VIV Solutions®

Fairing Data Sheet for VIV Suppression

Release Date: September 2017

All values are applicable only for structural and geometric design of standard fairings offered by **VIV Solutions**. Other fairings may have considerably different performance characteristics. Tabular values are for smooth fairings in steady flow conditions.

Table 1 – Fairing Added Mass Coefficient Data

Direction	Added Mass Coefficient (C_a)
Perpendicular to fairing chord	1.6-2.0
Parallel to fairing chord	1.2-1.3

- Assumes 1.0 for mass coefficient for bare pipe
- Accounts for entrapped water inside of fairing

Table 2 – Fairing Drag Coefficient Data

Reynolds Number (Re)	Drag Coefficient (C_d)
100,000	0.70 - 1.05
300,000	0.50 - 0.80
1,000,000	0.50 - 0.60
2,000,000	0.50 - 0.60

- Applied to bare tubular diameter, but assumes fairly small fairing annulus
- For all tubular sizes, add 30% to drag coefficient for moderate to heavy marine growth, with a minimum drag coefficient of 1.0
- For unsteady flows: at high KC numbers the added mass coefficients and drag coefficients will approach those in the tables above, but variations of at least 20 percent should be considered; at low to moderate KC numbers, the actual values for added mass coefficient and drag coefficient will be highly dependent upon the actual application.

Table 3 – Fairing Suppression Efficiency Data

Reynolds Number (Re)	Suppression Efficiency
100,000 – 1,500,000	0.95 - 0.99

- Suppression efficiency is defined as: $1.00 - \left(\frac{RMS\ acceleration\ with\ suppression}{RMS\ acceleration\ without\ suppression}\right)$
- Suppression efficiency should be modestly decreased for small to moderate marine growth environments

Table 4 - Fairing Damping Ratio

Reynolds Number (Re)	Still Water Damping Ratio
100,000 – 1,500,000	10-20%

- Applicable for typical offshore fairing applications