

Steam95 Excel Add-In Property List

| | Property Name | Property ID | SI Units | English Units |
|-----|---|-------------|--------------------------|---------------------------|
| 1. | Pressure | p | bar | psi |
| 2. | Temperature | t | °C | °F |
| 3. | Density | d | kg/m ³ | lb/ft ³ |
| 4. | Specific Volume | v | m ³ /kg | ft ³ /lb |
| 5. | Specific enthalpy | h | kJ/kg | Btu/lb |
| 6. | Specific entropy | s | kJ/(kg·K) | Btu/(lb·°F) |
| 7. | Specific internal energy | u | kJ/kg | Btu/lb |
| 8. | Specific isobaric heat capacity | cp | kJ/(kg·K) | Btu/(lb·°F) |
| 9. | Specific isochoric heat capacity | cv | kJ/(kg·K) | Btu/(lb·°F) |
| 10. | Speed of sound | w | m/s | ft/s |
| 11. | Iisentropic exponent | kapa | - | - |
| 12. | Specific Helmholtz free energy | H | kJ/kg | Btu/lb |
| 13. | Specific Gibbs free energy | G | kJ/kg | Btu/lb |
| 14. | Compressibility factor | Z | - | - |
| 15. | Steam quality | x | % | % |
| 16. | Isobaric volume expansion coefficient | alpha | 1/K | 1/°F |
| 17. | Isothermal compressibility | Kt | 1/MPa | 1/psi |
| 18. | Partial derivative (dV/dT) _p | dvdT | m ³ /(kg·K) | ft ³ /(lb·°F) |
| 19. | Partial derivative (dV/dP) _T | dvdP | m ³ /(kg·MPa) | ft ³ /(lb·psi) |
| 20. | Partial derivative (dP/dT) _v | dpdT | MPa/K | psi/°F |
| 21. | Partial derivative (dP/dV) _T | dPdv | MPa·kg/m ³ | psi·lb/ft ³ |
| 22. | Isothermal Joule-Thomson coefficient | iJTC | kJ/(kg·MPa) | Btu/(lb·psi) |
| 23. | Joule-Thomson coefficient | JTC | K/MPa | °F/psi |
| 24. | Dynamic viscosity | dv | μPa·s | lb/(ft·h) |
| 25. | Kinematic viscosity | kv | μm ² /s | ft ² /h |
| 26. | Thermal conductivity | tc | W/(K·m) | Btu/(h·ft·°F) |
| 27. | Thermal diffusivity | td | μm ² /s | ft ² /h |
| 28. | Prandtl number | Pr | - | - |
| 29. | Surface tension | Sigma | mN/m | lbf/ft |
| 30. | Static dielectric constant | dc | - | - |

Steam97 Excel Add-In Property List

| | Property Name | Property ID | SI Units | English Units |
|-----|---|-------------|--------------------------|---------------------------|
| 1. | Pressure | p | bar | Psi |
| 2. | Temperature | t | °C | °F |
| 3. | Density | d | kg/m ³ | lb/ft ³ |
| 4. | Specific Volume | v | m ³ /kg | ft ³ /lb |
| 5. | Specific enthalpy | h | kJ/kg | Btu/lb |
| 6. | Specific entropy | s | kJ/(kg·K) | Btu/(lb·°F) |
| 7. | Specific internal energy | u | kJ/kg | Btu/lb |
| 8. | Specific isobaric heat capacity | cp | kJ/(kg·K) | Btu/(lb·°F) |
| 9. | Specific isochoric heat capacity | cv | kJ/(kg·K) | Btu/(lb·°F) |
| 10. | Speed of sound | w | m/s | ft/s |
| 11. | Isentropic exponent | kapa | - | - |
| 12. | Specific Helmholtz free energy | H | kJ/kg | Btu/lb |
| 13. | Specific Gibbs free energy | G | kJ/kg | Btu/lb |
| 14. | Compressibility factor | Z | - | - |
| 15. | Steam quality | x | % | % |
| 16. | Region | region | - | - |
| 17. | Isobaric volume expansion coefficient | alpha | 1/K | 1/°F |
| 18. | Isothermal compressibility | Kt | 1/MPa | 1/psi |
| 19. | Partial derivative (dV/dT) _p | dvdT | m ³ /(kg·K) | ft ³ /(lb·°F) |
| 20. | Partial derivative (dV/dP) _T | dvdP | m ³ /(kg·MPa) | ft ³ /(lb·psi) |
| 21. | Partial derivative (dP/dT) _v | dpdT | MPa/K | psi/°F |
| 22. | Partial derivative (dP/dV) _T | dpdv | MPa·kg/m ³ | psi·lb/ft ³ |
| 23. | Isothermal Joule-Thomson coefficient | iJTC | kJ/(kg·MPa) | Btu/(lb·psi) |
| 24. | Joule-Thomson coefficient | JTC | K/MPa | °F/psi |
| 25. | Dynamic viscosity | dv | μPa·s | lb/(ft·h) |
| 26. | Kinematic viscosity | kv | μm ² /s | ft ² /h |
| 27. | Thermal conductivity | tc | W/(K·m) | Btu/(h·ft·°F) |
| 28. | Thermal diffusivity | td | μm ² /s | ft ² /h |
| 29. | Prandtl number | Pr | - | - |
| 30. | Surface tension | Sigma | mN/m | lbf/ft |

Steam95 Excel Add-In and Steam97 Excel Add-In Constant Properties

| | Property Name | Constant ID | SI Units | English Units |
|----|--------------------------|-------------|-------------------|--------------------|
| 1. | Specific gas constant | R | kJ/(kg·K) | Btu/(lb·°F) |
| 2. | Molar gas constant | Rm | J/(mol·K) | Btu/(lbmol·°F) |
| 3. | Molar mass | Mw | g/mol | lbm/lbmol |
| 4. | Critical temperature | Tcr | °C | °F |
| 5. | Critical pressure | Pcr | bar | Psi |
| 6. | Critical density | Dcr | kg/m ³ | lb/ft ³ |
| 7. | Triple point temperature | Tt | °C | °F |
| 8. | Triple-point pressure | Pt | bar | psi |