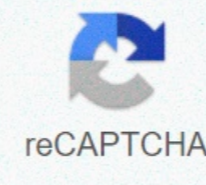




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## Section ix of the asme code

ASME Title IX is a set of rules, instructions and requirements for welding, watering and fusing qualifications. This is a reference code that helps BPVC construction codes qualification as a welder or welding operator, Brazer or Soldering Operator, and Fuser or Fusing Operator. Underpart DE ASME Section IX Part QG - General Requirements Part QW - Welding Part QB - Brazing Part QF - Fusing Mandatory Supplement Non-Mandatory Appendix Now, we can see the rules, guidelines and requirements for welding and welder qualification according to ASME SECTION IX, the above subparts QG and QW are related only to welding process qualification. So we discuss the part of QG and part of QW in Details. Part QG - General Requirements for Welding, Brazing, and Fusing In this part consists of all the general requirements that are required to follow welding, brazing, and thaw qualification. These requirements, which are particularly applicable to only one process, as explained in their individual general requirements article. The QG part consists of the following clauses: QG 101 - Specifications of the procedure QG 102 - Qualification of the procedure Records QG 103 - Performance Qualification QG 104 - Performance Qualification Records QG 105 - Variables QG 106 - Organisational Responsibilities QG 107 - Ownership Transfers QG 108 - Qualification for previous publications. QG 109 - Definitions The above subdivision (QG 105) and organisational obligations (QG 106) may be divided into the following clauses: QG 105 - Variables QG 105.1 - Procedure QG 105.2 key variables - Performance QG 105.3 essential variables QG 105.4 - Non-significant variables QG 105.4 - Non-significant variables QG 105.4 - Non-significant variables QG 105.4 - Non-significant variables variables QG 105.5 - Specific process variables QG 105.6 - Applicability QG 106 - Organisational responsibility QG 106.1 - Procedural organisational obligations Qualifications QG 106.2 - Organisational responsibility for performance qualification QG 106.3 - Organisational obligations for simultaneous qualification Now we see the implementation of the second part of Title IX of ASME, which is particularly applicable to welding and welder qualifications. Part QW - Welding QW consists of all requirements related only to welding and welder qualifications. It is further divided into five articles listed below: Article 1 - Welding General Requirements Article 2 - Welding Qualification Article 3 - Welding Performance Qualification Arly 4 - Welding Data Article 5 - Standard Procedure Specification ASME Part IX uses WPS, PQR and WPQ Documents or Forms used for Welding Procedure Qualification, Welding Performance Qualification and Welder Performance Qualification. WPS - Welding procedure specifications PQR - Procedure Qualification Records WPQ - Welder Performance Qualification If you want to learn what Wps, PQR, and WPQ detailed, then click here IN WPS - This document or form to specify important variables, non-important variables, additional variables, and other variable ranges, etc. PQR - This document or form stores actual variable data, test data and results, etc. WPQ - This document or form record Actual Variables Data, Qualification Ranges, Test Data and Results Data. Now we can see the summary QW part of the Welding article at a glance. Article 1: General welding requirements QW-100 The following article covers the general requirements for welding procedure for the Welding Procedure Specification (WPS), performance qualification register (PQR) and welding performance qualification (WPQ) ASME, Title IX. Article 2: Qualification of welding procedure QW-200 The article covers the rules, guidelines and requirements for the qualification of the welding procedure. This helps prepare WPS and PQR. This section lists all relevant variables, non-essential variables and additional variables Each welding process separately. This article will help you specify a variety of important variables, non-important variables, and additional variables while wps is provisioning. According to ASME, WPS is used to determine the ranges of all variables, and the PQR form is used to save the value of each important variable, non-significant variables, and additional variables. Article 2: Qualification of welding performance QW-300 This article covers the rules, guidelines and requirements for the performance qualifications of welders or welding operators. This helps to prepare WPQ forms. This article provides a list of important variables in welding performance qualification. WPQ forms must record the value of each important variable used and list a range that is qualified for each important variable. This article covers liability, types of tests, records, welder identification, posts welder performance qualification. Welder and Welding Operator can be qualified to interpret and record the results of destructive and non-destructive Tests. Article IV - Welding QW-400 This article covers all welding data required and used for the preparation of welding procedure specification (WPS), Performance Qualification Records (PQR), Welder Performance Qualifications (WPQ). This article contains the following Welding Data: Joints Base Materials Fill materials Preheat Post weld heat treatment Gas Electric properties Techniques This article also includes P-Number, F-Number and A-Number for connecting materials and welding materials. This article covers maximum qualification limitations for thickness and diameters of welding procedure and performance qualification, as well as qualification positions for welding and welder operator qualification. Article 5 - Standard procedure specification This Article covers rules, guidelines and requirements for adoption, and application of the Welding specifications (SWPSs). If you want to increase the accuracy, efficiency and productivity of your manufacturing running and save your time and cost of manufacturing then you can use our various digital tools to help you with your daily manufacturing activity Click here to know about our digital tools... If you want to increase your knowledge by learning from us, then you can join our various video course in the field of fiction, click here for more details on our courses. The forms listed below are the basis for checking welding procedures and welder performance: WPS - welding procedure specification PQR - procedure qualification record WPQ - welder performance qualification There are three stages of qualifying welders and welding procedure specifications in Section IX ASME boiler and pressure vessel guide (BPVC). First, prepare the welding procedure specification (WPS). WPS must contain the minimum requirements specified in the code. WPS provides instructions for welding by specifying ranges for each variable. Secondly, the procedure qualification entry (PQR) is used to verify WPS. WPS is qualified for welding procedure qualification test coupons. The variables and tests used shall be recorded in the PQR. Thirdly, performance welders are controlled welding performance qualification test coupons. Variables and tests used with specific qualifying variables shall be recorded on the welders' performance qualification (WPQ) entry. Another way to conceptualize these requirements is given below: WPS Specifies: Variables Specification: Irrelevant variables Non-significant variables Non-significant variables PQR Record: Actual variables Tests and results WPQ Record: Actual variables Specify ranges Qualified tests and results ASME Title IX Articles Overview of the items covered by Title IX of ASME are summarised in the articles of Title IX below. , purpose and use of WPS, PQR and WPQ, responsibility, test positions, types and objectives of tests and studies, test procedures, acceptance criteria, visual examination and radiographic examination. Article II - Welding qualifications QW-200 II, Article II, covers the rules for the preparation of WPS and PQR. Each process is listed separately in qw-250 with important, complementary and non-essential variables. The WPS plan determines the value or range of each significant additional variable listed for each important welding process. PQR shall record the value of each significant and, where appropriate, additional significant variable used. If an important variable has been changed, wps needs to be reviewed and re-examined with a new PQR, unless the review can be supported by existing PQR. Similarly, if the code requires toughness, additional important variables will become additional important variables. If the change is made to an additional significant variable, WPS shall be reviewed and re-selected with the new PQR, unless the existing PQR can be supported for limited applications. Article III - Welding qualifications QW-300 III Article III covers the production of WPQ entries. Each welding process is listed separately in qw-350 with important welding performance variables. The WPQ form must record the value of each important variable that you use and list the range that is qualified for each important variable. Article III covers liability, type of tests, data, identification of welder, locations, diameter, expiry and renewal of qualifications. Welders and welding operators may be qualified by visual and mechanical testing or test coupon radiography or initial production weld radiography. Article IV Welding data QW-400 IV covers welding variables used to prepare and qualify WPS, PQR or WPQ as appropriate. Some welding variables are listed below: Joints Base Materials Filler Materials Positions Preheated Postweld Heat Treatment Electrical Properties Technique IV also includes tasks P-Numbers (ASME base materials), S-Numbers (other materials), F-Numbers (grouping filler metals) and A-Numbers (weld metal chemical analysis). Wps qualification thickness thresholds and WPQ thickness and diameter threshold tables have also been added. There are tables of welding positions, which means that a welder who qualifies in a specific position is qualified to weld within different positions as needed. In addition, test coupons, removal of test pieces and dimensions of the test mooli shall be determined. Article V - Standard welding specifications QW-500 V, Article V covers the rules for the adoption, demonstration and application of the standard welding procedure specifications (SWPS). Contact information Phone 407-880-4945 ----- (Advice is only available to customers) FAX Postal address General information: bob@WeldingEngineer.com Customer Support: bob@WeldingEngineer.com Webmaster: