has been dramatically simplified. The admittedly rather complex structure has been replaced by a simple once-only fee as follows. The once-only Enrolment Fee of £49+VAT covers the establishment of the Learner Record and a hard-copy certificate detailing the Award achieved. The FIA uses this fee for administration costs to monitor and cross-check trainee progress. This fee is waived for FIA Personal Members. Also the ongoing charges have been dispensed with as detailed below.

- **ANNUAL FEE:** There is **NO** annual fee for learners, but there is a commitment to do at least one unit per year.
- **NO ADDITIONAL UNIT FEES:** After achieving a Unit award with a training provider as part of a Level II-IV Award, the learner will need to register this Unit with the FIA by submitting a Unit Feedback Form. There is **NO** fee for this.
- **NO ADDITIONAL AWARD FEES (- LEVEL IV):** After achieving the next Award level a new hard-copy certificate will be issued. There is **NO** fee for this.

For details for the Qualification Scheme go to <http://www.fia-online.co.uk/equals01.htm>. To download the FIA Newsletter dedicated to the **FIA** Qualification Scheme go to <http://www.fia-online.co.uk/pdf/NL/QSNewsletter-L4692.pdf>.

Love me "Tender", all my dreams fulfil

The quality of tenders and the responses to them are a common source of complaint amongst installers, consultant and their clients. This has, of course, been going on for years. I remember huge tenders for telecommunications infrastructures, at least in terms of the pages they comprised, that were issued in the 1980s which detailed every last metre of trench to be dug and every floor tile to be lifted but then simply asked for "a fibre optic backbone". The reason for such mismatches between the practical and the technical in those days was quite simple - quantity surveyors and their like did not know how to specify the cabling so they focussed on items they could understand and control and hoped for assistance for everything else. It would be nice to think that such tenders were issued to caring installers would provide a technically appropriate bid which would allow an effective adjudication - and from memory this did happen, in the main.

The current situation is quite different. Today, many of those responsible for the development of tender documents tend to stand behind the published standards using them as either a barrier or a shield. Unfortunately there are many cabling standards, each one valid in its own way, to cover everything from the performance of components, infrastructure design (which components and where they go), infrastructure planning and installation and, finally, the commissioning of the end result. And although there are many standards they frequently conflict with each other or are found to be inappropriate for the application or nation in which they are quoted. The best example of these is ANSI/TIA/EIA-568-B - which is a very effective standard for the specification of telecommunication cabling design. However, a statement such as "provide cabling in accordance with ANSI/TIA/EIA-568-B" cannot be applied in the UK since the standard demands installation practices which are incompatible with other primary UK standards such as BS 7671: 16th Edition of the Electrical Wiring Regulations.

Certain non-UK based, but international, industry bodies that provide "industry qualifications" such as BICSI recognise these facts stating that "at all times, a designer is responsible for knowing the local standards and codes that apply".

Unfortunately, this knowledge is not assessed. The FIA White Paper covering its relationship with BICSI addresses this specific issue (www.fia-online.co.uk/pdf/WWhites/wp0307.pdf).

As a result the FIA is seriously considering a UK qualification which is targeted at those both creating tenders and responding to them. The qualification has the working title of "Specification of telecommunications infrastructure installations" and is being developed with a view to acceptance by City & Guilds or Open College Network organisations.

The principle purposes of this qualification are twofold. One key outcome is to ensure that those preparing tenders are able to understand the potential incompatibilities between the standards that they choose to reference for components, design and commissioning while highlighting the existence and contents of the applicable planning and installation. The other outcome is to teach those responding to tenders the correct forms of response when tenders are badly written - in order to minimise contractual difficulties, legal disputes etc. It should be highlighted that this qualification is not restricted to optical fibre - it will be written to apply to all telecommunications cabling technologies.

The development work for this qualification is only just beginning but is not expected to involve a lengthy gestation. If any readers are interest in either undertaking the qualification or becoming involved in its development then they should contact either the FIA Technical Director (mike.gilmore@btinternet.com) or the FIA Qualification Director (john@lucidos.co.uk).

This article was published in Networking+ in June 2007



CATS and MICE

Most readers involved in telecommunications/IT cabling will be aware of the Category system of component performance. In Europe we have Cat. 5 (equivalent to 5e in the US), Cat. 6 and Cat. 7 balanced cables together with cabled optical fibre Categories OM1, OM2, OM3 and OS1. The BS EN 50173-x:2007 standards contain additional categories for specific types of premises - including plastic and plastic-clad optical fibres in industrial premises. However, the new standards will not be remembered for new CATS - in the long term it is more likely to be the MICE that catch the eye.

MICE is the system of classifying the environment in which the cabling has to function - "M" stands for "mechanical" characteristics, "I" covers "ingress", "C" addresses the "climatic/chemical" aspects while "E" represents the "electromagnetic" domain.

Each group (M, I, C and E) has three assessment levels e.g. M₁, M₂ and M₃ within which the environment becomes more "aggressive". So a M₁I₁C₁E₁ classification represents a relatively benign overall environment, such as an office, whereas the M₃I₃C₃E₃ classification harbours some pretty tricky conditions in which cabling is required to operate.

The MICE concept was founded in Europe during the development of EN 50173-3 but is now completely harmonised at international level in IEC 24702:2006 and in North America within ANSI/TIA/EIA-1005. MICE is also used in other standards and, in due course, cables and connecting hardware will be advertised with their MICE classifications.

All these aforementioned standards address cabling within industrial premises. However, in Europe the concept is applied to generic (structured) cabling for all types of premises and this widening of application is also finding favour in new international standards for generic cabling.

Two specific aspects of the MICE approach are worthy of close attention. The first is "C" - the climatic/chemical group of criteria. Within C, operating temperature is critical. Historically, the operating temperature of a cable was that of its immediate surroundings - i.e. the ambient temperature. Commonly available balanced cables (of all Categories) have a maximum operating temperature of 60° C - above which they, in effect, "fall apart".

The boundary condition for environmental classification C₁ is therefore 60° C - C₂ and C₃ both having a maximum of 70° C. However, the advent of Power over Ethernet (PoE), and the future promise of PoEplus, creates a situation in which the cables become net producers of heat and the operating temperature has to take this into account. Therefore the ambient temperature as originally defined is no longer a basis for assessing the environmental classification.

The "E"lectromagnetic assessment is possibly the most powerful aspect of MICE where E₁ represents low level external electromagnetic interference with E₂ and E₃ becoming increasingly "nasty". For optical fibre this has no impact whatsoever but balanced cabling demands improved electromagnetic immunity as we move from E₁ to E₂ to E₃. This is now addressed in the new BS EN 50173 standards for structured cabling (and in the proposals for Category 6_A and 7_A cabling at international level) where cabling transmission performance is specified separately from electromagnetic immunity characteristics. The immunity of unscreened cabling is defined using TCL and ELTCTL while screened cabling uses coupling attenuation.

This separation of transmission and immunity characteristics also presents some opportunities for clear design rules in the field of "sheath sharing" where multiple applications are transported within the same cables.

Some may find it strange that an article produced by the Fibreoptic Industry Association focuses on PoE and balanced cabling - but the FIA believes that you need understand all transmission technologies to identify your own strengths and weaknesses.

This article was published in Networking+ in May 2007



If you already receive **networking+** magazine you will have seen that the FIA produces a half-page editorial in each issue. In order to save space in this Newsletter we have arranged for all recipients of this e-mail to also receive a free-copy of **networking+**. So - you can keep in touch with the FIA and the other contributors to this broad-based, well balanced networking magazine. If you want to download the text of earlier **FIA** articles go to <http://www.fia-online.co.uk/earticles.htm>.

How about sponsoring a Newsletter?

The FIA Newsletter continues to develop and we are now offering the opportunity to sponsor each of our bi-monthly Newsletters. The sponsors details will appear on each page and be hyperlinked to their web-site and e-mails as appropriate. For more details contact Jane Morrison via jane@fiasec.demon.co.uk

FIA announces Standards Sponsorship package

The amount of standards activity with which the FIA are involved has been steadily increasing over the past few years. The FIA Technical Director manages the work of an impressive range of standard groups at UK, European and international level covering all cabling technologies. This brings great benefits in that the FIA is always at the forefront of technology changes and is able to provide its membership with an unrivalled degree of technical assistance. Indeed it is this involvement that has allowed the FIA to extend its coverage to co-host the TIA-B without any significant financial outlay.

However, the cost of supporting such a wide range of standardisation activity has also increased dramatically over the last two years.

This is primarily due to an explosion in the workload in Europe more than at international level, which very clearly reflects the final realisation of network convergence and the impact that IP technologies are having in the core, access and customer premises arenas. That is not to say that international work has stopped - far from it, with new publications covering enhanced performance copper cabling design standards and a key revision to produce an international installation standard for telecommunication cabling standard in development.

The key differentiation between European standards and that of the international community is that European standardisation produces, almost automatically, British Standards and the UK. The FIA is a UK-based organisation even though it has overseas members. Those overseas members appreciate the value of British Standards and in many cases, adapt them to their own needs.

Faced with increasing costs of standards support, the FIA decided in mid-2007 to focus its funding on UK and European standardisation and to seek external sponsorship for its work at international level. The FIA Council is pleased to announce that it has obtained adequate funding for September 2007 - September 2008.

Paul Bateson (Chairman of the FIA) said, in a recent interview, that **“the completion of the standards sponsorship deal and the more recent decision regarding the formation of the TIA-B, with its wider technology base, both represent landmark changes for the FIA and its membership.”**

“These agreements together with the further expansion via the potential co-hosting arrangements of the remaining telecommunications infrastructure trade associations offer more opportunities for the FIA to not only maintain but to improve the level of service it currently provides to its members”.



Are you an FIA member? Have you got any NEWS?

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It can, therefore, promote the activities of Members to other Members.
Articles, product information, news items etc. are always welcome.
Please send the information via email (jpg illustrations) to Jane Morrison via jane@fiasec.demon.co.uk

Matt Davies - new FIA Certified Trainer

Matt Davies has become the first person to become an FIA Certified Trainer via the rigorous examination process for trainers under the FIA Qualification Scheme. Previous FIA QS Certified Trainer awards were made under “grandfathering” rights awarded to FIA Approved Training organisations. Well done Matt and his supporters at Total Communications Training Limited - it was learning experience for all of us.



Clinton Thesen - CMS



Clinton Thesen, a new personal member of the FIA, has been awarded Certified Measurement Specialist under the FIA Qualifications Scheme

Welcome to the scheme Clinton!