- $W_p = \gamma_w R \Phi_e H_D^3$
- $R = \dfrac{\gamma_p/\gamma_w}{\left(\dfrac{\gamma_p}{\gamma_w} - 1\right)^3}$
- $A_c = 0.75 H_S$
- $B_m = a = 2\ell_p$
- $P_d(z) = \lambda P_{S_0}$ si $z < A_c$
- $P_d(z) = P_{S_0}$ si $z > A_c$
- $P_{S_0} = \alpha \gamma_w S_0$
- $S_0 = H_D \left(1 - \dfrac{A_c}{R_u}\right)$
- $\alpha = 2C_f \left(\dfrac{R_u}{H_D} \cos \alpha_s\right)^2$
- $\lambda = 0.8 \exp\left(-10.9 \dfrac{B_m}{L}\right)$
- $C_f = 1.45$
- $P(z) = max\left(\mu \gamma_w \left(S_0 + A_c - z\right), 0\right)$
- $\mu = a exp\left\{c\left(\frac{H_D}{L} - b\right)^2\right\}$
- $a = 0.446$, $b = 0.068$ y $c = 259$.
- $\frac{R_u}{H_c} = A_u \left[1 - exp\left\{B_u I_r\right\}\right]$
- $\frac{R_d}{H_c} = A_d \left[1 - exp\left\{B_d I_r\right\}\right]$
- $p_1 = 0.5(1 + \cos\beta)(\alpha_1 + \alpha^* \cos^2\beta)\gamma_w H_D$
- $p_3 = \alpha_3 p_1$
- $p_4 = \alpha_4 p_1$
- $p_u = 0.5(1 + \cos\beta)\alpha_1 \alpha_3 \gamma_w H_D$
- $\alpha_1 = 0.6 + 0.5 \left[\frac{(2kh)}{\sinh(2kh)}\right]^2$
- $\alpha_2 = \text{mín}((1 - d/h_0)(H_D/d)^2/3, 2d/H_D)$
- $\alpha_3 = 1 - \frac{h'}{h}\left[1 - \frac{1}{\cosh(kh)}\right]$
- $\alpha_4 = 1 - \frac{h_c^*}{\eta^*}$
- $\eta^* = 0.75(1 + \cos\beta) H_D$
- $h_c^* = \text{mín}(\eta^*, h_c)$
- $\alpha^* = \text{máx}(\alpha_2, \alpha_I)$
- $\alpha_I = \alpha_{I0} \alpha_{I1}$
- $\alpha_{I0} = \begin{cases} H_D/d & \text{si } H_D \leq 2d \\ 2 & \text{en otro caso} \end{cases}$
- $\alpha_{I1} = \begin{cases} \cos\delta_2 / \cosh\delta_1 & \text{si } \delta_2 \leq 0 \\ 1/(\cosh\delta_1 \sqrt{(\cosh\delta_2)}) & \text{en otro caso} \end{cases}$
- $\delta_1 = \begin{cases} 20\delta_{11} & \text{si } \delta_{11} \leq 0 \\ 15\delta_{11} & \text{en otro caso} \end{cases}$
- $\delta_{11} = 0.93(B_m/L - 0.12) + 0.36[(h-d)/h - 0.6]$
- $\delta_2 = \begin{cases} 4.9\delta_{22} & \text{si } \delta_{22} \leq 0 \\ 3\delta_{22} & \text{en otro caso} \end{cases}$
- $\delta_{22} = -0.36(B_m/L - 0.12) + 0.93[(h-d)/h - 0.6]$
- $q = Q\sqrt{g H_S^3}$
- $Q = 0.082 exp\left\{-\frac{3R}{\gamma_{B\sigma}\gamma_{geo}}\right\}$
- $R = \frac{F_c}{H_S}$
- $\gamma_{B\sigma} = \begin{cases} cos\theta & si \quad \theta < 37^o \\ 0.79 & si \quad \theta > 37^o \end{cases}$
- $p_{ow} = \frac{N_{ow}}{N} = exp\left\{-\left(\frac{R}{c}\right)^2\right\}$
- $c = 0.91\gamma_{p_{ow}}$
- $\gamma_{p_{ow}} = 0.875 - 0.0025\theta$