

# ENGINEERING DATA & SPECIFICATIONS

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## TEMPER AND HARDNESS

| Specification  | Alloy              | Temper                          | Hardness                  | Grain Size (mm)             |
|----------------|--------------------|---------------------------------|---------------------------|-----------------------------|
| ASTM B-68      | 120                | 050 Light annealed              | Hardness                  | 0.015 - 0.040               |
|                |                    | 060 Soft annealed               | Not Specified             | 0.040 Min                   |
| ASTM B-75      | 122                | H55 Light drawn                 | 30T 30-60                 | ---                         |
|                |                    | H58 Drawn                       | 30T 30 Min                | ---                         |
|                |                    | H80 Hard drawn                  | 30T 55 Min                | ---                         |
|                |                    | 060 Soft annealed               | 15T 60 Max                | 0.040 Min                   |
|                |                    | 050 Light annealed              | 15T 65 Max                | 0.040 Max                   |
| ASTM B-88      |                    | 060 Annealed (coils)            | 15T 55 Max                | 0.040 Min                   |
|                |                    | 050 Annealed (straight)         | 15T 60 Max                | 0.025 Min                   |
|                |                    | H Drawn                         | 30T 30 Min                | ---                         |
| ASTM B-135     | 220                | H58 Drawn (GP)                  | 30T 38 Min                | ---                         |
|                |                    | H80 Hard drawn                  | 30T 55 Min                | ---                         |
|                |                    | 060 Soft annealed               | 30T 30 Max                | 0.025 - 0.060               |
|                |                    | 050 Light annealed              | 30T 37 Max                | 0.035 Max                   |
|                | 230                | H55 Light drawn                 | 30T 43-75                 | ---                         |
|                |                    | H58 Drawn (GP)                  | 30T 43 Min                | ---                         |
|                |                    | H80 Hard drawn                  | 30T 65 Min                | ---                         |
|                |                    | 060 Soft annealed               | 30T 36 Max                | 0.025 - 0.060               |
|                | 260                | H58 Drawn (GP)                  | 30T 53 Min                | ---                         |
|                |                    | H80 Hard drawn                  | 30T 70 Min                | ---                         |
|                | 330                | 060 Soft annealed               | 30T 40 Max                | 0.025 - 0.060               |
|                |                    | 050 Light annealed              | 30T 60 Max                | 0.035 Max                   |
| 443            | H58 Drawn (GP)     | 30T 53 Min                      | ---                       |                             |
|                | H80 Hard drawn     | 30T 70 Min                      | ---                       |                             |
|                | 060 Soft annealed  | 30T 40 Max                      | 0.025 - 0.060             |                             |
|                | 050 Light annealed | 30T 60 Max                      | 0.035 Max                 |                             |
| ASTM B-111     | 120                | H55 Light drawn                 | Hardness<br>Not Specified | Grain Size<br>Not Specified |
|                | 122                |                                 |                           |                             |
|                |                    | H58 Drawn (GP)                  |                           |                             |
|                | 443                | 061 Annealed                    |                           | 0.010 - 0.045               |
|                | 706                | 061 Annealed<br>H55 Light drawn |                           | 0.010 - 0.045               |
|                | 715                | 061 Annealed<br>HR50 Drawn, SR  |                           | 0.010 - 0.045               |
| ASTM B-466     | 706                | 060 Soft annealed               | 30T 45 Max                | Grain Size<br>Not Specified |
|                |                    | H55 Light drawn                 | 30T 45-70                 |                             |
|                | H80 Hard drawn     | 30T 63 Min                      |                           |                             |
|                | 715                | 060 Soft annealed               | 30T 51 Max                |                             |
| H80 Hard drawn |                    | 30T 70 Min                      |                           |                             |

Note: Some hardness scales may change due to wall thickness.