

## BALL VALVES MATERIALS

### ASTM MATERIALS

|  |                           |                           |                           |                           |                                       |                                      |                                      |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| PRESSURE RANGE                             | 150~2500 ANSI             | 150~2500 ANSI             | 150~2500 ANSI             | 150~2500 ANSI             | 150~2500 ANSI                         | 150~2500 ANSI                        | 150~2500 ANSI                        |
| TEMPERATURE                                | -328°F~300°F              | -60°F~400°F               | -328°F~300°F              | -328°F~300°F              | 32°F~600°F                            | 32°F~800°F                           | 32°F~1000°F                          |
| BODY SHELL                                 | A351-CF8M                 | A182-F304                 | A182-F316                 | A182-F321                 | A216-WCB                              | A182-F22                             | A182-F316                            |
| ADAPTOR                                    | A351-CF8M                 | A182-F304                 |                           | A182-F321                 | A216-WCB                              | A182-F22                             | A182-F316                            |
| BALL<br>Plating minimum<br>Plating maximum | A182-F316                 | A182-F304                 | A182-F316                 | A182-F316                 | A182-F304                             | A182-F316                            | A182-F316                            |
| STEM                                       | A182-F316                 | A182-F316                 | A182-F316                 | A182-F316                 | A182-F6                               | A182-F6                              | A182-F6                              |
| SEAT                                       | KEL-F                     | PTFE                      | KEL-F                     | KEL-F                     | VESPEL                                | GRAPHITE                             | METAL-METAL                          |
| BODY SEAL                                  | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316<br>GRAPHITE | SPIROMETALLIC<br>GRAPHITE<br>INCONEL | SPIROMETALLIC<br>GRAPHITE<br>INCONEL |
| PACKING                                    | GRAPHITE                  | O RING/BUNA-N             | GRAPHITE                  | GRAPHITE                  | GRAPHITE                              | GRAPHITE                             | GRAPHITE                             |
| BODY STUD                                  | A320-B8                   | A193-B8                   | A320-B8                   | A320-B8                   | A193-B7                               | A193-B16                             | A453-Gr.660                          |
| BODY STUD NUT                              | A194-Gr.8                 | A194-Gr.8                 | A194-Gr.8                 | A194-Gr.8                 | A194-2H                               | A194-Gr.7                            | A194-Gr.6                            |

### DIN MATERIALS

|  |                           |                           |                           |                           |                                       |                                      |                                      |
|--|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| PRESSURE RANGE                             | PN6~PN350                 | PN6~PN350                 | PN6~PN350                 | PN6~PN350                 | PN6~PN350                             | PN6~PN350                            | PN6~PN350                            |
| TEMPERATURE                                | -200°C~150°C              | -50°C~200°C               | -200°C~150°C              | -200°C~150°C              | 0°C~300°C                             | 0°C~420°C                            | 0°C~530°C                            |
| BODY SHELL                                 | GX10CrNiMo18.8            | X10CrNi18.8               | X10CrNiMo18.8             | X10CrNiNb18.8             | GS-C-25                               | 10CrMo9.10                           | X10CrNiMo18.8                        |
| ADAPTOR                                    | GX10CrNiMo18.8            | X10CrNi18.8               | X10CrNiMo18.8             | X10CrNiNb18.8             | GS-C-25                               | 10CrMo8.10                           | X10CrNiMo18.8                        |
| BALL<br>Plating minimum<br>Plating maximum | X10CrNiMo18.8             | X10CrNi18.8               | X10CrNiMo18.8             | X10CrNiMo18.8             | C-22-8                                | 10CrMo9.10<br>0.030mm<br>0.045mm     | X10CrNiMo18.8                        |
| STEM                                       | X22CrNi17                 | X22CrNi17                 | X22CrNi17                 | X22CrNi17                 | X 10 Cr 13                            | X 22 Cr Ni 17                        | X 22 Cr Ni 17                        |
| SEAT                                       | KEL-F                     | PTFE                      | KEL-F                     | KEL-F                     | VESPEL                                | GRAPHITE                             | METAL-METAL                          |
| BODY SEAL                                  | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316 | SPIROMETALLIC<br>ANSI-316<br>GRAPHITE | SPIROMETALLIC<br>GRAPHITE<br>INCONEL | SPIROMETALLIC<br>GRAPHITE<br>INCONEL |
| PACKING                                    | GRAPHITE                  | O RING/BUNA-N             | GRAPHITE                  | GRAPHITE                  | GRAPHITE                              | GRAPHITE                             | GRAPHITE                             |
| BODY STUD                                  | X5CrNiMo18.8              | X5CrNiMo18.10             | X5CrNiMo18.10             | X5CrNiMo18.10             | 24CrMo5                               | 24CrMoV55                            | X22CrMoV12.1                         |
| BODY STUD NUT                              | X5CrNi18.9                | X5CrNi18.9                | X5CrNi18.9                | X5CrNi18.9                | C35                                   | 24CrMo5                              | X15CrMo12.1                          |