Turbulence Intensity Comparisons for Pipes with/without Welds

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Outline

• Line Plot of TI at the Pipe Exit
• Contour of Turbulence Intensity (Page 4 - 9)
  – with a weld - 3.2M
  – with a weld – 2.5M
• Contour of Turbulence Intensity (Page 10 - 15)
  – with a weld - 3.2M
  – without a weld – 3.9M
Line Plot of TI at the Pipe Exit
Contour of Turbulence Intensity ($\theta_1 = 0$)

(a-1) $\theta_1 = 0$ (with a weld - 3.2M)

(b-1) $\theta_1 = 0$ (with a weld – 2.5M)
Contour of Turbulence Intensity ($\theta_1 = 90$)

(a-2) $\theta_1 = 90$ (with a weld - 3.2M)

(b-2) $\theta_1 = 90$ (with a weld – 2.5M)
Contour of Turbulence Intensity ($\theta_2 = 0$)

(a-3) $\theta_2 = 0$ (with a weld - 3.2M)

(b-3) $\theta_2 = 0$ (with a weld – 2.5M)
Contour of Turbulence Intensity ($\theta_2 = 90$)

(a-4) $\theta_2 = 90$ (with a weld - 3.2M)  
(b-4) $\theta_2 = 90$ (with a weld – 2.5M)
Contour of Turbulence Intensity (s= 3.36)

(a-5) s = 3.36 (with a weld - 3.2M)

(b-5) s= 3.36 (with a weld – 2.5M)
Contour of Turbulence Intensity (s = 8.3375)

(a-6) s = 8.3375 (with a weld - 3.2M)

(b-6) s = 8.3375 (with a weld – 2.5M)
Contour of Turbulence Intensity ($\theta_1 = 0$)

(a-1) $\theta_1 = 0$ (with a weld - 3.2M)

(b-1) $\theta_1 = 0$ (without a weld - 3.9M)
Contour of Turbulence Intensity (θ₁ = 90)

(a-2) θ₁ = 90 (with a weld - 3.2M)

(b-2) θ₁ = 90 (without a weld - 3.9M)
Contour of Turbulence Intensity ($\theta_2 = 0$)

(a-3) $\theta_2 = 0$ (with a weld - 3.2M)

(b-3) $\theta_2 = 0$ (without a weld - 3.9M)
Contour of Turbulence Intensity (\(\theta_2 = 90\))

(a-4) \(\theta_2 = 90\) (with a weld - 3.2M)

(b-4) \(\theta_2 = 90\) (without a weld - 3.9M)
Contour of Turbulence Intensity (s = 3.36)

(a-5) s = 3.36 (with a weld - 3.2M)

(b-5) s = 3.36 (without a weld - 3.9M)
Contour of Turbulence Intensity ($s = 8.3375$)

(a-6) $s = 8.3375$ (with a weld - 3.2M)

(b-6) $s = 8.3375$ (without a weld - 3.9M)