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Chapter 1 : EN ISO - calendrierdelascience.com

ISO specifies requirements for the content of welding procedure specifications for arc welding processes. The variables listed in this International Standard are those influencing the quality of the welded joint.

It is identical with ISO It supersedes BS EN A list of organizations represented on this committee can be obtained on request to its secretary. This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application. Compliance with a British Standard does not of itself confer immunity from legal obligations. Summary of pages This document comprises a front cover, an inside front cover, the EN ISO title page, pages 2 to 10, an inside back cover and a back cover. The BSI copyright notice displayed in this document indicates when the document was last issued. Amendments issued since publication Amd. Date Comments Li ce ns ed C op y: Arc welding ISO Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member. A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions. This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April , and conflicting national standards shall be withdrawn at the latest by April This document supersedes EN The variables listed in this standard are those influencing the quality of the welded joint. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document including any amendments applies. EN , Welding consumables â€" Shielding gases for arc welding and cutting. EN , Tungsten electrodes for inert gas shielded arc welding and for plasma cutting and welding â€" Codification. NOTE For some applications it may be necessary to supplement or reduce the list. Welding procedure specifications cover a certain range of material thickness and also cover a range of parent materials and even welding consumables. Some manufacturers prefer additionally to prepare work instructions for each specific job as part of detailed production planning. A WPS may cover a group of materials. If the equipment does not permit control of one of either variable, the machine settings shall be specified instead. The range of application for the WPS shall then be limited to equipment of that particular type. This applies to 4. The distance from contact tip nozzle to the surface of the work piece. Designation, manufacturer and trade name. Mode of metal transfer: Joint Type and Weld Type: Any Special Baking or Drying: Gas Flow Rate - Shielding: Weaving maximum width of run: It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter. Revisions British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions. It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards. Buying standards Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Standards are also available from the BSI website at http: In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested. Information on standards BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Information regarding online access to British Standards via British Standards Online can be found at http: Copyright Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act no extract may be reproduced, stored in a retrieval system or

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Chapter 2 : ISO - Estonian Centre for Standardisation

ISO was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 44, Welding and allied processes, Subcommittee SC 10, Unification of requirements in the field of metal welding, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

There should also be spaces where logos should go. All you need to do is reference the PQR number which will allow any reader of your WPS to trace back to the original qualifying document. As you already know, PQRs always have approval ranges based on what was welded for the approval of that specific test. One of the main points in how to elaborate a WPS is that you may use these approval ranges to limit your specification, but in some cases you need to specify accurately what will be welded on the job. The first example for this is the product type: This WPS is meant for piping work. That is not the point of the welding procedure specification though, as you should specify the details so that there is no room for doubts when a welder interprets this document. The same goes for the weld type, in which some standards will approve welding fillet welds by performing a butt weld test. Welding processes are pretty straightforward. Base Material Details The base material details are also quite straightforward. These groups are what define which base materials should be welded with this WPS. EN X2CrNiMo , but while preferable, it is not mandatory, as long as the base material groups are correct. In this case, the thickness range is exactly the approval range limits of the PQR. While this is perfectly acceptable in regards to standards, you should restrict the limits of your WPS in order for them to be accurate with the amperage, voltage and travel speed parameters you would not want to weld a 3 mm plate with the same parameters you would use for a 24mm plate. My suggestion would be to use a WPS for small thicknesses and small diameters, and a WPS for bigger thicknesses and bigger diameters more, if the project has a lot of different pipe or plate sizes. Always use a range of thicknesses and diameters though, even if they are a bit strict. Welding positions are quite important, and you should plan for them ahead of time. The safest way to go at it is to put them all in your WPS, as it is approved by the PQR, but the best way to proceed is to define which are the positions to be used in the shop floor, which will mostly be PA, PC and PH. Filler Material Details Getting into the filler materials or consumables, in my experience there have been some misconceptions on some of the requirements here. Like the base materials, in the filler materials you should preferably use ISO specifications and classifications. But once again it is not something required. The commercial name for a given filler material is not mandatory as per ISO , it is not an essential variable unless you are using the following processes: In regards to the diameter or filler material size, according to ISO , you can change it, so long as you take into consideration the heat input requirements and, as such, I would recommend you to have 2 to 3 options here e. This information will probably come in your gas certificate along with the commercial name, which is something that is not at all required to put in your WPS, however, you probably want to put it, especially if you work with more than one gas supplier. This way your welders will know exactly which gas tank they should pick up and avoid any problems with your client about the specified gas for the job at hand. Flow rates are important, they make the difference between a welder being able to control the torch easily and assuring a sound weld, with no oxidation either on the root or the top side, which means this value should be thought out and based upon previous experience, for both the shielding and backing gases. Joint Details While the joint details are only intended to give some guiding lines for the welders, their importance should not be underestimated. It is very hard to define exactly the number of passes on the weld layer configuration, and as such you should have, at most, a range of the maximum number of layers to be made. Preparation methods do not need a lot of details, you should just specify if this welded joint is going to be grinded, machined, etc. The weld details are an essential variable so they are of the utmost importance, but you just need to specify whether the joint will have material, gas or no backing, or if it will be welded in a single side or both sides. You may mention the fact that it could be a single or multi layer weld, but that is not so important, as that information will already be available on the welding passes themselves. The detailed description of how each pass should be welded. You may put a range of layers e. Name the processes to be used for the specific welding pass Filler Material: The filler material should always be

metallurgically, physically and chemically compatible with the base material and should be chosen prior to this WPS elaboration. In this case you just have to associate it to the corresponding welding process and pass. The fact that the filler material diameter or size is not an essential variable gives you some freedom in what to insert here, however, as the heat input is an essential variable, you will need to take care in selecting a proper diameter. The rule of thumb is to use a small diameter for the first passes, and raise the diameter as you weld more layers. On higher layers you can raise the amperage, voltage and travel speed to gain some productivity while maintaining the heat input levels, but for that you also need a larger rod, electrode, or in the case of semi-automatic processes, a higher wire feed speed. These parameters are the most critical to assure a sound weld. Amperage has a direct influence on the heat input and also defines how a welder will control his puddle. In case of a semi-automatic process you will not control the current directly. You should either use previous experience to define these values, or hire an experienced consultant to help you with them. In the case of semi-automatic welding, the voltage is a set value that will remain the same throughout the welding pass, and should be defined, like the current, with previous experience in mind, or with the expertise of an experienced consultant. Polarity will have a big influence on the deposit rates of your weld, but it will also influence your penetration. Travel Speed should always be accounted to an acceptable heat input, however, if you are using manual welding, you can have a wider range of values, as you will have to take into account that each welder has different techniques and may reach sound welds with very different travel speeds. Heat Input is a critical value that has to be calculated. All the other parameters have to boil down to bring this to acceptable values, as it will be a way to determine if a weld is sound or not. Although less important, they should be mentioned. The most important here would be the torch angle and number of electrodes. The torch angle will directly influence the morphology of the weld bead. The oscillation is mostly used for machine welding, but you can define the limits of the weaving that a welder should restrict himself to. Details of back gouging are only relevant if you are performing welding from both sides, and could have some information of the electrode used, how much thickness and width to be gouged, etc. Stick-out has an effect on the heat developed on the electrode, causing it to eventually raise or decrease the deposit rate. The preheat temperature is stated on your PQR, and according to ISO it should not be lower than what is stated there. As such you could opt to go with the minimum value or if you find there is an extra need for preheating, you may do so e. Post weld heat treatment is perhaps one of the most important aspects of your welding, if it is verified to be necessary. In high thicknesses it is mandatory in pretty much every welding code, in Cr-Mo steels as well, in order to prevent the forming of cracks due to three dimensional cooling rates or the high temperability of these Cr-Mo steels. The time field is the duration of the heat treatment at the highest temperature, usually 1 to 2 hours, depending on the steel and application. Revisions and Approval Finally, the revisions should be numbered or lettered , with the signatures of the persons responsible for writing the wps, verifying it and approving it, to be provided to your client to sign and approve it themselves.

Chapter 3 : Welding Procedure Specifications

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Chapter 4 : NF EN ISO - [PDF Document]

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Chapter 5 : UNE-EN ISO - Documents

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Chapter 6 : NF EN ISO - Janvier

Devil in the Grove: Thurgood Marshall, the Groveland Boys, and the Dawn of a New America.

Chapter 7 : DIN EN ISO - European Standards

ISO was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 44, Welding and allied processes, Subcommittee SC 10, Unification of requirements in the field of metal welding, in accordance with the Agreement on technical cooperation.

Chapter 8 : download En iso

La presente norma Ã¨ la versione ufficiale della norma europea EN ISO (edizione ottobre). La norma, che fa parte di una serie, specifica i requisiti per il contenuto tecnico delle specifiche di procedura di saldatura per i procedimenti di.

Chapter 9 : WeldNote - Welding Management Software

Specifies requirements for the content of welding procedure specifications for arc welding processes. This standard is part of a series of standards, details of this series are given in EN ISO , Annex A.