

Inspection and Test Plan for Valve

| No. | Inspection and Test Plan | Reference Document | Acceptance Criteria | Verifying Document | Activity By | | | Remark |
|-----------------------------|---|---|---|--------------------------------|-------------|-----|--------|--------|
| | | | | | Manuf. | TPI | Client | |
| 1 | Pre-Inspection Meeting | Spec. | Spec. | MOM | H | H | H | - |
| Before Manufacturing | | | | | | | | |
| 2 | DWG, Design, Calculation Document | API 594, 599, 600, 602, 603, 6D, 608, 609 and ASME B16.34 | API 594, 599, 600, 602, 603, 6D, 608, 609 and ASME B16.34 | DWG, Calculation book | H | R | A | - |
| 3 | WPS&PQR | ASME IX | ASME IX | Welding Book | H | R | A | - |
| 4 | Welder Qualification Certificates | ASME IX | ASME IX | Certificates | H | R | - | - |
| 5 | NDT procedures | ASME V | ASME V | Procedures | H | R | A | - |
| 6 | NDE Personnel Certificates | ASME | ASME | Certificates | H | R | - | - |
| 7 | PWHT Procedure (if needed) | API 594, 599, 600, 602, 603, 6D, 608, 609 and ASME B16.34 | API 594, 599, 600, 602, 603, 6D, 608, 609 and ASME B16.34 | Procedure | H | R | A | - |
| 8 | Shell Test Procedure | API 598 | API 598 | Procedure | H | R | A | - |
| 9 | Backseat Test Procedure | API 598 | API 598 | Procedure | H | R | A | - |
| 10 | Low Pressure closure Test Procedure | API 598 | API 598 | Procedure | H | R | A | - |
| 11 | High Pressure closure Test Procedure | API 598 | API 598 | Procedure | H | R | A | - |
| 12 | Painting Procedure | SSPC | SSPC | Procedure | H | R | A | - |
| Materials | | | | | | | | |
| 13 | Raw Material Certificates | ASME II/ASTM | ASME II/ASTM | Original Material Certificates | H | R | - | - |
| 14 | Material Identification | ASME II/ASTM | ASME II/ASTM | Report | H | W | - | - |
| During Fabrication | | | | | | | | |
| 15 | Body, Cap and Bonnet Visual Inspection after Casting | MSS SP-55 | MSS SP-55 | Report | H | W | - | - |
| 16 | Body, Cap and Bonnet Dimensional, Mechanical and Chemical Composition Inspection | DWG/ ASME II/ASTM | DWG/ ASME II/ASTM | Report | H | W | - | - |
| 17 | Trim Material Visual Inspection (Stem, Ball, Disk, Seat and etc.) | MSS SP-55/ Construction Code | MSS SP-55/ Construction Code | Report | H | W | - | - |
| 18 | Trim Material Dimensional, Mechanical and Chemical Composition Inspection (Stem, Ball, Disk, Seat and etc.) | DWG/ ASME II/ASTM | DWG/ ASME II/ASTM | Report | H | W | - | - |
| 19 | Casting Defect Repair by Welding | WPS/ Construction Code | WPS/Construction Code | | H | H | | |
| 20 | PWHT Review | Procedure | Procedure | Report | H | R | | - |
| 21 | Confirmation on NDE Test Results for all Components | Procedure | Procedure | Report | H | W | | - |
| 22 | Valve Assembly Inspection | DWG | DWG | Report | H | W | | - |
| 23 | Valve Welding Inspection (If any) | WPS | WPS | Report | H | W | | - |
| 24 | Bolt, Nut, Gasket, Gland and other Bought Components Inspection | DWG/ ASME II/ASTM | DWG/ ASME II/ASTM | Report | H | SW | | - |

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|--|----------------------------------|-----------------------------------|--------------------------------|--------------|---|---|---|---|
| 25 | Valve Body Shell Test | API 598 | API 598 | Report | H | H | - | - |
| 26 | Valve Backseat Test | API 598 | API 598 | Report | H | H | - | - |
| 27 | Low Pressure closure Test | API 598 | API 598 | Report | H | H | - | - |
| 28 | High Pressure closure Test | API 598 | API 598 | Report | H | H | - | - |
| 29 | Valve Functional Test | API 598/ Construction Codes | API 598/ Construction Codes | Report | H | H | - | - |
| Final Inspection | | | | | | | | |
| 30 | Final Visual & Dimensional Check | DWG/Spec. | DWG | Report | H | H | - | - |
| 31 | Surface Preparation and Painting | Procedure | Procedure | Report | H | W | - | - |
| 32 | Check of Name Plate | DWG | DWG | Report | H | H | - | - |
| 33 | Check of Final Book | Spec. | Spec. | DWG/ P.O | H | R | - | - |
| Documentation | | | | | | | | |
| 34 | Inspection Reports | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| 35 | NCR | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| 36 | Review Final Data Report | Spec./DWG | Spec./DWG | Report | H | R | - | - |
| Pre-Shipment Inspection | | | | | | | | |
| 37 | Preservation and Packing | Spec. | Spec. | Report | H | H | - | - |
| 38 | Marking | Spec. | Spec. | Report | H | H | - | - |
| 39 | Loading Inspection | Spec. | Spec. | Report | H | H | - | - |
| 40 | Shipping Document Control | Procedure | Spec. | Packing List | H | H | - | - |
| Abbreviations: | | | | | | | | |
| H: Hold Point = Hold on the production till TPI Inspector performs inspection and supervise the required test | | | | | | | | |
| W: Witness Point = Manufacture shall notify client and TPI Inspector but there is no hold on the production; Client can waive the inspection based on his discretion and informs TPI Inspector accordingly. | | | | | | | | |
| R: Document Review = Review means Review document, which includes of material test certificates, WPS, PQR, NDT Procedure and etc. | | | | | | | | |
| A: Approval | | | | | | | | |
| SW: Spot Witness = for items with spot witness manufacture shall notify TPI inspector as fulfilling the monitoring; For example one random visit for whole UT tests or one or two visits for whole surface preparation works for painting. | | | | | | | | |
| For example one random visit for whole UT tests or one or two visits for whole surface preparation works for painting. | | | | | | | | |
| MOM: Minute of Meeting | | | | | | | | |
| P.O: Purchase Order | | | | | | | | |

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