

SPECIFICATIONS & TYPICAL PROPERTIES FOR MOTIVA BASE OILS

aramcoPRIMA®

aramcoULTRA®

| Sales Code | | aramcoPRIMA 60 | | aramcoPRIMA 100 | | aramcoPRIMA 220 | | aramcoPRIMA 600 | | aramcoULTRA 4 | | aramcoULTRA 6 | |
|---------------------------------------|------------|----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|----------------|---------|----------------|---------|
| Parameter | | 500009293 | | 500009291 | | 500009290 | | 500009292 | | 500009294 | | 500009295 | |
| Parameter | Method | Code 7249 | | Code 7239 | | Code 7234 | | Code 7242 | | Code 7248 | | Code 7250 | |
| | | Spec | Typical | Spec | Typical | Spec | Typical | Spec | Typical | Spec | Typical | Spec | Typical |
| API Base Stock Group (API 1509 E.1.3) | | | | Group II | | Group II | | Group II | | Group III | | Group III | |
| Viscosity, Kinematic | | | | | | | | | | | | | |
| cSt @ 100°C | D445 | | 2.61 | 3.8 min | 4.16 | 6.1 min | 6.49 | 11.7 min | 12.0 | 4.0 - 4.5 | 4.41 | 5.7 - 6.3 | 5.89 |
| cSt @ 40°C | D445 | 9.0 - 11.0 | 10.63 | 18.0 - 22.0 | 20.4 | 40.0 - 46.0 | 42.3 | 107 - 120 | 109 | Report | 20.5 | Report | 32.4 |
| SUS @ 100°F | Calculated | | 64 | | 106 | | 218 | | 569 | | 107 | | 166 |
| Viscosity Index | | | | 95 min | | 105 | | 95 min | | 120 min | | 128 | |
| Sulfur, ppm | D2622 | 300 max | < 10 | 300 max | < 10 | 300 max | < 10 | 300 max | < 25 | Report | < 10 | Report | < 10 |
| Aromatics, wt % | Motiva | 2.0 max | 1.0 | 2.0 max | 1.5 | 2.0 max | 1.5 | 7.0 max | 6.0 | Report | < 1.0 | Report | < 1.0 |
| Volatility | | | | | | | | | | | | | |
| NOACK, wt% | D5800 (B) | | | 28.0 max | 22.5 | 13.0 max | 10.4 | | 2.4 | 15.5 max | 14.4 | 8.5 max | 7.4 |
| GC, Sim Dist at 700°F, % | D6417 | | | 17.0 max | 12.0 | 7.0 max | 4.25 | | 0.4 | | | | |
| Dynamic Viscosity | | | | | | | | | | | | | |
| CCS @ -30°C ⁽¹⁾ , cP | D5293 | | | | | | | | | Report | 1,534 | Report | 4,084 |
| CCS @ -25°C, cP | D5293 | | | 1,550 max | 1,238 | | | | | | | | |
| CCS @ -20°C, cP | D5293 | | | | | 3,900 max | 3,087 | | | | | | |
| Brookfield ⁽²⁾ @ -40°C, cP | Motiva | | | | 13,232 | | | | | | | | |
| Appearance | | Visual | | Clear & Bright | | Clear & Bright | | Clear & Bright | | Clear & Bright | | Clear & Bright | |
| Color, ASTM | D1500 | | | 1.0 max | L0.5 | 1.0 max | L0.5 | 1.0 max | L0.5 | L0.5 | L0.5 | L0.5 | L0.5 |
| Color, Saybolt | D156 | Report | +30 | | | | | | | | | | |
| Pour Point, °C | D5950 | -33 max | -35 | -12 max | -15 | -12 max | -15 | -12 max | -21 | -12 max | -20 | -12 max | -21 |
| Flash Point, COC, °C | D92 | 170 min | 172 | 199 min | 207 | 216 min | 226 | 250 min | 263 | 200 min | 220 | 215 min | 237 |
| API Gravity, °API | D4052 | Report | 32.1 | Report | 35.1 | Report | 32.3 | Report | 30.4 | Report | 37.6 | Report | 36.2 |
| Specific Gravity, 60/60°F | D4052 | | 0.8650 | | 0.8495 | | 0.8640 | | 0.8740 | | 0.8367 | | 0.8438 |

⁽¹⁾ CCS @ -30°C targeted to max limits:
aramcoULTRA 4 1,675 cP aramcoULTRA 6 4,800 cP

⁽²⁾Product tested with 0.25wt% PPD. Brookfield targeted to limit of 19,000 cP for aramcoPRIMA 100.

Note - for SI units
1 mm²/s = 1 cSt
1 mPa•s = 1 cP

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