VIBRATION CALCULATION FOR BAR STOCK

According to ASME PTC 19.3 standard

$$F_w / F_n < 0.8$$

Here, $F_w = 2.64\ (v/b)$

$$F_n = (K / L^2)\ vE/R$$

Where, F_w = well frequency

F_n = natural frequency,

v = fluid velocity in fps,

b = diameter of tip of Thermowell,

K = constant obtained from table 1.4 of ASME PTC 19.3,

L = length of the Thermowell,

E = modulus of elasticity of Thermowell material; 28x106 psi,

R = specific weight of metal; 0.29 lbs/inch3 ME PTC 19.3 standard.