

Important Density Currents in Harbors Formulas PDF



Formulas Examples with Units

List of 3 Important Density Currents in Harbors Formulas

1) Relative Density given Velocity in Dry Bed Curve Formula

Formula

$$H^2 = \frac{V_{Dbc}^2}{0.45 \cdot [g] \cdot d}$$

Example with Units

$$5.0986 = \frac{4.5 \text{ m/s}^2}{0.45 \cdot 9.8066 \text{ m/s}^2 \cdot 0.9 \text{ m}}$$

Evaluate Formula 

2) Velocity in Dry Bed Curve Formula

Formula

$$V_{Dbc} = 0.45 \cdot \sqrt{H^2 \cdot [g] \cdot d}$$

Example with Units

$$4.4339 \text{ m/s} = 0.45 \cdot \sqrt{11 \cdot 9.8066 \text{ m/s}^2 \cdot 0.9 \text{ m}}$$

Evaluate Formula 

3) Water Depth given Velocity in Dry Bed Curve Formula

Formula

$$d = \frac{\left(\frac{V_{Dbc}}{0.45} \right)^2}{H^2 \cdot [g]}$$

Example with Units

$$0.927 \text{ m} = \frac{\left(\frac{4.5 \text{ m/s}}{0.45} \right)^2}{11 \cdot 9.8066 \text{ m/s}^2}$$

Evaluate Formula 

4) Density Influence Formulas



Variables used in list of Density Currents in Harbors Formulas above

- **d** Water Depth (Meter)
- **H²** Broad Sense Heritability
- **V_{Dbc}** Velocity in Dry Bed Curve (Meter per Second)

Constants, Functions, Measurements used in list of Density Currents in Harbors Formulas above

- **constant(s):** [g], 9.80665
Gravitational acceleration on Earth
- **Functions:** sqrt, sqrt(Number)
A square root function is a function that takes a non-negative number as an input and returns the square root of the given input number.
- **Measurement: Length** in Meter (m)
Length Unit Conversion 
- **Measurement: Speed** in Meter per Second (m/s)
Speed Unit Conversion 



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