



MECHANICAL PROPERTIES OF ALUMINIUM ALLOYS:

| ALLOY | TEMPER | TENSILE STRENGTH (MPa) | | ELONGATION % MINIMUM (50 MM GAUGE LENGTH) | | |
|-----------|--------|----------------------------|-----|-------------------------------------------|----------------|-----------|
| | | MIN | MAX | 0.50-0.80 mm | 0.80 - 1.30 mm | > 1.30 mm |
| 1050 | 0 | 55 | 95 | 22 | 25 | 29 |
| 1050 | H12 | 75 | 110 | 4 | 5 | 6 |
| 1050 | H14 | 105 | 145 | 4 | 5 | 6 |
| 1050 | H16 | 120 | 160 | 3 | 4 | 5 |
| 1050 | H18 | 140 | --- | 3 | 3 | 4 |
| | | | | | | |
| 1100/1200 | 0 | 75 | 105 | 17 | 22 | 30 |
| 1100/1200 | H12 | 95 | 130 | 3 | 5 | 8 |
| 1100/1200 | H14 | 110 | 145 | 2 | 4 | 5 |
| 1100/1200 | H16 | 130 | 165 | 2 | 3 | 4 |
| 1100/1200 | H18 | 150 | --- | 2 | 2 | 3 |
| | | | | | | |
| 3003/3103 | 0 | 95 | 130 | 20 | 23 | 25 |
| 3003/3103 | H12 | 120 | 160 | 3 | 4 | 6 |
| 3003/3103 | H14 | 140 | 180 | 3 | 3 | 5 |
| 3003/3103 | H16 | 165 | 205 | 2 | 3 | 4 |
| 3003/3103 | H18 | 185 | --- | 2 | 2 | 3 |
| | | | | | | |
| 3105 | 0 | 95 | 145 | 16 | 19 | 20 |
| 3105 | H12 | 130 | 180 | 2 | 3 | 3 |
| 3105 | H14 | 150 | 200 | 2 | 2 | 3 |
| 3105 | H16 | 170 | 220 | 2 | 2 | 2 |
| 3105 | H18 | 190 | --- | 1 | 2 | 2 |
| | | | | | | |
| 5005 | 0 | 105 | 145 | 16 | 19 | 21 |
| 5005 | H12 | 125 | 165 | 2 | 4 | 6 |
| 5005 | H14 | 145 | 185 | 1 | 3 | 3 |
| 5005 | H16 | 165 | 205 | 1 | 2 | 2 |
| 5005 | H18 | 185 | --- | 1 | 1 | 2 |
| | | | | | | |
| 8011 | 0 | 85 | 120 | 20 | 23 | 25 |
| 8011 | H12 | 105 | 140 | 5 | 6 | 7 |
| 8011 | H14 | 125 | 160 | 3 | 4 | 5 |
| 8011 | H16 | 150 | 180 | 2 | 3 | 4 |
| 8011 | H18 | 175 | --- | 2 | 2 | 3 |



CHEMICAL COMPOSITION OF ALUMINIUM ALLOYS:

| CHEMICAL COMPOSITION LIMITS (%) | | | | | | | | |
|---------------------------------|-------------|---------------|--------------|-----------|-----------|-----------|-----------|-------------|
| | 1050 | 1100 | 1200 | 3003 | 3103 | 3105 | 5005 | 8011 |
| % Si | 0.25 | 0.90 (Si+Fei) | 1.00 (Si+Fe) | 0.60 | 0.50 | 0.60 | 0.30 | 0.60 -0.95 |
| % Fe | 0.40 | | | 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| % Cu | 0.05 | 0.05 – 0.20 | 0.05 | 0.05-0.20 | 0.10 | 0.30 | 0.20 | 0.20 |
| % Mn | 0.05 | 0.05 | 0.05 | 1.00-1.50 | 0.80–1.50 | 0.30-0.80 | 0.20 | 0.10 |
| % Mg | 0.05 | -- | -- | -- | 0.10 | 0.20-0.80 | 0.50-1.10 | 0.10 |
| % Cr | - | -- | -- | -- | 0.10 | 0.20 | 0.10 | -- |
| % Zi | 0.05 | 0.10 | 0.10 | 0.10 | 0.20 | 0.40 | 0.25 | 0.20 |
| % Ti | 0.05 | -- | 0.05 | -- | -- | 0.10 | -- | 0.20 |
| (Others) | 0.03 | 0.05 | 0.03 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| Total (Others) | 0.05 | 0.015 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| % Al | 99.50 (Min) | 99.00 (Min) | 99.00 (Min) | Remainder | Remainder | Remainder | Remainder | 98.00 (Min) |

Single number indicates maximum content.

CHARACTERISTICS OF ALUMINIUM ALLOYS:

| ALLOY | CHARACTERISTICS | | | | |
|-------|----------------------|-----------|-------------|---------------|-------------|
| | Corrosion Resistance | Anodizing | Formability | Machinability | Weldability |
| 1060 | Excellent | Very Good | Good | Good | Good |
| 1050 | Excellent | Very Good | Good | Good | Good |
| 1100 | Excellent | Good | Good | Good | Good |
| 1200 | Excellent | Good | Good | Good | Good |
| 3003 | Good | NA | Good | Good | Good |
| 3004 | Good | NA | Good | Good | Good |
| 3005 | Good | NA | Good | Good | Good |
| 3103 | Good | NA | Good | Good | Good |
| 3105 | Good | NA | Good | Good | Good |
| 5005 | Medium | Good | Very Good | Good | Good |
| 8011 | Medium | Medium | Very Good | Good | Good |