

ARAMCO QUESTIONNAIRE

Q1. WHAT IS REVERSE POLARITY

- DCEP

Q2. WHAT POLARITY IS USED FOR TUNGSTEN ELECTRODE FOR GTAW PROCESS

- STRAIGHT POLARITY (DCEN)

Q3. RT ACCEPTANCE FOR PROCESS PIPING

- ASME B 31.3 TABLE 341.3.2

Q4. WHAT IS DEFECT?

- ALL DISCONTINUITIES AFFECTING THE QUALITY OF WELD METAL ARE DEFECT (AN UNACCEPTABLE IMPERFECTION)

Q5. WHAT IS THE BEST NDT METHOD FOR FINDING THE LAMINATION ON NON-BEVELLED PIPE?

- UT

Q6. WHAT IS GREEN STRIP IN TUNGSTEN ELECTRODE

- PURE TUNGSTEN

Q7. WHAT IS ESSENTIAL AND NON ESSENTIAL VARIABLES

- **ESSENTIAL: VARIABLE THAT HAS AN AFFECT ON THE MECHANICAL PROPERTIES OF THE WELDMENT AND IF CHANGED BEYOND THE LIMIT SPECIFIED BY THE STANDARD WILL REQUIRE THE WPS TO BE REQUALIFIED**
- **NON-ESSENTIAL: THE VARIABLES THAT MUST BE SPECIFIED ON A WPS BUT DOES NOT HAVE A SIGNIFICANT EFFECT ON THE MECHANICAL PROPERTIES OF THE WELDMENT AND CAN BE CHANGED WITHOUT REQUALIFICATION OF WPS BUT NEEDS TO REVISE THE WPS.**

Q.8 WHAT IS THE CAUSE OF CRATER PIPE/ CRACK

- A. LACK OF WELDER SKILL AND HIGH CURRENT, WRONG ARC TERMINATION.

Q9. WHICH POSITION HAS THE HIGHEST HEAT INPUT

- A. VERTICAL UP PROGRESSION TENDS TO GIVE THE HIGHEST HEAT INPUT

Q10. QUALIFICATION OF WPS FOR THE PROJECT IS THE RESPONSIBILITY OF?

- A. CONTRACTOR OR MANUFACTURE

Q11. WHAT IS THE SIZE OF CONCAVE FILLET WELD?

- A. THROAT SIZE

Q12. HOW TO MEASURE THE STRENGTH OF FILLET WELD?

- A. THROAT

Q13. FOR WHAT DIAMETER OF PIPE, WE HAVE TO USE EXTERNAL LINE-UP CLAMPS IN PIPELINE?

- LESS THAN 16"
- 20 "FOR TIE IN
- 30" FOR CEMENT LINE
- ALL THE ABOVE

Q14. IF TRIANGLE GIVEN AS WELD SYMBOL WHAT IS THE WELD CONFIGURATION?

- A. FILLET WELD

Q15. WHICH PT IS LEAST SENSITIVE?

- A. WATER WASHABLE

Q16. WHICH FLAME IS USED FOR STEEL WELDING?

- A. NEUTRAL

Q17. THE TEMPERATURE IN A MULTI RUN WELD AND ADJACENT PARENT METAL IMMEDIATELY PRIOR TO THE APPLICATION OF THE NEXT RUN?

- A. INTERPASS TEMPERATURE.

Q18. WHAT IS THE ANGLE FOR 6G QUALIFICATION TEST COUPON?

- A. 45 DEGREE

Q19. WHAT WILL YOU CHECK IN ELECTRODE AFTER REMOVAL FROM CONTAINER?

- A. COLOUR CODE, AWS CLASS, MANUFACTURING MARKING (ALL OF THE ABOVE IS THE ANS)

Q20. WHICH DOCUMENTS WILL BE REFERRED BY WELDING INSPECTOR?

- A. WPS, PQR, WELDER DOCUMENTS (ANS IS ALL OF THE ABOVE)

Q21. WHAT IS THE MAIN COMPONENT OF WELD SYMBOL?

- A. REFERENCE LINE

Q22. WHICH IS THE INSPECTION TOOLS?

- A. MEASURING TAPE, FLASH LIGHT, PRESSURE GAUGE, NONE OF THE ABOVE (ANS IS FLASH LIGHT)

Q23. HOW DO WE MEASURE SENSITIVITY OF THE RT FILM?

- IQI (PENETRATOR) (ans)
- DENSITOMETER

Q24. WHAT SHOULD BE THE PROPERTY OF SHIELDING GAS?

- A. THERMAL CONDUCTIVITY AND HEAT TRANSFER PROPERTY, DENSITY RELATIVE TO AIR, EASE WITH WHICH THEY UNDERGO IONIZATION (all are ans).

Q25. WHAT IS THE ACCEPTANCE CRITERIA FOR MPI?

- A. ASME SEC VIII DIV-1 APPENDIX-6 (APPENDIX-4 FOR RT, APPENDIX-8 FOR PT, APPENDIX-12 FOR UT)

Q26. 20 % HOOP STRESS ACCEPTANCE CRITERIA AS GIVEN IN ASME B31.4 IS...

- A. API 1104

Q27. WHICH TEST IS USED FOR FINDING STRENGTH OF THE WELDED MATERIAL?

- A. TENSILE TEST (IMPACT FOR TOUGHNESS)

Q28. WHAT IS THE ACCEPTANCE CRITERIA FOR UNDERCUT AS PER ASME B31.3?

- A. FOR FILLET AND BRANCH WELD $\leq 1.5\text{MM}$ OR $T/4$ OR GIRTH AND GROOVE 1MM ($1/32$ INCH) OR $T/4$ AND ACCUMULATED LENGTH MUST BE 38 MM IN ANY 150 MM OR 25% OF THE TOTAL LENGTH

Q29. WHICH STANDARD REFERRED FOR CROSS COUNTRY PIPELINE WPS?

- A. API 1104

Q30. THE SHIELDING GAS PROTECT THE ROOT FROM OXIDATION? TRUE OR FALSE?

- A. FALSE (PURGING/ BACKING GAS WILL PROTECT THE ROOT FROM THE OXIDATION)

Q31. BEST VISUAL METHOD FOR SURFACE DEFECTS IN CS MATERIALS?

- A. MPI (ANS)
B. PT
C. OTHER NDT

Q32. IN MPI METHOD WHICH DEFECT WILL DETECT?

- SHALLOW SUB-SURFACE AND SURFACE (ANS)
- DEEP SUB-SURFACE AND SURFACE
- SURFACE ONLY

Q33. WHICH POWER SOURCE CHARACTERISTICS WILL USE FOR SEMI-AUTO AND AUTOMATIC WELDING MACHINE?

- A. CV (CONSTANT VOLTAGE)

Q34. DURING WELDING ANGLE OF CHANGE IN ELECTRODE MAKES LARGE CHANGE IN CURRENT AND SMALL CHANGE IN VOLTAGE?

- A. CONSTANT VOLTAGE (CV) POWER SOURCE. (SEMI AND AUTOMATIC WELDING) (ANS)
B. CONSTANT CURRENT SOURCE

Q35. DURING WELDING CHANGE IN ARC LENGTH MAKES LARGE CHANGE IN VOLTAGE AND SMALL CHANGE IN CURRENT?

- A. CONSTANT CURRENT (CC) POWER SOURCE. (MANUAL WELDING)

Q36. WHICH ARE LOW HYDROGEN ELECTRODES?

- 7015, 7016, 7018 (ENDING WITH THE DIGITS 5, 6, 8) (ANS)
- 6010, 7016, 7018
- 7018, 6013, 7016

Q37. PLANAR DEFECTS SUCH AS CRACKS OR LACK OF SIDEWALL OR INTER-RUN FUSION ARE MUCH LESS LIKELY TO BE DETECTED BY RADIOGRAPHY SINCE THEY MAY CAUSE LITTLE OR NO CHANGE IN THE PENETRATED THICKNESS. WHERE DEFECTS OF THIS TYPE ARE LIKELY TO OCCUR OTHER NDE TECHNIQUES SUCH AS ULTRASONIC TESTING ARE PREFERABLE. (ASKED ONE QSTN ABOUT THIS)

Q38. WHEN WELDING DONE ON GALVANIZED MATERIAL WHAT WILL HAPPENS?

- Weld will have lesser strength than threaded joint
- Weld will have lesser strength than socket weld
- Weld will have internal defect
- All of the above

A. WELD WILL HAVE INTERNAL DEFECT

Q39. WHAT DOES PQR CONTAINS?

- Same details as WPS, with results of the tests conducted for the qualification of WPS
- It is a record of occurrences for the event conducted during the qualification activity
- It is containing requirements of testing and reports of qualification required for WPS
- All of the above

A. ALL OF THE ABOVE

Q40. THE TECHNIQUE USED FOR RELIEVING OR LOWERING THE INDUCED STRESS

- Peening
- Restraints
- Thermal heating
- All of the above

A. THERMAL HEATING

Q41. Mention SFA number for E-8018 electrode

- SFA 5.5

Q42. WHAT WILL BE YOUR ACTION IF A PIPE JOINT WITH ELBOW CUT AT SITE AND RE-BEVELED AND GOING FOR FIT UP?

- Conduct RT for the beveled area
- Visually inspect the cut area
- Proceed for lamination check with any NDT method in the re-beveled area before fit-up (ANS)
- Verify the dimension as per drawing
- USUALLY PT IS DOING FOR LAMINATION CHECK AT BEVEL AREA

Q43. WHY IT IS MANDATORY TO CONDUCT PERFORMANCE TEST FOR WELDING OPERATOR?

- To find the internal ability of welder
- To evaluate operator's mechanical ability to operate the welding machines appropriately (ANS).
- To find the hidden ability of welding operator
- None of the Above

- AS PER ASME SEX 9 “The purpose of Performance Qualification is to determine the ability of the person using a material joining process to produce a sound joint. IN OPERATOR PERFORMANCE QUALIFICATION, THE BASIC CRITERION IS TO DETERMINE THE ABILITY OF THE OPERATOR TO PROPERLY OPERATE THE EQUIPMENT to produce a sound joint.

Q.44 WHAT WILL HAPPEN TO THE WELDMENT IF UNIFORM HEAT WILL NOT BE GENERATED THROUGHOUT WELDING OPERATION?

- Slag inclusion
- Undercut at the base metal
- Porosity
- Distortion

A. DISTORTION

Q45. WHY WE USUALLY NOT RECOMMENDED WELD JOINTS ON GALVANIZED MATERIALS?

- The weld joint on galvanized steel has lesser strength than a threaded joint.
- Internal defects will appear after welding on galvanized joint.
- Galvanized coating will get damage due to heat produced during welding.
- All of the above

A. GALVANIZED COATING WILL GET DAMAGE DUE TO HEAT PRODUCED DURING WELDING.

Q46. LOCALIZED AREA WHERE THE BASE METAL SURFACE HAS BEEN MELTED DUE TO THE ACCIDENTAL ARC INITIATION LEADS TO CRITICAL DISCONTINUITY?

- Arc Blow
- Burn Through
- Arc Strike
- Undercut

A. ARC STRIKE

Q47. IF A WELDER QUALIFIED ON PLATE 3G POSITION WHAT POSITIONS HE WILL BE QUALIFIED FOR PRODUCTION JOINT WELDING?

A. 1G, 3G & 1F, 2F, 3F

Q48. What acceptance criteria is applicable for cross-country pipe line?

A. API 1104

Q49. WHAT WILL BE MAIN DIFFERENCE BETWEEN GMAW & GTAW?

A. ONE USE NON-CONSUMABLE TUNGSTEN ELECTRODE AND OTHER NOT, MANUAL AND SEMI AUTO

Q50. WHAT REFERENCE CODE YOU WILL CHOOSE FROM BELOW LIST FOR RT & VT EVALUATION FOR PLANT PIPING?

A. .31.3 (ANS)

b.31.4

c.31.8

d.ASME SECTION VIII

Q51. STRAIGHT POLARITY STANDS FOR?

A. DCEN

Q52. WPS, WPQ, PQR IS ABBREVIATION OF BELOW LISTED?

A. Welding procedure specification, welder performance qualification, procedure qualification record

Q53. WHAT ARE THE 3 MAIN MECHANICAL TESTS REQUIRED FOR PROCEDURE/PERFORMANCE QUALIFICATION?

A. Bend Test, Tensile Test, Toughness test

Q54. MPI ACCEPTANCE CRITERIA FOR PROCESS PIPING IS?

A. ASME SEC VIII Appendix 6

Q55. UNDERCUT ACCEPTANCE LIMIT FOR PLANT PIPING IS?

A. 1/32 INCH (1MM)

Q56. WHAT KNOWLEDGE YOU MUST HAVE PRIOR TO ENTER A WORK SITE?

A. SITE SAFETY RULE

Q57. WHICH ELEMENTS HAVE MORE EFFECT ON THE STEEL CHARACTERISTICS?

- Manganese
- Copper
- Chromium
- Carbon

ANS: CARBON

Q58. IN CROSS COUNTRY PIPELINE FROM WHAT PIPE DIAMETER ONWARDS TWO WELDERS DEPLOYED WELDING JOINT FROM OPPOSITE DIRECTION?

A. 16"

Q59. BACKING GAS HELPS TO PREVENT OXIDATION OF MOLTEN WELD POOL?

A. FALSE (ANS IS SHIELDING GAS)

Q60. HOW TO MEASURE THE CONVEX FILLET WELD SIZE?

A. By measuring Convex fillet LEG LENGTH

Q61. MPT IS USED FOR EXAMINING?

A. SHALLOW SURFACE CRACK AND SURFACE CRACK

Q62. BEST METHOD TO FIND SURFACE DEFECTS ON CARBON STEEL MATERIAL?

A. MPT (IF IN QSTN DIDN'T MENTIONED CS THEN WE HAVE TO CHOOSE PT)

Q63. WHY SAME NDT METHOD CARRYING OUT AFTER PWHT?

A. IT IS AS PER NDT REQUIREMENTS

Q64. BAKING HOURS FOR E-6010 ELECTRODE?

A. NOT REQUIRED BAKING (CELLULOSE ELECTRODE)

Q65. A LARGE WELDING CURRENT CHANGE FROM A SMALL VOLTAGE ADJUSTMENT, WHAT IS THE PROCESS CALLED?

A. CONSTANT VOLTAGE WELDING PROCESS (CV)

Q66. E-6010 ELECTRODE TYPE AND ITS PURPOSE?

A. CELLULOSIC & DEEP PENETRATION AND NOT REQUIRED BAKING

Q67. GREEN STRIP USED FOR TUNGSTEN ELECTRODE SHOWS WHAT CHARACTERISTICS?

A. PURE TUNGSTEN

Q68. MINIMUM PRODUCTION JOINT REQUIRED TO WELD AND ACCEPTED BY NDT FOR QUALIFY A WELDER AT SITE?

A. 3 (ANS)

B. 2

C. 1

Q69. WHICH GAS NOT USED FOR PURGING PURPOSE?

- OXYGEN
- HELIUM
- NITROGEN
- ARGON

A. OXYGEN

Q70. WHAT IS NDT STANDS FOR?

A. NON-DESTRUCTIVE TEST

Q71. WHAT IS THE MINIMUM THICKNESS REQUIRED FOR REPLACE 2 SIDE & 2 ROOT BEND TESTS WITH 4 SIDE BEND TESTS FOR PROCEDURE QUALIFICATION?

A. ASME SEC IX TABLE QW-451.1 NOTE (5) FOUR SIDE-BEND TESTS MAY BE SUBSTITUTED FOR THE REQUIRED FACE- AND ROOT-BEND TESTS, WHEN THICKNESS T IS 3/8 IN. (10 MM) AND OVER.

Q72. WHAT POWER SOURCE USED FOR MIG/MAG WELDING

A. CONSTANT VOLTAGE (CV)

Q73. SECOND NUMBER DENOTES IN FCAW FILLER WIRE FROM BELOW LISTED

- CHEMICAL CHARACTERISTICS
- POSITION
- TENSILE STRENGTH
- None of the above

A. POSITION

Q74. WHAT IS THE MAXIMUM TEMPERATURE PRIOR TO START NEXT PASS?

A. INTERPASS TEMPERATURE

Q75. BEST METHOD TO FIND LAMINATIONS IN A PIPE END WITH OUT BEVEL ?

(NON BEVELD AREA)

- UT (ANS)
- MT
- RT

Q76. A SAMPLE IS SUBJECTED TO CONTROLLED TENSION UNTIL FAILURE IS CALLED?

- TOUGHNESS TEST
- TENSILE TEST
- BEND TEST
- RADIOGRAPHY

A. TENSILE TEST

Q77. WHICH METAL COMPOSITION IMPROVES CORROSION RESISTANCE?

A. CHROMIUM

Q78. A NONMETALLIC SOLID MATERIAL ENTRAPPED IN WELD METAL OR BETWEEN WELD METAL AND BASE METAL.

A. SLAG

Q79. A GAS ENTRAPPED IN THE INTER RUN LAYER DUE TO NOT ABLE TO ESCAPE BEFORE SOLIDIFICATION

- POROSITY (ANS)
- SLAG

Q80. MINIMUM DISTANCE BETWEEN TWO PARALLEL WELD.

A. 20MM OR 3 TIMES THE WALL THICKNESS WHICHEVER IS GREATER.

Q81. WHAT ARE THE TWO MAIN CHARACTERISTICS WILL AFFECT HEAT-INPUT

A. VOLTAGE AND AMPERE

Q82. What do PT standards?

A. PENETRANT TEST

Q83. From the following which is not an arc welding.

- SMAW
- GMAW
- FCAW
- ESW

A. ESW

Q84. WHICH GRADE OF STEEL CAN BE USED UP-TO 400-DEGREE C.

- ASTM A 335 (Specification for Seamless Ferritic Alloy-Steel Pipe for High-Temperature Service)
- A 240 (Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications)
- A 516 (Specification for Pressure Vessel Plates, Carbon Steel, for Moderate- and Lower-Temperature Service)
- A 333 (Specification for Seamless and Welded Steel Pipe for Low-Temperature Service and Other Applications with Required Notch Toughness)

A. ASTM A 335

Q85. WHICH WELDING PROCESS USE NON-CONSUMABLE ELECTRODE

A. GTAW

Q86. POOR ARC SLOPE OUT DURING WELDING MAY LEAD TO

- LACK OF FUSION
- CRATER CRACKS
- UNDERCUT
- CRACKS ANYWHERE IN THE WELD

A. CRATER CRACKS

Q87. WHICH ONE IS THE BEST METHOD FOR REDUCING THE RESIDUAL STRESS AFTER WELDING

A. THERMAL STRESS RELIEVING

Q88. WHICH DEFECT SHALL BE FOUND IN SIDE BEND TESTING

A. LACK OF SIDE WALL FUSION

Q89. POROSITY OCCUR IN WELD DUE TO THE FOLLOWING REASON

A. WET OR DAMP ELECTRODE, NO PREHEAT, NO PROPER CLEANING

Q90. WELDING OF 10" DIA PIPE GROOVE IN HORIZONTAL POSITION AND PIPE IS IN VERTICAL POSITION, WHICH POSITION IS CORRECT

- 2G (ANS)
- 3G
- 5G

Q91. WPS REQUALIFICATION WITHOUT SUPPORTING PQR RETEST

A. JOINT DESIGN

Q92. WPS QUALIFICATION FOR THE PROJECT IS THE RESPONSIBILITY OF

A. MANUFACTURER OR CONTRACTOR

Q93. WHEN TENSILE SPECIMEN BREAKS IN THE BASE MATERIAL OUTSIDE OF THE WELD OR FUSION LINE THE STRENGTH RECORDED MAY BE MOST BELOW THE SPECIFIED TENSILE STRENGTH

A. NOT MORE THAN 5% OF BASE MATERIAL UTS (AS PER API 1104 5.6.2.3 Requirements

The tensile strength of the weld, including the fusion zone of each specimen, shall be greater than or equal to the specified minimum tensile strength (SMTS) of the pipe material but need not be greater than or equal to the actual tensile strength of the material. If the specimen breaks outside the weld and fusion zone (i.e. in the parent metal) at a tensile strength not less than 95 % of that of the SMTS of the pipe material, the weld shall be accepted as meeting the requirements.)

Q94. WELDING ELECTRODE F NUMBER DENOTES

A. **USABLE CHARACTERISTICS**

(AS PER SECTION 9- QW-430 F-NUMBERS QW-431 GENERAL The Following F-Number grouping of electrodes and welding rods in Table QW-432 is based essentially on their usability characteristics, which fundamentally determine the ability of welders to make satisfactory welds with a given filler metal. This grouping is made to reduce the number of welding procedure and performance qualifications, where this can logically be done.)

Q95. FALSE INDICATION IN RT FILM

A. **SOMETIMES CAN BE ACCEPTED**

Q96. ON OPEN SITE WORKING, SERIOUS POROSITY IN MANUAL METAL ARC WELDING IS BROUGHT TO YOUR ATTENTION. WHAT WOULD YOU INVESTIGATE?

- Electrode type
- Power plant type
- Electrode storage
- Day temperature

A. **ELECTRODE STORAGE**

Q97. WHICH METAL COMPOSITION IMPROVES CORROSION RESISTANCE?

A. **CHROMIUM.**

Q98. DURING INSPECTION OF ELECTRODE, WHAT IS IMPORTANT POINT?

A. **AWS MARK**

Q99. WHAT IS THE MAXIMUM PERMITTED SIZE OF LOW HYDROGEN ELECTRODE ALL POSITION?

A. AS PER SAES W-13

PARA 10. Technique and Workmanship

10.1 The maximum allowable SMAW electrode sizes that can be used are given below. The ability of each welder to use the maximum sizes listed in the table shall be checked by the Inspector as early as possible during fabrication. a) **Low hydrogen electrodes 5 mm for the 1G/1F position. 4 mm for all other positions.**

Q100. WHICH WELDING POSITION HAS THE MAXIMUM HEAT INPUT?

A. **Vertical up** (AS PER SAES W-12 THE TIME LAPS DIFFERENCE GIVEN IN VERTICAL-UP DUE TO HIGH HEAT INPUT, PARA 10.7.2 The second or hot pass shall be added as soon as possible after the completion of the root pass, but shall not exceed 5 minutes for vertical down welding with cellulosic electrodes or 15 minutes for vertical up welding.)

Q101. CAPILLARY ACTION RELATED TO WHICH NDT METHOD.

A. **PT**

Q102. LAMELLAR TEARING HAS BEEN OCCURRED IN STEEL FABRICATION. BEFORE WELDING HOW COULD IT HAVE BEEN FOUND BY.

A. **ULTRASONIC INSPECTION**

Q103. WHICH OF THE FOLLOWING DESTRUCTIVE TESTS WOULD INDICATE THE TOUGHNESS OF WELD METAL/PARENT METAL – HAZ.

A. **CHARPY VEE NOTCH**

Q104. WHICH BELOW WELD DEFECT REJECTABLE DEFECTS.

- LOF
- LOP
- CRACKS
- UNDER CUT

A...CRACK

Q105. STORAGE TANK WELDING QUALIFICATION OR ACCEPTANCE CRITERIA?

A. API 650

Q106. 6" PIPE WELDING COMPLETED, RT WAS CARRIED AND COMPLETED HOW YOU CONFIRM/ ENSURE THE SAME JOINT TAKEN?

- Type of IQI, pipe size identification no and other details available with RT film.
- Pipe marking for RT taken circumference area by marker.
- a & b.

A. A&B

Q107. STRA TEST (TENSILE STRENGTH) IS USED FOR?

ANS: THROUGH THICKNESS PROPERTIED IN Z DIRECTION.

Q108. WHY WE ARE DOING PRE-HEAT?

A.TO SLOW DOWN THE COOLING RATE

B.TO IMPROVE WELD ABILITY

A. A & B.

Q109. NICKEL WELDING COMPARISON WITH SS & CS?

A. COEFFICIENT OF THERMAL EXPANSION,

B. WELD ABILITY

A. A & B.

Q110. PIPELINE INTERNAL LINE UP CLAMP SHALL BE USED FOR HOW INCH DIA OR MORE.

A. 16"

Q111. WHAT IS MARTENSITE STATE.

- **Austenite** is γ -Fe, (gamma-phase iron), a solid solution of iron and alloying elements. As a result of the quenching, the face-centered cubic **austenite** transforms to a highly strained body-centered tetragonal form called **martensite** that is supersaturated with carbon.

Q112. WELDER WELDING WHAT IS THE DC POLARITY FOR SMAW PROCESS WORK PIECE WILL BE POSITIVE AND ELECTRODE NEGATIVE.

A. STRAIGHT POLARITY (ANS)

B. REVERSE POLARITY

Q113. WHAT IS THE ACCEPTANCE CRITERIA FOR PT.

A. ASME VIII APPENDIX 8.

Q114. WHICH STANDARD ABOUT 20% HOOP STRESS SPECIFIED ----- AS PER B 31.8.

A. API 1104.

Q115. WHAT IS THE BEST METHOD FOUND LAMINATION IN PIPE BEVEL PREPARED AREA?

PT , UT , PT & UT , MT

A. PT ONLY (IF IN THE QSTN LAMINATION IN CS PIPE WE HAVE TO CHOOSE MT)

Q116. WHAT ARE THE TYPES OF ELECTRODES?

A. RUTILE, CELLULOSIC, BASIC

Q117. IF A WELDER IS QUALIFIED IN 5G POSITION WHICH POSITION HE CAN BE QUALIFIED?

A. 1G, 3G, 4G (ANS)

B. 2G, 1G, 3G

C. 4G, 2G, 3G

Q118. LEAK TEST, WHAT METHOD USED?

A. AIR LEAK, VACUUM BOX, PENETRATING OIL, TRACER GAS

Q119. FUNCTION OF ELECTRODE COATING.

SHIELDING, ALLOY, OXIDATION, ALL OF ABOVE

A. ALL OF THE ABOVE

Q120. -FOR RADIOGRAPHY OF A PIPE, SOURCE INSIDE THE PIPE AND FILM OUTSIDE SINGLE WALL EXPOSURE, AND SINGLE WALL VIEWING?

A. PANORAMIC SHOT

Q121. WHAT 6010 ELECTRODE IN ROOT AND TYPE OF ELECTRODE?

A. GOOD PENETRATION AND CELLULOSIC

Q122. ESSENTIAL VARIABLES FOR WELDER IN SMAW PROCESS?

A. 7 (BACKING, PIPE DIA, P NUMBER, F NUMBER, THICKNESS WELD DEPOSIT, POSITION, CHANGE IN UP HILL TO DOWN HILL AND VICE VERSA)

Q123. HIGH FREQUENCY SOUND WAVE TRANSMITTED INTO METAL AT AN ANGLE, WHAT IS TEST METHOD?

A. UT

Q124. -FOR SMAW WELDING WHICH WILL BE THE ESSENTIAL VARIABLE

• ADDITION OF BACKING B) POLARITY C) 4G TO 1G D) PROGRESSION E) TRANSFER MODE

A. PROGRESSION

Q125. WHAT IS THE MINIMUM REQUIRED LENGTH TO RADIOGRAPH LENGTH FOR QUALIFY A WELDER IN 6" OD PIPE OF P5 MATERIAL?

A) 6 INCH ---- B) 10 INCH ----- C) 12 INCH D) NONE OF THE ABOVE

A. 6 INCH OR 150 MM (AS PER SECTION IX PERFORMANCE QUALIFICATION) (IF IT IS PIPE WE HAVE TO DO THE ENTIRE CIRCUMFERENCE TO COVER THE ALL POSITIONS)

Q126. WELDING FUSION FOR EXAMPLE?

FORGE WELDING – ARC WELDING – RESISTANCE WELDING – THERMIC PRESSURE

A. ARC WELDING

Q127. BUTTERING OR WELD BUILD UP ON THE PREPARED SURFACE SHALL NOT EXCEED THE LESSER OF 1/3RD OF THE BASE METAL THICKNESS OR 10MM

A. TRUE (AS PER W-11)

Q128. EACHSHALL CONDUCT THE TEST REQUIRED BY SECTION IX TO QUALIFY THE WPS USED DURING THE CONSTRUCTION, ALTERATION, OR REPAIR.

A. **MANUFACTURE OR CONTRACTOR**

Q129. WHAT ASME CODE SECTION HAS WELDING ELECTRODE STORAGE REQUIREMENT

A. **ASME SEC II PART C**

Q130. WHICH DEFECT REJECT AS PER ASME B31.3, REGARDLESS SIZE

GAS POROSITY, INTERNAL UNDERCUT, INCOMPLETE FUSION, SUCK BACK

A. **IF (INCOMPLETE FUSION)**

Q131. MINIMUM TEMPERATURE OF PORTABLE OVEN?

A. **65 ° C**

Q132. -WHICH OF THE FOLLOWING FLAME USED IN WELDING STEEL?

Oxidizing flame - NEUTRAL Flame – carburizing flame

A. **NEUTRAL FLAME** (reducing or carburizing flame for alloy steels and aluminum alloys, oxidizing flame for brasses, bronzes, copper, neutral flame for low carbon steel and mild steels)

Q133. WHILE WELDING OF STAINLESS STEEL, IF IMPROPER PURGING DONE, WHAT WILL HAPPENS?

A. **OXIDATION OR ROOT BURN THROUGH**

Q134. CALIBRATION STAND FOR WELDING MACHINE?

ASME IX – ASME B 31.3 – SAES-M-100 – BS 7570

A. **BS 7570 (BS EN 50504) (Welding power supplies shall be validated in accordance with BS 7570)**

Q135. WHAT IS THE WELDER CHECK OF THE ELECTRODE, WHEN REMOVAL FROM THE CONTAINER?

COLOR CODE - MARK BY MANUFACTURE - AWS CLASSIFICATION - ALL OF ABOVE

A. **ALL OF THE ABOVE.**

Q136. PWHT IS CARRIED OUT ON SOME WELDS TO?

A.TO MINIMIZE RESIDUAL STRESS.

B.TO REDUCE HARDNESS

C. A&B

A. **A & B**

Q137. IN PIPE LINE WELDING, WHERE EXTERNAL LINE -UP CLAMP CAN BE USED?

- 16'' dia b. 30'' dia in cement lined pipe c.20'' tie in pipe d. all of above

A. **ALL OF THE ABOVE**

Q138. WHICH METHOD USED FOR LEAK TEST?

VACUUM BOX, B. KEROSENE C. PENETRANT TEST D. ALL OF THE ABOVE

A. **VACUUM BOX**

Q139. WHEN PREHEAT TEMPERATURE WILL INCREASE?

- INCREASE IN THICKNESS
- INCREASE IN CEV
- A&B

A. A & B

Q140. WELDER WELDING WITH HIGH HEAT INPUT CAN RESULT?

- Crack at center line b. crack at HAZ c. under bead crack.

A. CRACK AT CENTER LINE

Q141. WHICH IS CORRECT?

- A DEFECT IS DISCONTINUITY.
- A DEFECT IS A DISCONTINUITY WHICH AFFECT PRODUCT PROPERTIES/ HOMOGENEITY
- A DISCONTINUITY IS A DEFECT WHICH AFFECT PRODUCT PROPERTIES/ HOMOGENEITY

A. A DEFECT IS A DISCONTINUITY WHICH AFFECT PRODUCT PROPERTIES/ HOMOGENEITY

Q142. STORAGE TANK WELDING QUALIFICATION OR ACCEPTANCE CRITERIA?

API STANDARD 650,

API STANDARD 570

ASME SECTION VIII

A. API STANDARD 650,

Q143. AWS INSPECTOR CAN INSPECT WHICH METHOD

A. VT

Q144. CRACK CAN BE ACCEPTABLE IN GUIDE BEND TEST TRUE/FALSE.

A. TRUE

(AS PER ASME SEC IX- QW-163 ACCEPTANCE CRITERIA — BEND TESTS The weld and heat-affected zone of a transverse weld- bend specimen shall be completely within the bent portion of the specimen after testing. The guided-bend specimens shall have no open discontinuity in the weld or heat-affected zone exceeding 1 /8 in. (3 mm), measured in any direction on the convex surface of the specimen after bending. Open discontinuities occurring on the corners of the specimen during testing shall not be considered unless there is definite evidence that they result from lack of fusion, slag inclusions, or other internal discontinuities. For corrosion-resistant weld overlay cladding, no open discontinuity exceeding 1 /16 in. (1.5 mm), measured in any direction, shall be permitted in the cladding, and no open discontinuity exceeding 1 /8 in. (3 mm) shall be permitted along the approximate weld interface.)

Q145. CONCAVE FILLET WELD SIZE DETERMINED BY

- LEG OF CONCAVE FILLET
- THROAT OF CONCAVE FILLET

A. THROAT OF CONCAVE FILLET

Q146. VISUALLY UNLIKE TO FIND THE DEFECT LESS TO FIND IN VT?

ANS: LAMINATION

Q147. WHAT DISCONTINUITY WILL BE APPEARS DUE TO THE IMPROPER TERMINATION OF ARC?

- CRATER CRACK
- POROSITY
- UNDERCUT
- ALL OF THE ABOVE

A. CRATER CRACK

Q148. YOU SEE WELDER USING WRONG ELECTRODE, WILL YOU STOP? WHAT WILL BE YOUR FIRST STEP?

- A. YES, THIS IS VIOLATION (ANS)
- B. (B)THE WELDER DISQUALIFIED
- C. (C)INVESTIGATE AND INFORM SUPERVISOR AND HIGHER MANAGEMENT

Q149. RAPID COOLING OF AUSTENITE STEEL, WHICH STRUCTURE FORMS WITH HARD AND BRITTLE NATURE?

A. MARTENSITE B. PEARLITE C. BAINITE

A. MARTENSITE

Q150. THE DUCTILITY IS MEASURE DURING TENSILE TEST BY

- A. ELONGATION OF THE GAUGE LENGTH
- B. REDUCTION OF AREA AT THE POINT OF FRACTURE

A. A & B

Q151. RELATED TO GAS WELDING PROCESS, WHICH ONE IS NOT TRUE FOR THE FOLLOWING OPTIONS?

- GAS WELDING FOR THIN SHEETS
- GAS WELDING IS SLOWER THAN ARC WELDING
- HEAT GENERATION AND DISTORTION IS LESS COMPARE TO ARC WELDING

ANS. HEAT GENERATION AND DISTORTION IS LESS COMPARE TO ARC WELDING

(AS PER CSWIP 3.1 - GAS WELDING NORMALLY PRODUCES MORE ANGULAR DISTORTION THAN THE ARC PROCESSES.)

Q152. HOW CAN WE MAINTAIN THE LOW HYDROGEN ELECTRODE?

- A. KEEP IN HOLDING OVEN FOR HEATING
- B. MAINTAINS IN QUIVER FOR WELDER USE DURING JOB AWAITING TIME
- C. ALWAYS KEEP IN A HERMETICALLY SEALED CONTAINER
- D. ALL OF THE ABOVE
- E. A & B

A. A&B

Q153. STRENGTH INCREASES, DUCTILITY?

- A. DECREASES B. INCREASES

A. DECREASES (Increasing carbon content increases hardness and strength and improves hardenability. But carbon also increases brittleness and reduces weldability because of its tendency to form martensite. ... Most steel contains less than 0.35 percent carbon)

Q154. IN PIPE LINE WELDING, INTERNAL LINE -UP CLAMP WILL BE REMOVE AFTER WHICH PASS?

- 25% ROOT PASS C. AFTER COMPLETION OF ROOT
- 50% ROOT PASS

A. AFTER COMPLETION OF ROOT

Q155. WHAT KIND OF DEFECT WILL COMES ON SIDE BEND TEST?

- LACK OF FUSION B. CRACK C. POROSITY D. UNDERCUT

A. LOF (LACK OF FUSION)

Q156. A WELD CAN BE ACCEPTED BY VISUAL INSPECTION ONLY?

- YES B. NO

A. YES

Q157. Length of pipe weld in cross country pipeline is? (REQUIRED PIPE LENGTH FOR WELDER QUALIFICATION IN 1104)

- 900 to 1200 MM
- 750 to 900
- 1500 to 1800
- 1200 to 1500

A. MIN 12.75 INCH SO ANS 900 TO 1200

Q158. WELDER HAS WELDED 6" OD, WHAT IS THE MINIMUM DIAMETER HE CAN WELD.

- 2"
- 4"
- 2 7/8"

A. 2 7/8"

Q159. WHAT TYPE OF MECHANICAL PROPERTY WE WILL GET FROM AN IMPACT TEST

- HARDNESS
- TOUGHNESS
- DUCTILITY

A.. TOUGHNESS

Q160. HOW WE CAN AVOID AIR CONTAMINATION IN LOW HYDROGEN ELECTRODE

- KEEP INSIDE THE STORAGE OVEN
- KEEP INSIDE PORTABLE QUIVER
- ALWAYS KEEP INSIDE HERMITICALLY SEALED CONTAINER
- BOTH A AND B

A. BOTH A& B

Q161. 2G POSITION CALLED IN PIPING

A. WELD IN HORIZONTAL, PIPE IN VERTICAL

Q162. PT AT THE TEMP. OF (5-52) IF IT EXCEEDS, WHAT IS THE SOLUTION AS PER ASME SEC. V?

- IT IS NOT POSSIBLE
- IT IS POSSIBLE
- REQUALIFICATION REQUIRED WITH SUITABLE CONSUMABLES
- NONE OF THE ABOVE

A. REQUALIFICATION REQUIRED

Q163. WHAT IS THE DEFECT BEING NOT ACCEPTABLE REGARDLESS OF LENGTH?

- UNDERCUT
- POROSITY
- LACK OF FUSION
- LAMINATION

A. LOF

Q164. INSPECTION TOOL FOR WELD INSPECTION IS?

A)STEEL RULE B)RIGHT ANGLE C)STRAIGHT EDGE D)Flash light

a. FLASH LIGHT

Q165. WHICH DEFECT IS NOT ACCEPTABLE IN PLANT PIPING?

- UNDERCUT
- POROSITY
- LACK OF FUSION
- LACK OF PENETRATION

A. LACK OF FUSION

Q166. BEST NDT METHOD FOR LAMINATION ON WELD IS?

- RT
- MT
- UT
- PT

A. UT

Q167. DURING HEAT TREATMENT AFTER SOAKING, COOLING AT CONTROLLED TEMPERATURE. THE PROCESS IS?

- NORMALIZING
- QUENCHING
- ANNEALING
- TEMPERING

A. ANNEALED

After working the steel (pressing or forging, etc) to size, it is heated to ~900°C then allowed to cool in the furnace to ambient temperature; this reduces strength and toughness but improves ductility

Q168. HYDROGEN INVOLVEMENT IN WELD DUE TO?

A. LACK OF PRE HEAT, MOISTURE, WET OR DAMP ELECTRODE.

Q169. 9 CR 1MO ELECTRODE IS?

- E 7018-1
- E 8018-B2
- E 8018-B3
- E 8018-B8 (ANS)
- For P11 (1 ¼% Cr – ½% Mo) chrome-moly pipe, use either an AWS E8018-B2 H4R or E8018-B2L H4R SMAW electrode, as both are formulated for applications subject to high heat and/or humidity. They also resist hydrogen pick up that can lead to cracking or starting porosity. The E8018-B2L H4R stick electrode contains a lower amount of carbon, which further protects against cracking. Both electrodes work

especially well on boiler and similar piping repairs that require weld tensile strengths above 80,000 psi. On the average they offer tensile strengths in the range of 90,000 to 98,000 psi.

- P21 (2 ¼% Cr – 1% Mo) or P22 (3% Cr – 1% Mo) pipe requires SMAW electrodes with higher chrome content and higher tensile strengths than those used for P11 pipe. Options include AWS E8018-B3L, E9018-B3 H4R or E9018-B3L H4R electrodes, which are good for boiler work and general piping applications. These SMAW electrodes yield tensile strengths in the range of 105,000 to 110,000 psi and generally feature a special moisture resistance coating that protects against hydrogen pick up in service conditions of high humidity or heat.
- Finally, when repairing P91 (9% Cr – 1% Mo or P92 (9% Cr – 2%W – ½% Mo, V) pipe, choose a SMAW electrode formulated to improve creep resistance. Creep is any deformity (buckling, warping, etc) caused by stress and/or heat during the welding process, and higher strength chrome-moly is prone to this occurrence. AWS E8018-B8 H4R, E8018-B8L H4R or E9018-B9 SMAW electrodes can help provide that protection and are good choices for petrochemical or petroleum pipes or other surface applications exceeding service temperatures of 300 F (149 C). They yield tensile strengths between 100,000 and 110,000 psi.

- E 8018 B8

Q170. FOR PREHEAT, WHAT IS THE MOST APPROPRIATE ANSWER IS?

- CS
- SS
- AS
- WET STEEL, TEMP. IS LESS THEN 10 DEG.C

A. WET STEEL, TEMP. IS LESS THEN 10 DEG.C

Q171. IN GAS ARC WELDING (MIG /MAG) COMMON DEFECT IS?

- SLAG
- LACK OF FUSION
- UNDERCUT
- POROSITY

A. LACK OF FUSION

Q172. DIFFERENCE BETWEEN GTAW & GMAW IS?

- ONE IS USING AC & DC ANOTHER NOT.
- BOTH IS USING NON CONSUMABLE ELECTRODE,
- ONE IS CONSIDERED MANUAL & ANOTHER IS SEMI AUTO MATIC.
- ONE IS CONSIDERED MANUAL & ANOTHER IS SEMI AUTO MATIC.

A.ONE IS CONSIDERED MANUAL & ANOTHER IS SEMI AUTO MATIC.

Q173. ESSENTIAL VARIABLE ARE AFFECTING THE MECHANICAL PROPERTIES OF WELD?

- TURE

- FLASE

A. TRUE

Q174. WHICH DEFECT CAN NOT BE IDENTIFIED IN RT?

- UNDERCUT
- LACK OF FUSION
- CRACK
- LAMINATION

A. LAMINATION

Q175. ACCEPTANCE CRITERIA FOR MPI IS?

- Article 6 Section VIII
- Article 4 Section II
- Article 7 Section V
- Article 2 Section V

A. ARTICLE 6 SECTION VIII

Q176. DURING INSPECTION BEFORE WELDING, WHAT YOU WILL CHECK ON THE WELDING MACHINE?

- CALIBRATION OF MACHINE (ANS)
- CURRENT
- MACHINE SETTING

Q177. IF STRENGTH INCREASES DUCTILITY-----?

A. DECREASE

Q178. WHAT IS THE NAME OF THE AREA IN SINGLE V JOINT WHERE WE WELDING ON THE SLANT SURFACE?

GROOVE FACE
BEVEL ANGLE
GROOVE ANGLE
ROOT FACE

A. GROOVE FACE

Q179. PREHEATING IN THE WELD METAL....

- REDUCE THE HARDNESS IN THE WELD METAL

Q180. IF WELDING WITH HIGH CURRENT, WHERE WILL BE THE CRACK OCCURS?

- ROOT SIDE, CENTER LINE, HAZ, ANYWHERE IN THE WELD

A. CENTER LINE (AS PER CSWIP 3.1- LIMIT THE HEAT INPUT, HENCE LOW CONTRACTION AND MINIMISE RESTRAINT).

Q181. MINIMUM REQUIREMENTS ARE MEETING AND YOU REJECT THE WELD DUE TO.....??

- WPS IS TOO OLD
- WPS IS QUALIFIED AS PER SEC-X NOT SEC-XI
- QUALIFIED AS PER API RP 2A
- WPS QUALIFICATION AS PER XI
-????????????????/

Q182. NICKEL WELDING COMPARISON WITH SS & CS?

- HARD TO WELD AND WILL OCCUR LACK OF FUSION DUE TO NICKEL
- HARD TO WELD AND WILL OCCUR LACK OF PENETRATION DUE TO NICKEL
- CAN WELD EASILY

A. HARD TO WELD AND WILL OCCUR LACK OF FUSION DUE TO NICKEL

Q183. INSPECTION METHOD FOR SURFACE DEFECT?

(I) VT (II)PT (III)MT (IV)ALL OF THE ABOVE

A. ALL OF THE ABOVE

Q184. GRINDING THE SURFACE PRIOR TO PT TRUE OR FALSE, WHY?

- A.FALSE- DEFECT WILL BE REMOVED
- b. TRUE- DEFECT WILL BE VISIBLE.

A. FALSE (AS PER SEC-V SURFACE PREPARATION FOR PT RESTRICTED GRINDING DUE TO DEFECT MASKING).

Q185. POROSITY OCCUR IN WELD DUE TO THE FOLLOWING REASON

A.WET OR DAMP ELECTRODES B.WET SURFACE C. LACK OF PREHEAT D. ALL OF THE ABOVE

A. ALL OF THE ABOVE

Q186. WHICH OF THE FOLLOWING WILL CAUSE REJECTION OF THE FILMS..

- UNERCUT, POROSITY, SPATTERS, SLAG, GRINDING MARK
- GRINDING MARK, MECHANICAL DAMAGE, HAMMERING MARK, U/C, TECHNICIAN NOT QUALIFIED
- WATER MARK, MORE DARK IN FILM, FILM MISHANDLING
- WATER MARK, TECHNICIAN NOT QUALIFIED, HAMMER MARK

A.....????????????

Q187. WHEN WELDER RE-TEST REQUIRED?

- Not appearing the test

- 9 months completed without welding
- 12 months completed without welding
- Doubt in welder ability

A. DOUBT IN WELDER ABILITY

Q188. TENSILE STRESS INCREASES, DUCTILITY.....

A. DECREASES

Q189. WHICH IS THE DEFECT LENGTH MEASURED IN RADIOGRAPHY?

- Lack of fusion
- Porosity
- Slag
- Crack
- SLAG

A. SLAG

Q190. PURPOSE OF SHIELDING GAS.....

- Volatile
- Dense
- Water particle spray during welding
- DENSE (ANS)

Q191. IN CROSS COUNTRY PIPELINE LENGTH OF PIPE STRING?

A. 900 – 1200M

Q192. WHICH DIAMETER ELECTRODE OF LOW HYDROGEN CANNOT BE USED EXCEPT IN 1G & 1F POSITION?

A. 5 MM

Q193. WHAT SHOULD BE THE OXYGEN PERCENTAGE IN PURGING OF SS?

A. 0.05 %

(AS PER SAES W-11, THE BACK PURGE FOR LOW ALLOY STEEL SHALL REDUCE THE OXYGEN LEVEL BELOW 1%. THE METHOD OF BACK PURGE AND THE FLOW RATE SHALL BE SPECIFIED ON THE WPS

11.14.5 THE BACK PURGE FOR STAINLESS STEEL AND NICKEL ALLOYS SHALL REDUCE THE OXYGEN LEVEL BELOW 0.05%. AN OXYGEN ANALYZER SHOULD BE USED TO DETERMINE THE OXYGEN CONTENT INSIDE THE PIPE DURING PURGING.)

Q194. THE FOLLOWING MATERIALS ARE UNLISTED IN ASME SEC IX AND SHALL REQUIRE SEPARATE QUALIFICATIONS:

A350 LF787

A707 L5

A350 LF6 MATERIAL SHALL BE CONSIDERED AS P-NO. 1 IN ACCORDANCE WITH ASME SEC IX AND DOES NOT REQUIRE SEPARATE QUALIFICATIONS AS "UNLISTED" MATERIAL.

Q195. WHAT IS THE MINIMUM THICKNESS REQUIRED FOR REPLACE 2 SIDE & 2 ROOT BEND TESTS WITH 4 SIDE BEND TESTS FOR PROCEDURE QUALIFICATION?

A. 3/8 " (10 MM)

Q196. MAXIMUM HEAT INPUT SHALL NOT EXCEED FOR CROSS COUNTRY PIPE LINE WELDING?

A. 1.8 KJ/MM

Q197. HOW MANY TIME WE CAN DO THE REPAIR AFTER RT?

TILL REPAIR RECTIFIED

2 TIMES

3 TIMES

A. 2 TIMES

Q198. FUNCTIONS OF ELECTRODE COATING?

SHIELDING

ALLOY

OXIDATION

A. ALL OF THE ABOVE

Q199. DISTANCE BETWEEN ELECTRODE TIP TO WORK PIECE SURFACE?

A. ARC LENGTH

Q200. ALL EXCEPT ONE OF THESE ESSENTIAL PARTS OF SMAW PROCESS

- WIRE FEEDER
- GROUND CONNECTOR
- ELECTRODE COATING

A. WIRE FEEDER

Q201. DUE TO HIGH WELDING CURRENT INPUT IN SINGLE PASS WELDING, CRACK OCCUR IN WHICH LOCATION

- HAZ
- TOE
- ANYWHERE IN WELD
- CENTERLINE OF WELD

A. CENTERLINE OF THE WELD

Q202. WHICH DEFECT CAN DETECT IN VT

A) UNDERCUT B) OVERLAP C) UNDERFILL D) ALL THE ABOVE

A. ALL OF THE ABOVE

Q203. ASME Section IX for Qualification for Welding and brazing, ASME Sec VIII For

A. PRESSURE VESSEL

Q204. DUE TO WHICH REASON RADIOGRAPHY FILM REJECTED,

- WATER MARK, WRONG IQI, TECHNICIAN NOT QUALIFIED
- WATER MARK, FILM NOT HANDLING PROPERLY, BLUR IMAGE
- FILM NOT HANDLING PROPERLY, BLUR IMAGE, SCRATCH
- ALL THE ABOVE

A. ALL OF THE ABOVE

Q205. FOR GOOD QUALITY SOUND WELD WHOM WILL BE PREPARED WPS

- API INSPECTOR
- WELDER
- INSPECTION DEPARTMENT
- MANUFACTURER OR CONTRACTOR

A. MANUFACTURER OR CONTRACTOR

Q206. CHANGE OF SHAPE OF A PART AS A RESULT OF UNUNIFORM HEATING OR WELDING

A. DISTORTION

Q207. WHICH DEPARTMENT IS RESPONSIBLE FOR WELDER QUALIFICATION, IN CASE OF PERFORMANCE AND ACCEPTANCE.

- INSPECTION DEPARTMENT
- WELDING TEAM

Q208. HOW TO MEASURE THE SIZE OF CONCAVE FILLET WELD?

- LEG LENGTH
- THROAT SIZE
- ALL OF THE ABOVE
- NONE OF THE ABOVE

A. THROAT SIZE

Q209. MINIMUM PREHEAT TEMPARATURE FOR P1 MATERIAL FOR THE THICKNESS $\leq 25\text{MM}$

A. 10 DEGREE

Q210. CRACK WILL OCCURS DUE TO

A. RAPID COOLING, HIGH HEAT INPUT, HYDROGEN IN BASE METAL

Q211. TERMINOLOGY OF A SLANT SURFACE IN WHICH THE WELDER WILL DEPOSIT THE WELD METAL

A. GROOVE FACE

Q212. NDT TECHNICAINS ARE USUALLY QUALIFIED IN ACCORDANCE WITH STANDARD

A. ASNT SNT TC-1A

Q213. WHAT IS THE STANDARD FOR THE STRUCTURAL WELDING CODE?

A. AWS D 1.1

Q214. WHAT IS THE MAIN PURPOSE OF WELDING INSPECTOR DURING WPQT?

a. WITNESS AND INSPECT SPECIMEN

Q215. MINIMUM PREHEAT TEMPERATURE FOR THE P1 MATERIALS

AS PER ASME B 31.1 TABLE 331.1.3 EXEMPTIONS TO MANDATORY POSTWELD HEAT TREATMENT P-NO. AND GROUP NO.(ASME BPVC, SECTION IX, QW/QB-420) [NOTE (1)] P-NO. 1, ALL GROUP NOS. ALL PREHEAT OF 95°C (200°F) IS APPLIED PRIOR TO WELDING ON ANY NOMINAL MATERIAL THICKNESS>25 MM (1 IN.)

Q216. WHAT IS THE PREHEAT TENDS?

- HAZ WILL GET WIDER
- HAZ WILL REDUCE
- HARDNESS RECUCES IN TOE MARTINSITE AREA
- STRENGTH INCREASE

A.HARDNESS RECUCES IN TOE MARTINSITE AREA

Q217. WHICH UT PROBE USED FOR ROOT SCANNING?

a)15 b)30 c)45 d)60

A. 45 (IF 70 IN THE ANS; 70 IS USING FOR LOW THICKNESS ROOT SCAN)

Q218. WHAT IS THE MINIMUM REQUIRED LENGTH TO RADIOGRAPH FOR QUALIFYING A WELDER IN 10" OD PIPE

A. ALL CIRCUMFERENCE B. 6" LENGTH

A. ALL CIRCUMFEERENCE

Q219. ELECTRODE MAINTAINED IN CONSUMABLE STORAGE

- A. ELECTRODE KEPT IN HEATED OVEN
- B. HERMETICALLY SEALED CONTAINER
- C. 65°HEATED QUIVER
- D. ALL THE ABOVE
- E. A & B

A. A&B

Q220. UNDER BEAD CRACK

A. HYDROGEN INDUCED CRACK

Q221. WELDER QUALIFICATION RETEST IS GIVEN ON WHAT BASIS

ANS. WHEN DOUBT IN WELDER ABILITY TO PRODUCE SOUND WELD

Q222. IF THE DEFECT FOUND WITHIN THE ACCEPTABLE LIMIT, THEN ALSO IT IS RECORED?

- AS IT REPORTABLE B) AS IT RECORDABLE C) NONE

A. AS IT RECORDABLE

223. WHICH DEFECT CAN BE SEEN IN RT FILM

A) FILM MARK B) SCRATCH C) CLUSTER POROSITY D) FOGGING

A. CLUSTER POROSITY

Q224. SHIELDING GAS PROTECT THE ROOT FROM CONDAMINATION?

A. FALSE

Q225. E 6013

a. RUTILE ELECTRODE

Q226. SMALL CHANGE IN ARC LENGTH, MUCH MORE CHANGE IN VOLTAGE

A. CONSTANT CURRENT (CC)

Q227. WHICH DEFECT IS NOT ACCEPTABLE IN PIPING SPECIFICATION?

- POROSITY B) SLAG INCLUSION C) LACK OF FUSION D) UNDERCUT

A. LACK OF FUSION

Q228. WHICH IS THE DEFECT MOSTLY SEEN IN GMAW?

A. LACK OF FUSION

Q229. WHICH MATERAIL WE HAVE TO PREHEAT?

A. ALL MATERAIL LESS THAN 10 DERECE CELSIUS

Q230. WHAT IS THE DIFFERENCE BETWEEN GMAW & GTAM?

A. ONE IS MANUAL AND OTHER IS SEMI AUTO

Q231. UNDER BEAD CRACK REASON?

- DUE TO WET ELECTRODE B) HARDNESS C) HIGH RESTRAINTS D) ALL OF THE ABOVE

A. UNDER BEAD CRACK DUE TO HYDROGEN INDUCE SO ANS IS DUE TO WET ELECTRODE

Q232. RELATED TO GAS WELDING PROCESS, WHICH ONE IS NOT TRUE FOR THE FOLLOWING OPTIONS

A. GAS WELDING FOR THIN SHEETS

B..GAS WELDING IS SLOWER THAN ARC WELDING

C.. HEAT GENERATION AND DISTORSION IS LESS COMPARE TO ARC WELDING.

A. HEAT GENERATION AND DISTORSION IS LESS COMPARE TO ARC WELDING.

Q233. RESULTS FROM THE EXPANSION AND CONTRACTION OF THE WELD METAL AND ADJACENT BASE METAL DURING THE HEATING AND COOLING CYCLE OF THE WELDING PROCESS

A. DISTORTION

Q234. THE WELDER USING THE FILLER WIRE ER316 FOR WELDING, CAN HE WELD FOR ER70S-6?

A.TRUE B.FALSE

A. FLASE (BOTH FILLER WIRES F NUMBER ARE SAME – F6 BUT SS USING PURGING AND CS NOT BACKING IS ESSENTIAL VARIABLE)

Q235. WHAT ARE THE LOW HYDROGEN ELECTRODES?

A. 7016,7018,7015

Q236. WHICH STEEL WE SHOULD PRE HEAT

ALLOY STEEL

SS

CS

A. ALL STEELS WHICH ARE DAMP AND HAVING TEMP BELOW 10 DEGREE C

Q237. WELDER IS QUALIFIED IN 14 MM BASE METAL AND 3 LAYERS WHAT IS THE MAXIMUM RANGE HE IS QUALIFIED FOR

A. UNLIMITED

Q238. WHY WE DO PREHEATING

TO AVOID CRACKS

TO MINIMIZE DISTORTION

TO SLOW DOWN THE COOLING RATE

TO AVOID CRACKS & SLOW DOWN THE COOLING RATE

A. TO AVOID CRACKS & SLOW DOWN THE COOLING RATE

Q239. AFTER WELDING YOU HAVE TO REJECT THE WELD BECAUSE YOU CAME TO KNOW THAT

WPS IS TOO OLD

WELDER IS QUALIFIED AS PER SEC X, NOT SEC IX

WPS IS NOT APPROVED AS PER SEC IX

PROCEDURE IS NOT APPROVED AS PER ASME B 31.3

A. WPS IS NOT APPROVED AS PER SEC IX

Q240. WHAT IS THE NAME OF THE AREA IN SINGLE V JOINT WHERE WE HAVE TO LAY WELDING?

GROOVE FACE

BEVEL ANGLE

SINGLE BEVEL

DOUBLE BEVEL

A. GROOVE FACE

Q241. SIZE OF ELECTRODE WHICH CAN BE USED IN ALL POSITION EXCEPT 1G/1F .

a. 3.2mm b. 4mm c. 5mm d. 2.6mm

A. 4 MM

Q242. WHICH ELECTRODE CAN BE USED ONLY IN 1G/1F POSITION

a. 4mm-1G/1F b. 5mm-1G/1F c. 3mm-1G/1F

A. 5mm-1G/1F

Q243. HEAT TREATMENT IN WHICH STEEL IS SOAKED TO AUSTENETIC CONDITION AND THEN COOLED IN A FURNACE.

- NORMALIZING
- QUENCHING
- ANNEALING (ANS)
- TEMPERING

Q244. P NUMBER OF ALUMINUM ALLOY

A. P-26

Q245. The PWHT heating and cooling rates above 316°C shall not exceed 222°C/hr divided by the weld thickness in inches, but in no case shall it be more than 222°C/hr.

Q246. The specified PWHT shall be applied over an area extending at least 3 times the thickness of the material being welded from each edge of the weld but not less than 25 mm from each edge of the weld, whichever is greater.

Q247. For PWHTs that are not performed in a furnace, insulation shall be applied a minimum of 300 mm on either side of the weld that is to be PWHTed. The insulation shall not be removed before the temperature has cooled to below 150°C.

Q248. The minimum PWHT soak time shall be 1 hour.

Q249. If hardness limits are specified, the soak time for production welds shall not be less than 80% of the PQR soak time

Q250. THERMO COUPLE DIFFERENCE NOT MORE THAN 40° C.

Q251. After completion of the PWHT all thermocouples shall be removed and the attachment areas ground smooth to clean and sound metal. If specified by the Inspector, the areas shall be examined by MT or PT after grinding

Q252. Production hardness testing of welds shall be performed as required by ASME B31.3.

Q253. Production hardness testing for welds in P-No 1 material in sour or PWHTed service shall also be performed. 10% of the welds shall be sampled. The maximum allowed hardness is 200 BHN

Q254. THERMOCOUPLE ALLOCATIONS,

- Pipe diameter of 305 mm (8") or less: 1 T/C.
- Pipe diameter above 305 mm (8") up to and including 610 mm (24"); 2 T/C.
- Pipe diameter above 610 mm (24"): 4 T/C.

Q255. All NDT examination shall be performed after completion of final heat treatment regardless of the P-number of the materials.

Q256. Inspection of all welds shall include a band of base metal at least 25 mm wide on each side of the weld.

Q257. Welding on offshore platform piping from workboats requires proper grounding to prevent stray current corrosion during welding. The welding ground connections shall comply with API RP2A-WSD, paragraph 12.7.

Q258. WHICH POWER SOURCE IS USING FOR AUTO WELDING?

A. CONSTANT VOLTAGE

Q259. PIPELINE VT AND RT ACCEPTANCE?

A. API 1104

Q260. E 6010 ELECTRODE WHICH TYPE & USE?

A. CELLULOSE & ROOT WELDING

Q261. 14 MM THICKNESS PLATE WITH 3 LAYER WELDING, THE WELDER QUALIFIED UPTO?

a) 12mm, b) 28mm c) unlimited

A.UNLIMITED

Q262. IN VISUAL TEST WHICH TYPE OF DEFECT WILL FIND?

a) Undercut b) under fill c) hi-lo d) all of the above

A.ALL OF THE ABOVE

Q263. IF NON-ESSENTIAL VARIABLE CHANGED WHAT WIL DO?

a) Re-write the WPS and approve it b) use same WPS with change in non-essential variable c) nothing to do with WPS d) none of the above

ANS) RE-WRITE THE WPS AND APPROVE IT

Q264. WHAT IS THE BEND TEST SPECIMEN SIZE?

A. (6") 150MM LONG X (3/8") 10MM THK X (1 ½") 38MM.

Q265.