



*News & Information about the EWF and the IAB/IIW*

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Learning how to weld.

## EDITORIAL

Welding is the most widely used technology by manufacturers to join metals and alloys efficiently and to add value to their products.

Most of the familiar objects in modern society, from buildings and bridges, to vehicles, computers, and medical devices, could not be produced without the use of welding.

Welding needs to be done properly, so that neither catastrophic failure of constructions can occur, nor repairing is necessary. Failure will create serious damage to people, also represent significant economic losses and the cost of repairing an unacceptable weld can be 5 to 6 times the cost of the first weld.

The application of welding technology is strongly regulated by standards which are essential to assure quality, facilitate reliability, flexibility, and scalability, and to streamline regulatory compliance.

European Welding Federation (EFW) and International Institute of Welding (IIW) are welding organisations in which international expertise in welding and related technologies is assembled. The organisations have been tracking manufacturing industry needs and trends and developing guidance documents and technology exchange mechanisms to support companies seeking to adopt best practice and standards in welding.

The welding industry encompasses a wide variety of "users" of welding techniques as companies, universities, and other organizations that provide the equipment, materials, processes and support services for welding, with a diversity of needs and goals that need to be attended.

The industry needs to ensure that welds will have

"zero defects," and establish practical methods which achieve that result. In order to reach this goal there is a crucial need for talented people, and manufacturers want to attract people to welding who will help improve their products and their productivity. This is where EFW/IIW has a role to play since it creates the bridge necessary to facilitate reaching this goal through the development and support on implementation of guidelines that link standards with practice, in a simple way.

EFW has developed a comprehensive training, qualification and certification system, applied to both people and companies, harmonised on a world-wide basis. The system is based in harmonised training guidelines. A quality assurance methodology has been developed. The system can be used in the frame of lifelong learning which is well recognised worldwide and in EN and ISO standards. The most important standards that refer directly or indirectly the EFW/IIW system are: EN ISO 14731; EN ISO 3834; EN ISO 14554; EN 1090; EN 12732; EN 15085-2; EN 13445-4; EN ISO 14555; EN ISO 17660; ISO 11745 and ISO 24394. Also the UE directives such as PED, CPD, SVPD make reference to the EFW/IIW system via the EN harmonised standards.

As it is more completely integrated to the design and manufacturing cycles of products, welding is being accepted as crucial to improving the life-cycle costs, quality and reliability of manufactured goods, that is why it is more and more important to companies to have qualified personnel and EFW/IIW system is a way to achieve the correct qualification level in welding.

## NEWS

### NEW IAB ANB APPLICANT

Tunisia just got its applicant ANB status.

### RENEWAL OF THE EWF BOARD

EWF Members will elect a new Vice-President and two Directors in December.

### NEW EWF MEMBER

Georgia was accepted as EWF member in the last EWF General Assembly.

## EVENTS

### EWF projects workshop

9 December 2010  
Oeiras, Portugal  
[www.ewf.be](http://www.ewf.be)

### EWF Board of Directors and General Assembly Meetings

9 - 10 December 2010  
Oeiras, Portugal  
[www.ewf.be](http://www.ewf.be)

### IAB Meetings Paris, France

January 2011  
Assessors Workshop - 17/01  
Group A - 18/01  
Group B - 19/01  
IAB GM - 20/01  
Database of Exams - 20/01  
[www.iwelding.com](http://www.iwelding.com)

## FIFA World Cup 2010

### ISO 3834 Manufacturers Certification Scheme is going from strength to strength in South Africa

The EWF/IIW ISO 3834 Manufacturers Certification Scheme is going from strength to strength in South Africa, where 15 companies from the structural steel and pressure vessel industries have been certified since the Scheme was launched in 2008. 27 more companies have applied to be audited by the Southern African Institute of Welding (SAIW), an EWF/IIW Authorised National Body for Company Certification (ANBCC).

One recently certified company, DSE Structural Engineers and Contractors, has played a prominent

Materials. Part 3 is the quality level recommended for structural fabrications and on-site construction but fabricators do have the option to apply for the more stringent Part 2.

"From a marketing perspective, ISO 3834 certification gives us a competitive edge when tendering, particularly on projects involving European contracts," said DSE QA manager Natasha Esterhuizen. "More and more, we see it becoming a requirement during the tendering stage.

ISO 3834 has also helped increase our awareness



"Cape Town stadium" - DSE fabricated the roof steelwork excluding the compression ring for the new Cape Town stadium, built for this year's FIFA World Cup.

role in key stadium projects for the 2010 FIFA World Cup, which took place in South Africa in June and July. DSE contributed about 8700 tons of steel to the three flagship stadiums – Soccer City in Johannesburg, which hosted to both the opening game and the final, Moses Mabhida Stadium in Durban and Green Point Stadium in Cape Town. It also did minor work for Nelson Mandela Bay Stadium in Port Elizabeth.

DSE is one of three South African structural steel fabricators certified to ISO 3834 Part 3, Quality Requirements for Fusion Welding of Metallic

of the need to focus on the quality of welding, a core process of structural steel fabrication. This awareness has filtered down to the welding foremen and the role they play in output of quality.

DSE Structural Engineers and Contractors, a division of Aveng (Africa) Limited, is South Africa's largest structural steel fabricator, employing up to 100 welders at any given time in its Vanderbijlpark workshop.

*Issued on behalf of Southern African Institute of Welding*

## Education, Examination and Certification of European Plastics Welder: the Italian experience

As everybody knows, a Guideline concerning the education, examination and certification of plastics welders was approved and issued in EWF in 2004 (Doc. EWF 581-01), with a scheme based on different Modules and covering the most diffused welding processes (e.g. heated tool, electrofusion, hot, gas), materials (e.g. PE, PVC, PP) and their industrial applications. This subject is quite sensitive in Italy, due to the diffusion of manual and semiautomatic machines and the consequent need of qualified welding personnel, at least for the most critical applications. The Italian approach to this subject took carefully into account the market orientation, with special reference to the Gas and Water companies: a certification scheme based on a national standard is running in Italy in that field since 1988; therefore, it was decided by the National Standardisation Organisation (UNI) to harmonise the existing certification scheme to the European standard EN 13067 "Plastics welding personnel - Qualification testing of welders - Thermoplastics welded assemblies", also adopted by

the EWF Guideline. At the end of this process, now it is possible in Italy to adopt a national certification scheme harmonised with the European one. It should be noted that the Doc. EWF 581-01 is a singular Guideline in the EWF scenario, due to the content oriented to the final certification; on the other hand, the above mentioned standard (EN 13067) in its Scope says that "Gas and water utility network industries with alternative qualification programmes are excluded from this standard", and this point can generate some confusion among the possible final users.

Finally, a revision of the Guideline 581-01 is expected in order to consider the experience gained in the last years among the ANBs; this revision will be probably finalised after the approval of the revision of the standard EN 13067 by CEN TC 249.

**Michelle Murgia**  
*Istituto Italiano della Saldatura*

## EFW and EN 1090

### The best combination to assure competence in welding of steel structures!

The new EN 1090 takes care about “welding” as it should be done! Being directly related to the “Construction Products Directive” (CPD), the use of the EN 1090 is a simple “must” for the industry in the near future. That means that a large number of companies in Europe but also outside of Europe for those who want to deliver goods to Europe, has to set up a system that complies with the rules as described in the EN 1090 standard. These rules depend on the type of constructions, the materials used, the type of load and the fabrication complexity of the product. The rules for welding include in general the need for qualified welding procedures, qualified welders and welding operators and the need for formal welding coordination. That’s where the standard refers to the EN ISO 14731, where the EWF/IIW education and qualification system is given in Annex A.

This very detailed “formal” link from a standard to our system is unique so far. Even more when considered that the application of the EN 1090 in Europe is not obligatory, but via the harmonised EN 1090-1 directly connected the CPD, which makes it as a law! It is clear that many authorities throughout Europe will require the EWF/IIW levels for welding coordinators, at least for the “Responsible Welding Coordinator”, and most certainly for the execution classes EXC3 and EXC4. But for the execution class EXC2 there might be a problem. Here we find quite a lot of companies that manufacture relatively simple constructions, but that will be forced to apply the rules for welding coordination as well. They might

EXC	Steels (steel group)	Reference standards	Thickness (mm)		
			t ≤ 25 <sup>a</sup>	25 < t ≤ 50 <sup>b</sup>	t > 50
EXC2	S235 to S355 (1.1, 1.2, 1.4)	EN 10025-2, EN 10025-3, EN 10025-4 EN 10025-5, EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	B	S	C <sup>c</sup>
	S420 to S700 (1.3, 2, 3)	EN 10025-3, EN 10025-4, EN 10025-6 EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	S	C <sup>c</sup>	C
EXC3	S235 to S355 (1.1, 1.2, 1.4)	EN 10025-2, EN 10025-3, EN 10025-4 EN 10025-5, EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	S	C	C
	S420 to S700 (1.3, 2, 3)	EN 10025-3, EN 10025-4, EN 10025-6 EN 10149-2, EN 10149-3 EN 10210-1, EN 10219-1	C	C	C
EXC4	All	All	C	C	C

a Column base plates and endplates ≤ 50 mm.  
b Column base plates and endplates ≤ 75 mm.  
c For steels up to and including S275, level S is sufficient.  
d For steels N, NL, M and ML, level S is sufficient.

have not enough work for someone with an existing wide EWF / IIW qualification. Here too, EWF will present a solution soon. There is an ad-hoc group working on a new Guideline that specifically takes care about the problems of this group of companies. This Guideline will be quite “open” to access (possibly including a “grandfathering-route”) and will use a selection of the topics as described in the EWF/IIW Guideline IAB-252. Those who will apply for one of the “real” EWF/IIW courses later, will experience formal recognition of the modules already covered in this new course. With this extension of the EWF scheme, we hope to suit the needs of smaller sized companies in the steel construction area in due time!

Henk J. M. Bodt IWE  
Bodt Welding Consultancy

## IIW/EFW Personnel Certification Scheme (PCS)

Safety and profit depend on technical control of welding operations. Key staff in all welding related activities need to have an appropriate level of competence in welding technology and its application. In addition to employing competent and tested welders, manufacturers should ensure that engineers, designers, technicians, and inspectors who deal with welding matters have proven relevant competence. This is increasingly becoming a contract requirement: a trend which is expected to accelerate as new Standards for welding come into force. ISO 14731 - Welding Co-ordination - Tasks and Responsibilities requires people with welding or welding related responsibilities to be able to demonstrate that they are competent to carry out those responsibilities. In turn, ISO 14731 is a key component of ISO 3834 – Quality Requirements for Fusion Welding of Metallic Materials, a widely quoted International standard in product standards and specifications, for example for pressure vessels, structures and railway vehicles.

The IIW/EFW Personnel Certification Scheme (PCS) provides a way to assess and recognise job competence. It defines the profile of education, knowledge, experience and responsibility required for a range of welding tasks, and provides a professional assessment procedure. Certification is concerned with current competence rather than historical attainment and periodic renewal is required. Therefore the scheme provides a convincing way of supporting companies seeking to achieve compliance with ISO 14731.

PCS certificates must not be confused with IIW/EFW Diplomas. The latter testify that the holder demonstrated the appropriate level of knowledge of welding technology at one particular point in time. The diplomas awarded are, like a degree, valid for life. There is no check on whether the individual has kept up to date with the

technology or whether he/she has continued to be involved in it. As an extreme example, a person could gain an International Welding Engineer diploma by doing the full course within a few months of graduating with a university degree in engineering. There is no requirement for industrial experience, and this person would still be a properly qualified International Welding Engineer 20 years later, even if he/she had spent the entire 20 year period in a completely unrelated occupation.

Therefore IIW/EFW diplomas are a statement of historical attainment. In contrast the PCS has three main objectives:

- Testify that the applicant has demonstrated the appropriate level of knowledge of welding technology at a point in time. The knowledge requirement is the appropriate IIW/EFW Diploma.
- Require the applicant to have been working satisfactorily on specified welding tasks and to have exercised specified responsibilities appropriate to the level of certification sought over two years of the three years period prior to certification.
- Require the applicant to demonstrate that he/she is keeping up to date with welding technology; that is, maintaining and developing his/her knowledge base.

Certificates are valid for three years only after which, if the holder wishes to be recertified, he/she must demonstrate that relevant competence and knowledge has been maintained. Taking risks with regard to competence in welding could, literally, lead to disaster. By using the PCS, these risks can be avoided.

Tim Jessop  
EFW President

## Three New Projects Lifelong Learning Programme 2010



**B-PROF**, Informal Training Recognition in Welding, is a Grundtvig project looking to set up an APL – Accreditation of Prior Learning system for workers who do not have a formal education in welding, but with work experience that informally certifies them as welders. The project will promote employability and requalification of older workers in welding.

The Consortium is made up of EWF (PT), ISQ (PT), CESOL (ES), SRE (ES), IzV (SI) and CPI (SI) and work will begin in October 2010.

**INNOVJOIN**, Innovation in Distance Learning Welding Courses, was submitted by IMS-BAS in Bulgaria and is an LdV - TOI, looking to implement distance learning techniques for welding education in ES, SK, BG and TR. Implementation will be based on an interactive tool developed by SLV translated and adapted to each target country.

Partnership includes EWF (PT), IMS-BAS (BG), SLV (DE), CESOL (ES), VUZ (SK), and GSI SLV-TR (TR).

**ACCESSWELD**, Improvement on the Accessibility of Welding Related Training Courses, was submitted by IS in Poland. It is also an LdV-TOI project and aims to create improved accessibility to welding related courses, through best practice cases developed by the Swedish partner. Main target audiences are supposed to be secondary school students.

The partnership includes EWF (PT), IS (PL), LTU (SE), ISQ (PT), IIS (IT), MHE (HU) and ASR (RO).

## Projects Workshop December 9th 2010, Portugal

EFW is organising the 1st EWF Projects Workshop to be held on December 9th 2010, just before the EWF General Assembly, at ISQ in Portugal.

The Workshop was thought, not only, as an opportunity for the promotion of ongoing projects but even more importantly, to allow an exchange of ideas between members, as well as an opportunity for participants to become more familiar with EU projects.

The Workshop will be comprised of a series of presentations during the morning where those members that have ongoing European projects will have the opportunity to talk about them,

their objectives, tasks and outcomes. Following the presentations, a round-table discussion will be held, in which participants can express their own needs, expectations and difficulties when addressing EU projects.

In the afternoon, a series of practical demonstrations of some of the tools that are being developed and used in these projects will take place and the attendees will have the opportunity to try them out. For the afternoon activities, trainees from ISQ's welding school as well as other trainees from nearby training centres will participate.

## Funding Opportunity for Preparatory Visits



The EC offers the possibility for institutions to organise Preparatory Visits in order to allow participants to discuss and delineate future project proposals under the Leonardo da Vinci action.

These are managed by the different National Agencies and it is through these that applications must be submitted.

Funding is made available for staff from the participating institutions to visit a host country for the visit. These visits are meant to cover the following aspects:

- Defining the aims, objectives and methodologies of a future project;
- Defining partner roles, responsibilities and tasks in future projects;
- Develop a work plan for a future project, including methods for monitoring, evaluation and dissemination;
- Complete the project/partnership application form;

Considering the realization of the Projects Workshop and EWF meetings to be held in December 2010, contacts have been made with several partners in order for visits to be organized in Portugal, during this period.

## Two New Proposals Submitted

On July 2010, two new proposals were prepared under the Support for European Cooperation and Training Programme. One of them was submitted by EWF, RAILWELD - Promotion of a harmonised certification scheme for railway track welders, aiming at the promotion and awareness-raising of the harmonised training and qualification system that has been implemented by the RAILS SAFE and RAILS SAFE2 projects.

Under the same programme, IIS submitted a proposal, H&S-EDUPRO, aiming at the training and certification of personnel as Health and Safety Welding Coordinators and Environmental Welding Coordinators, by transferring the existing expertise in Italy to 4 other countries – SK, BG, RO and HU.

### REMINDER

1st EWF PROJECTS  
WORKSHOP

9th of December 2010