ERRATA

PTI DC45.1-18
Recommendations for Stay Cable Design, Testing, and Installation

Seventh Edition, First Printing 2018
DC-45 Stay Cable Bridge Committee

The following errata item was added on December 2, 2019:

Page 48, Eq. C5.2.3-1:

C5.2.3.2 — Rain-wind-induced vibrations
The following tentative stability criterion for rain-
wind-induced vibrations of smooth circular cables has
been proposed\textsuperscript{17}

\[ Sc = \frac{m \xi}{\rho D^2} \geq 10 \] (C5.2.3-1)

(Scruton number, \(Sc\) is \textit{greater or equal} to 10)

where
\(m\) is the cable mass per unit length
\(\xi\) is the ratio of structural damping to critical damping
\(\rho\) is the air density
\(D\) is the cable diameter

The expression \((m \xi/\rho D^2)\) is called the mass-damping
parameter or Scruton number \(Sc\). Note that modification
to cable shape may allow this criterion to be relaxed if
proven by wind tunnel tests. A value of 5 has been
proposed in lieu of the lower limit of 10 in Eq. (C5.2.3-1)
for special helix or dimpled stay pipes with special testing
to verify this value. Eq. (C5.2.3-1) implies that for typical
cable mass densities and diameters, a damping ratio of \(\xi\)
equal to 0.5% to 1.0% (depending on the actual values of
\(m\) and \(D\)) would be sufficient to suppress rain-wind-
induced vibrations.