

**Safety Assessment Federation**  
**Welding procedure and welder approval testing**  
**Interpretations**



<b>Interpretation number</b>	01
<b>Status</b>	Issue 04
<b>Issue date</b>	28 <sup>th</sup> September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 to 14 Introduction
<b>Subject</b>	Previous approvals

**Situation**

The introductory sections of these Standards state, “This European Standard does not invalidate previous approvals made to former National Standards or Specifications or previous issues of this standard”. How will this be interpreted by SAFed Member Companies?

**Interpretation**

Subject in all cases to technical correctness, existing BS4870, BS EN288-3 & 4, and BSEN ISO 15614 Series certification will normally continue to be accepted by SAFed Member Companies in accordance with the following guidance:

For welding procedure approvals requests for acceptance under the equivalent clause should be accompanied by all original certification/documentation including laboratory test reports. The SAFed Member Company will then review the certificate and if deemed necessary additional testing will be required to comply with the requirements of current standards.

If previous certification is Considered technically equivalent SAFed member companies will issue an additional certificate E1 showing the new range of approval. A Certificate E1 will be endorsed “In our opinion the attached welding procedure approval is considered to satisfy the intent of the technical requirements of BS EN ISO15614-1”. A charge will be made for this review.

For example, if a BS EN288-3: 1992 certificate has no macrophotograph Image this will be considered unacceptable. Similarly a 120° bend will not be considered technically equivalent to a 180° bend. However, if the EN standard calls for a test which has not been carried out on the previous approval, e.g., impact tests, hardness survey, then additional testing or re-approval will be required (see Interpretation 15) to encompass the additional test requirements an additional sample welded in accordance with the original welding parameters and witnessed by a SAFed member company issuing the documentation will be required.

**NOTE** BS EN ISO 15613: 2004 has replaced EN288-8: 1995 for Procedure Qualification based on Pre-Production welding test. Since this document requires the Testing and Range of Qualification to be in accordance with the relevant part of EN ISO 15614 a similar technical review of documents should be undertaken.

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<b>Interpretation number</b>	02
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference:</b>	BS EN 287-1, clause 9.3 & national foreword
<b>Subject</b>	Confirmation of validity

**Situation**

The Clause requires “prolongation” of welder approvals by the examiner/examining body at two yearly periods. What criteria must be satisfied for “prolongation”?

**Interpretation**

In order to prolong a welder's qualification test certificate, the SAFed Member companies considers it good practice for the following variables to be confirmed and traceable to demonstrate that the welder has carried out welding representative of the original qualification test:

- welding process(es)
- product type (pipe, plate, branch)
- type of weld
- material group
- welding consumable (designation)
- material thickness (can vary providing it is within the original range of qualification)
- outside pipe diameter (can vary +/- 50% of initial test piece)
- welding position
- weld details

The following conditions will need to be satisfied before the Member Company can prolong a welder approval:

- The employer/welding coordinator has signed the approval certificate at six monthly intervals in accordance with paragraph 9.2, prolongation.
- Records of volumetric testing on production or test welds within the range of approval are provided. This will generally involve results of radiography, ultrasonic testing or fracture/bend testing and macro section\* in the form of reports which must be readily traceable to the welder's approval, and identifies the WPS(S) that have been used in production.

\* for fillet welds only

SAFed recommends that the radiograph/test reports covering each six month period in the preceding two years (i.e. the basis for employer updating) are provided for review. However as a minimum two reports must be available for prolongation purposes which must have been completed in the last six months.

**NOTE 1** A surface inspection only is not acceptable.

**NOTE 2** SAFed Member Companies will apply the above requirements to requests for Prolongation Approvals to BS EN ISO 9606-1 to 5 and BS EN 14732

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<b>Interpretation number</b>	03
<b>Status</b>	Issue 04
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN 287 1, Annex C
<b>Subject</b>	Job knowledge test

**Situation**

BS EN 287 provides for an optional 'Job Knowledge Test' will SAFed Member Companies insist on this test or offer it as an option?

**Interpretation**

SAFed Member Companies will not insist on the 'Job Knowledge Test' at the present time but will offer the test as an option.

The test will comprise twenty multiple choice questions given by the Engineer Surveyor, usually at the time of welding of a testpiece. The questions will cover safety requirements, parent materials, consumables, welding defects, approvals and the process in question. Only one test will be needed per process with additional questions if a second process is introduced. Job knowledge will not normally be re-examined at the two yearly prolongation unless there is some reason to question the welder's knowledge.

It should be noted that whilst the Job Knowledge Test will not be a mandatory SAFed requirement, it will be mandatory in some other European countries. It is therefore recommended, particularly for companies hoping to export to European Community (EC) or European Free Trade Area (EFTA) countries.

NOTE The above also applies to BS EN ISO 9606- 1 to 5

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<b>Interpretation number</b>	04
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1, clause 8.3.1.1 and table 3
<b>Subject</b>	Procedure tests applicability for austenitic stainless steels

**Situation**

All austenitic stainless steels are included in Group 8 of CR ISO 15608. Does this mean that a procedure test in one austenitic stainless steel covers all other austenitic stainless steels?

**Interpretation**

No this is not always true. BS EN ISO 15614-1 Table 3 Note C allows approval for steels in the same sub-group. For example ASTM A312 316L conforms to Group 8.1. Table 3 therefore gives approval for all other Group 8.1 steels e.g. ASTM A312 304L but does not give approval for Group 8.2. E.g. ASTM A312 309H.

**NOTE 1:** This interpretation is contrary to that given in Issue 01.

**NOTE 2:** With respect to filler materials the approval range covers other filler materials with equivalent mechanical properties, same type of covering, core or flux, same nominal composition and the same or lower hydrogen content according to the designation in the appropriate European standard.

The important reference is that which refers to composition and approval is limited to filler materials of the same nominal chemical composition.

Thus while parent materials may be covered by the same materials group/ sub group used for the procedure test, the consumable used for the procedure test may not be suitable for these other parent materials.

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<b>Interpretation number</b>	06
<b>Status</b>	Issue 03
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN287-1, clause 5.4.D and BS EN ISO 15614-1: clause 8.4.3.b
<b>Subject</b>	Branch connections

**Situation**

How are welders and welding procedure approvals for branch connections to be approved and tested to EN287-1 and BS EN ISO 15614-1

**Interpretation**

In EN287-1 2011 Clause 5.4.D and BS EN ISO 15614-1 2012 Clause 8.4.3.b a butt weld in pipe also qualifies branch connections with an angle  $\geq 60^\circ$ .

The material grade/thickness, weld metal thickness and diameter of the branch will be as the approval range of the pipe butt weld joint.

If a procedure qualification for branch connection with full penetration is to be approved this should be examined and tested in accordance with Table 1 of EN ISO 15614-1 For pressure applications the branch connection approval should be supplemented by a butt welded test piece using the same welding variables to ascertain the mechanical properties.

For a branch connection welder approval the test methods are detailed in Table 1 of EN287-1. Following visual examination the requirements are for fracture test or 2 macro section or radiographic testing. Fracture testing is not a practical option for branch connections. In the absence of details on radiography in EN287-1 the radiographic examination requirements of EN ISO 15614-1 Table 1 should be applied, i.e. for outside diameter  $>50\text{mm}$  provided that the joint configuration will allow meaningful results.

Similarly ultrasonic examination may replace radiography for outside diameters  $>50\text{mm}$  provided the joint configuration will allow meaningful results.

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<b>Interpretation number</b>	07
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 Table 7 and EN287-1: Table 6.
<b>Subject</b>	Pipe and plate qualifications

**Situation**

Will all qualifications on pipe cover qualification for plate.

**Interpretation**

In both standards for outside pipe diameters greater than  $D > 25\text{mm}$  the range of qualification is  $\geq 0.5D$  (25mm Min). In addition in EN287-1 Clause 5.3 a, it states that welds in pipes, outside diameter  $D > 25\text{mm}$ , cover welds in plate. Therefore SAFed Member Companies will accept that.

- a) for Weld Procedure Qualifications and Welder Approvals that qualification in pipes of outside diameter  $D > 25\text{mm}$  will cover plate.
- b) in both standards for  $D \leq 25\text{mm}$  the range of qualification is confined to  $0.5D$  to  $2D$  and will not cover plate.

This interpretation may also be applied to BS EN ISO 15614-2 and BS EN ISO 9606-2

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<b>Interpretation number</b>	10
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 Table 3 Note a.
<b>Subject</b>	Yield strength criteria

**Situation**

Some steels such as BS EN10025: 1993, S355J2G3, have varying yield strengths for a range of thicknesses. Would the yield strength criteria apply within the same grade of steel. e.g. does 20mm S355J2G3 qualify 10mm to 40mm when yield would appear to restrict it to 17mm to 40mm.

**Interpretation**

PD CR ISO 15608: 2000 15608 states that steels should be grouped according to yield strength and alloy content.

It is the opinion of SAFed that it is not intended to differentiate within a steel specification by thickness for that particular steel.

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<b>Interpretation number</b>	11
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 table 3
<b>Subject</b>	Range of qualification for carbon steels

**Situation**

What is the range of qualification for Carbon Steels?

**Interpretation**

All materials covered by BS EN 15614-1 are grouped in accordance with Table 1 of PD CR ISO 15608

In general carbon steels produced to European standards conform to one of the sub-groups of Group 1 dependent on the specified yield strength. The range of qualifications in Table 3 covers carbon steels with equal or lower specified yield strength steels of the same group.

As an example BS EN10025, S355 Grade steel is a Group 1.2. The range of approval for this material would be Group 1.2 steels with  $R_{eH} \leq 355 \text{ N/mm}^2$  and all Group 1.1 Steels.

Carbon Steels produced to American standards may conform to one of the sub-groups of Group 11 due to the specified maximum carbon content.

In Table 3 the range of qualification for Group 11 covers steels in the same sub-group and any lower sub-group within the same group. e.g. ASTM A106 Grade B is Group 11.1

The range of approval for this material would be all Group 11.1 steels.

In addition SAFed Member companies will continue to accept that Group 11.1 steels will cover Group 1.1 steels with equal or lower specified yield strength than the original material.

SAFed confirm that subject to a technical review by the Member Company a weld procedure qualification based on a Group 1 steel may be acceptable for a similar Group 11 material providing that the carbon content of the Group 11 material is restricted to 0.24% maximum.



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<b>Interpretation number</b>	12
<b>Status</b>	Issue 04
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 clause 8.4.2

**Situation**

What is the range of approval for welding positions to BS EN ISO 15614-1:

**Interpretation**

For positional approval in plate and pipe, qualification is given according to the heat input, and the requirements for a hardness survey and Charpy impact testing.

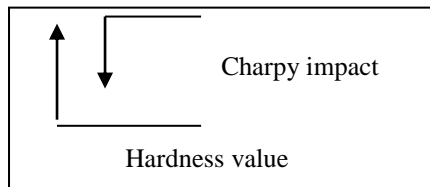
Where neither are required, any position approves all positions, except vertical down e.g., for austenitic stainless steels.

**NOTE** The positional approval may be limited by changes in other variables e.g., transfer mode.

BS EN ISO 15614-1 states “for example, butt welds in plate the highest heat input position **is normally** PF and the lowest PC” SAFed Members have previously considered the lowest heat input position to be overhead. In the absence of recorded values of heat input in each welding position SAFed Members will continue to use the existing positional approval.

Where Charpy impact testing or hardness criteria need to be fulfilled, the following positional approval applies:

Highest Heat Input - Vertical-Up  
Flat  
Horizontal  
Overhead



Lowest Heat Input - Vertical-Down

For each condition (hardness value, Charpy impact), the range of approval is in the direction of the arrow.

- e.g. (1) Hardness only, overhead would approve all positions, except vertical-down.  
(2) Hardness and Charpy impact, overhead\* and vertical-down. Thus for plate, two test pieces would be required.

For welder approval position, consult the relevant table in BS EN 287-1

Notes:

\*Hardness testing is performed on the weld test plate conducted in the overhead position.

\*\* Charpy impact test specimens are taken from the test plate conducted in the vertical-up position.

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<b>Interpretation number</b>	15
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1, table 1 and para.7.4.5
<b>Subject</b>	Impact test temperatures for unknown applications

**Situation**

For steels with specified impact properties, what is the appropriate impact test temperature when the application is unknown?

**Interpretation**

BS EN ISO 15614-1, table 1, Note d states that impact tests are required for materials  $\geq 12\text{mm}$  thick and having specified impact properties. Application standards may require impact testing below 12mm thick. The test temperature shall be chosen by the manufacturer with regard to the application or application standard but need not be lower than the parent metal specification.

Where the application is not known, the impact tests should first be attempted at the conditions required by the material specification. If this is not achieved, then a certificate may be issued providing a statement is added in the remarks column reporting that the procedure is only suitable for applications where the impact properties shown on the E3 certificate are acceptable to the Application Standard.

It should be noted that BS EN ISO 15614-1, clause 7.4.5 requires that where multiple welding processes are qualified in a single test piece, impact test specimens shall be taken from the weld metal and HAZ that include each process where practicable. This may also apply if there are changes within a single process joint e.g., a change in the type of electrode covering.

This should be a consideration for materials  $>12\text{mm}$  thick if 10mm x 10mm Charpy Specimens are used.

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<b>Interpretation number</b>	16
<b>Status</b>	Issue 03
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1, clause 8.3.1.3 and table 3.
<b>Subject</b>	Range of approvals for dissimilar metal joints

**Situation**

The range of approval for dissimilar metal joints is given in BS EN ISO 15614-1, table 3& 4. Does this mean that all materials in each of the groups are approved?

**Interpretation**

No, Notes A, B and C from both tables 3 and 4 need to be adhered to. The philosophy given in BS EN ISO 15614-1 clause 8.3.1 must be followed for each of the dissimilar materials involved, also the welding consumable used for the test must be suitable for welding the other steels for which approval is given.

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<b>Interpretation number</b>	17
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN 287-1 table 7, table 10
<b>Subject</b>	Parent metal thickness and fillet weld size

**Situation**

What is the range of approval for parent metal thickness and fillet weld size when carrying out fillet weld welder approval?

**Interpretation**

The range of approval for the parent metal thickness is in accordance with BS EN 287-1, table 7. All fillet weld sizes welded on this base metal range are then approved.

In accordance with BS EN 287-1:, table 10 single layer fillet welds only cover single layer, whilst multi layer fillet welds cover single and multi layer fillet welds.

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<b>Interpretation number</b>	19
<b>Status</b>	Issue 04
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1 table 6 and clause 8.4.3. a.
<b>Subject</b>	Fillet welding similar and dissimilar thickness

**Situation**

Clause 8.4.3.a. indicates that approval of a butt weld also includes approval for fillet welds. What is the approved range for parent material and throat thickness when fillet welding similar and dissimilar thicknesses?

**Interpretation**

The thickness of the butt weld should be used in conjunction with Table 6 to give the material thickness range for fillet welds and is applicable to each of the components of the fillet welded joint.

Similarly the weld metal thickness of the butt weld (single or multi run) should be used with Table 6 to give the fillet weld throat thickness range.

Where a thin material is to be fillet welded to a much thicker material and one of the parent metal thicknesses is outside the range approved by the butt weld, a pre-production welding test shall be carried out to simulate the joint to be welded or to include the required thicknesses in the range approved. The range of thickness approved is then applied to each of the components in the joints.

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<b>Interpretation number</b>	20
<b>Status</b>	Issue 04
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1: clause 8.2, related to manufacture
<b>Subject</b>	Technical and quality control of for welding on differing sites

**Situation**

A manufacture's approved Welding Procedure Specifications are valid for welding in workshops or sites under the same technical and quality control. What constitutes this?

**Interpretation**

This clause is intended to allow manufacturers who operate on more than one site, on either a permanent or temporary basis, to use one set of approved WPSs. It is considered that this could apply to welding subcontracted to another fabricator providing that it is carried out under the technical and quality control of the manufacturer who approved the WPS originally (the manufacturer). In order to demonstrate that the welding is under the same technical and quality control at the sub-contractors', the following points should be demonstrated:

- All welding is the responsibility of the manufacturer and documentation is available detailing the manufacturer's authority.
- All welders are approved in accordance with the appropriate part of BS EN287-1, BS EN ISO 9606 series or ISO 14732.

Quality procedures shall describe the following:

- Responsibility for technical and quality control functions at the sub-contractor's site.
- Details of technical control of the welders by the manufacturers.
- Details of requirements for weld examination and acceptance by the manufacturer.

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<b>Interpretation number</b>	25
<b>Status</b>	Issue 05
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 14732 (Fusion welding operators)
<b>Subject</b>	Approval testing of welding operators of mechanised/automatic process and resistance weld setters

**Situation**

ISO 14732 is the specification for the approval testing of welding operators of fully mechanised and automatic processes and resistance weld setters.

- i) How will SAFed Member Companies interpret the requirements of ISO 14732 to define a welding operator so as to be able to determine whether approval is required?
- ii) How will SAFed Member Companies interpret the requirements of ISO 14732 with reference to an approved Welding Procedure Specification/Welding Procedure Qualification Record (WPS/WPQR) to determine the range of approval applicable?

**Interpretation**

There follows the SAFed interpretation of the Situations / actions that will need to be addressed at the appropriate time for Member Companies to be technically correct with respect to the application of the above specification.

For approval in accordance with ISO 14732 the operator will need to follow a pWPS/ WPS. The range of approval for the operator is generally unlimited for the type of welding unit used; this however is on the understanding that he / she works to an approved WPS or approved WPS's produced by the manufacturer that the operator is working for.

The ISO 14732 specification does however have some ranges of approval and not all variables are given an open-ended range of approval. Therefore where the specification does give specific ranges of approval for variables then these shall be shown on the certificate issued by the examiner / examining body.

Note: It is not considered necessary to undertake a further functional knowledge test when a welders qualification is to be renewed via a prolongation by a given notified body.

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<b>Interpretation number</b>	26
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN 287-1
<b>Subject</b>	<b>fillet weld approval clause 5.4b &amp; 5.4c</b>

**Situation**

- Clause 5.4b –

butt welds do not qualify fillet welds or vice versa;

- Clause 5.4c –

when a welder is qualified by butt weld test, a supplementary fillet weld test piece can be welded which shall be in a plate thickness of at least 10 mm and completed using a single layer in the PB position. For this supplementary test the welder shall become qualified for all fillet welds as given for the butt weld qualifications;

**Interpretation**

1. When this option is exercised, the fillet weld should be undertaken at the same time as the butt weld qualification test.
2. It is not permissible to supplement a fillet weld to an existing butt weld qualification, any “independently” tested fillet welds shall be treated as a stand alone fillet weld approval test with the range of approval as for fillet welds.
3. If a multi process butt weld is applicable the candidate should produce a fillet weld in each process for full coverage of butt weld process or be restricted to the process tested.
4. The range of approval shall be based on table 5 butt weld (as per ISO9606-1 draft. Ie: a fillet weld supplementing a 10mm thick butt weld would give a thickness range of 3 – 2t (3 – 20mm) and not as table 7  $\geq 3\text{mm}$ . The diameter range also would apply. For position a HV fillet weld would also give the same range as the butt (a PG butt would give PG, PA, PB)
5. E4 certificate – when the supplementary fillet weld is performed it shall be recorded & details noted on auxiliaries line if applicable. On the auxiliaries approval range, the process and thickness approval limitations as discussed in bullet point 4.
6. If the butt weld test fails to meet the acceptance criteria then a welder approval can be issued for the compliant fillet portion only and will be treated as individual fillet weld test for approval purposes.
7. If the fillet weld test fails to meet the acceptance criteria then a butt weld approval certificate may be issued.



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<b>Interpretation number</b>	27
<b>Status</b>	Issue 02
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN 287-1
<b>Subject</b>	<b>(WQTC) Welder Qualification Test Certificate date of Issue</b>

**Situation**

- Clause 9.1

**9.1 Initial qualification**

The welder's qualification begins from the date of welding of the test piece(s). This is providing that the required testing has been carried out and the test results obtained were acceptable.

**Interpretation**

This is the date to be applied, not the date of completion of the tests.

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<b>Interpretation number</b>	28
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<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS 4871-3 / ASME IX
<b>Subject</b>	Use in relation to harmonised standards

**Situation 1**

ISO 15614- 7 references the applicable standard for manual/automatic and mechanised welder approval tests on tube to tubeplate welder approval applications. There are no direct compatible set of approval conditions within the applicable standard for tube end welding and the approval range based on the standard approval tables are not generally in line with tubeplate conditions. BS4871-3 is still current and many fabricators have existing approvals to this standard, unlike the applicable standard there is no expiry / re-approval or prolongation date provided the 6 monthly employer endorsements are maintained.

**Situation 2**

ASME IX an ASME IX welder qualification has been accepted as a technically equivalent qualification for a PED / harmonised standard. ASME IX permits continual use of the qualification based on 6 monthly employer endorsements without the requirements of the prolongation clause within the harmonised EN287-1 / ISO 9606. Is this acceptable?

**Interpretation**

Where a welder approval qualification is produced or utilised in accordance with BS 4871-3 or ASME IX for harmonised applications (ie: PED) then the rules regarding prolongation as per the harmonised standard should be applied to these certificates / qualifications.

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<b>Interpretation number</b>	29
<b>Status</b>	Issue 01
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BSEN 9606 -1 Para C
<b>Subject</b>	Interpretation of 9606-1
<b>Situation</b>	

In Preperation

**Safety Assessment Federation**  
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**Interpretations**



<b>Interpretation number</b>	30
<b>Status</b>	Issue 01
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN ISO 15614-1, clause 6.3
<b>Subject</b>	Witnessing Welding Procedure Qualification Test Coupons

**Situation**

“Welding and Testing of the test pieces shall be witnessed by an Examiner or Examining Body”.

Does ALL welding have to be witnessed? (For testing refer to Interpretation No. 32)

**Interpretation**

The word SHALL in the clause dictates that it is a requirement that all welding must be witnessed. The witnessing should not be limited to just the 'welding'. SAFed Member Companies interpret a minimum attendance involvement as:

• During the production of a WPQR test piece, all variables relevant to completing the Record of Weld Test must be witnessed and recorded. This should include:

- Weld Preparation and Joint Type/Set Up
- Identification of Materials
- Identification of Consumables
- Gas Flow Rates
- Welding Plant and Electrode Details (if applicable to process)
- Method of Tacking and Application of required Pre Heating
- Pre Heat Temperature
- Position of Test Piece
- Welder/Operator Identification
- Amperage, Voltage and Travel Speed Recording
- Method of Back Gouging (if applicable)
- Recording of Interpass Temperature
- Recording of Run Sequence through to completion

The examiner/examining body should satisfy themselves that welding has been conducted in accordance with the relevant standard

**Safety Assessment Federation**  
**Welding procedure and welder approval testing**  
**Interpretations**



<b>Interpretation number</b>	31
<b>Status</b>	Issue 01
<b>Issue date</b>	28th September 2016
<b>Prepared by</b>	Welding and Materials Committee (WMC)
<b>Approved by</b>	Technical Steering Committee (TSC)
<b>Reference</b>	BS EN 287-1, clause 6.1 and BS EN ISO 9606-1, clause 6.1
<b>Subject</b>	Witnessing Welder Qualification Tests
<b>Situation</b>	

“The welding of test pieces shall be witnessed by an Examiner or Examining Body”.

Does ALL welding have to be witnessed? (For testing refer to Interpretation No. 32)

**Interpretation**

The word SHALL in the clause dictates that it is a requirement that all welding must be witnessed. The witnessing should not be limited to just the 'welding'. SAFed Member Companies interpret a minimum attendance involvement as:

- During the production of a welder qualification test piece all variables relevant to the following of the pWPS or WPS shall be witnessed. This should include:
  - Weld Preparation and Joint Type/Set Up
  - Identification of Materials
  - Identification of Consumables
  - Gas Flow Rates
  - Welding Plant and Electrode Details (if applicable to process)
  - Pre heat temperature
  - Position of Test Piece
  - Welder Identification
  - Amperage, Voltage and Heat Input Monitoring (if applicable)
  - Method of Back Gouging (if applicable)
  - Monitoring of Interpass Temperature

In all cases the examiner/examining body should satisfy themselves that welding has been conducted in accordance with the standard i.e stop/start requirements, positional requirements.

**Safety Assessment Federation**  
**Welding procedure and welder approval testing**  
**Interpretations**



**Interpretation number** 32  
**Status** Issue 01  
**Issue date** 28th September 2016  
**Prepared by** Welding and Materials Committee (WMC)  
**Approved by** Technical Steering Committee (TSC)  
**Reference** BS EN ISO 15614-1, clause 6.3, BS EN287-1, clause 6.1 and BS EN ISO 9606-1 clause 6.1  
**Subject** Witnessing the Testing Weld Procedure Qualification Test Coupons and Welder Qualification Test Coupons  
**Situation**  
The clauses referred to states that “Testing of the test pieces shall be witnessed by an Examiner or Examining Body”.  
Does ALL testing have to be witnessed?

**Interpretation**

The word SHALL in the clause dictates that it is a requirement that all testing must be witnessed. SAFed Member Companies interpret a minimum involvement as:

The requirement for Inspection Body personnel to witness mechanical tests shall be based on a number of aspects:

1. If testing is carried out by a Test House which is not accredited by a National Accreditation Body for the appropriate scope within BS EN ISO/IEC 17025, then all mechanical tests shall be witnessed when the results cannot be verified on examination of the test specimens e.g. tensile/impact.
2. If the manufacturer elects to have the member company coordinate the testing under the above approved BS EN ISO/IEC 17020 Quality Management system then the member company can exercise its discretion to witness tests based on the following:

If a member Company's own approved BS EN ISO/IEC 17025 accredited laboratory performs the tests. Tests may be witnessed by the Engineer Surveyor.

If a member Company sub-contracts tests to an approved BS EN ISO/IEC 17025 accredited laboratory, witnessing of tests is at the discretion of the member company, based on control of its subcontractor through supplier audit and site assessments (to the BS EN ISO/IEC 17020 standard) etc. In all cases the examiner/examining body should satisfy themselves that testing has been conducted in accordance with the relevant standard.

**Safety Assessment Federation**  
**Welding procedure and welder approval testing**  
**Interpretations**

