List of Nomenclature

English Notations:

A = Amplitude Ratio, (No Units)

C = Centroid of pipe, inches

D_o = Outside Diameter of Pipe, inches

E = Modulus of Elasticity, lb/in^2

E_c = Elastic Modulus at 70° F, lb/in^2

E_H = Elastic Modulus at Operating Temperature, lb/in^2

E_w = Weld Joint Factor, (No Units)

f = Stress-Range Reduction Factor, (No Units)

F = Force, lbs

I = Moment of Inertia of Pipe, in^4

K_f = Fatigue Strength Reduction Factor, (No Units)

M = Moment, ft-lbs

N = Number of Cycles, cycles

P = Pressure, lb/in^2

R = Stress Ratio, (No Units)

$S_a = S_h$ = Allowable Static Stress, lb/in^2

S_{al} = Allowable stress, lb/in^2

S_c = Allowable stress at Minimum Temperature (70°), lb/in^2

S_e = Endurance Limit, lb/in^2

S_L = Sum of Longitudinal Stresses, lb/in^2

S_A = Thermal Expansion Stress Range, lb/in^2

S_{Ut} = Ultimate Strength, lb/in^2

S_Y = Yield Strength, lb/in^2

Tmin = Dupont® Pipe-Wall Thickness Calculator

t_m = Nominal Thickness, inches

t_{Min} = Minimum pipe wall thickness, in

t_{Str} = Minimum Pipe-Wall Thickness to Support Structural Integrity, inches

t_{Nom} = Nominal Pipe Wall thickness, inches

V = Shear, lbs

Y = Temperature Dependant Coefficient, (No Units)

Z_{Nom} = Section Modulus, in^3

Greek Notations:

$Ä^{o}_{e}.$ =Elastic Strain Range, (No Units)

$Ä^{o}_{p}$ = Plastic Strain Range, (No Units)

$Äe$ = Total Strain Range, (No Units)

e_a = Alternating Strain, (No Units)

e^{l}_{el} = Total Longitudinal Strain, (No Units)

$e^{'}_{F}$ = Fatigue Ductility Coefficient, (No Units)

e_a = Strain Amplitude, (No Units)

e_{pa} = Plastic Strain Amplitude, (No Units)

e_{ea} = Elastic Strain Amplitude, (No Units)

$Äó$ = Stress Range, lb/in^2

$ó_{aTC}$ = Allowable Stress (Tension-Compression) , lb/in^2

$ó_{aRB}$ = Allowable Stress (Rotating-Bending) , lb/in^2

$ó_{M}$ = Mean Stress, lb/in^2

$ó_{Max}$ = Maximum Stress, lb/in^2

$ó_{Min}$ = Minimum Stress, lb/in^2

$ó_{a}$ = Stress Amplitude, lb/in^2