



Direct comparison between steel and V-ROD

| MATERIAL PROPERTIES | UNITS | V-ROD | STAINLESS STEEL (ASTM A955) | STEEL (ASTM A615) |
|--|--------------------|----------------------|-----------------------------|--------------------------|
| Tensile strength ⁽¹⁾ | PSI | 116.000 - 189.000 | 60.000 | 60,000 |
| | MPa | 800 - 1300 | 420 | 420 |
| Modulus of elasticity | KSI | 6,675 - 8700 | 29.000 | 29.000 |
| | GPa | 46 - 60 | 200 | 200 |
| Bond strength | PSI | 2 000 | 1450 ⁽²⁾ | 1450 ⁽²⁾ |
| | MPa | 14 | 10 ⁽²⁾ | 10 ⁽²⁾ |
| Thermal conductivity | BTU/(hr·ft·°F) | < 0.6 ⁽²⁾ | 10 ⁽²⁾ | 32 ⁽²⁾ |
| | W/ (m·°C) | < 1 ⁽²⁾ | 16 ⁽²⁾ | 54 ⁽²⁾ |
| Electrical resistivity | Ω·in | >10 ¹¹⁽²⁾ | 4x10 ^{-5 (2)} | 6x10 ^{-6 (2)} |
| | Ω·cm | >10 ¹¹⁽²⁾ | 1x10 ^{-4 (2)} | 1.5x10 ^{-5 (2)} |
| Unit weight | lb/ft ³ | 110 - 130 | 485 - 500 | 490 |
| | kg/m ³ | 1750 - 2100 | 7800 - 8000 | 7850 |
| Required concrete cover ⁽³⁾ | in | 3/4 | 1 1/2-3 | 1 1/2-3 |
| | mm | 20 | 40 - 75 | 40 - 75 |

⁽¹⁾ Guaranteed tensile strength for V-ROD bars, yield strength for stainless and black steel bars

⁽²⁾ Approximate value

⁽³⁾ For exposed conditions, as per ACI 440.5 and ACI 318

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