

Important Design of Rigid Flange Coupling Formulas PDF



Formulas Examples with Units

List of 14 Important Design of Rigid Flange Coupling Formulas

1) Hub and Flange Dimensions Formulas ↻

1.1) Diameter of Spigot and Recess of Rigid Flange Coupling Formula ↻

Formula

$$d_r = 1.5 \cdot d$$

Example with Units

$$42 \text{ mm} = 1.5 \cdot 28 \text{ mm}$$

Evaluate Formula ↻

1.2) Length of Hub of Rigid Flange Coupling given Diameter of Driving Shaft Formula ↻

Formula

$$l_h = 1.5 \cdot d$$

Example with Units

$$42 \text{ mm} = 1.5 \cdot 28 \text{ mm}$$

Evaluate Formula ↻

1.3) Outside Diameter of Flange of Rigid Flange Coupling Formula ↻

Formula

$$D_o = 4 \cdot d + 2 \cdot t_1$$

Example with Units

$$126 \text{ mm} = 4 \cdot 28 \text{ mm} + 2 \cdot 7 \text{ mm}$$

Evaluate Formula ↻

1.4) Outside Diameter of Hub of Rigid Flange Coupling given Diameter of Driving Shaft Formula ↻

Formula

$$d_h = 2 \cdot d$$

Example with Units

$$56 \text{ mm} = 2 \cdot 28 \text{ mm}$$

Evaluate Formula ↻

1.5) Pitch Circle Diameter of Bolts of Rigid Flange Coupling Formula ↻

Formula

$$D_p = 3 \cdot d$$

Example with Units

$$84 \text{ mm} = 3 \cdot 28 \text{ mm}$$

Evaluate Formula ↻

1.6) Thickness of flanges of Rigid Flange Coupling Formula ↻

Formula

$$t_f = 0.5 \cdot d$$

Example with Units

$$14 \text{ mm} = 0.5 \cdot 28 \text{ mm}$$

Evaluate Formula ↻



1.7) Thickness of Protecting Rim of Rigid Flange Coupling Formula

Formula

$$t_1 = 0.25 \cdot d$$

Example with Units

$$7 \text{ mm} = 0.25 \cdot 28 \text{ mm}$$

Evaluate Formula 

2) Shaft Dimensions Formulas

2.1) Diameter of Shaft of Rigid Flange Coupling given Diameter of Spigot and Recess Formula

Formula

$$d = \frac{d_r}{1.5}$$

Example with Units

$$28 \text{ mm} = \frac{42 \text{ mm}}{1.5}$$

Evaluate Formula 

2.2) Diameter of Shaft of Rigid Flange Coupling given Length of Hub Formula

Formula

$$d = \frac{l_h}{1.5}$$

Example with Units

$$27 \text{ mm} = \frac{40.500 \text{ mm}}{1.5}$$

Evaluate Formula 

2.3) Diameter of Shaft of Rigid Flange Coupling given Outside Diameter of Flange Formula

Formula

$$d = \frac{D_o - 2 \cdot t_1}{4}$$

Example with Units

$$27.9 \text{ mm} = \frac{125.6 \text{ mm} - 2 \cdot 7 \text{ mm}}{4}$$

Evaluate Formula 

2.4) Diameter of Shaft of Rigid Flange Coupling given Outside Diameter of Hub Formula

Formula

$$d = \frac{d_h}{2}$$

Example with Units

$$28 \text{ mm} = \frac{56 \text{ mm}}{2}$$

Evaluate Formula 

2.5) Diameter of Shaft of Rigid Flange Coupling given Pitch Circle Diameter of Bolts Formula

Formula

$$d = \frac{D_p}{3}$$

Example with Units

$$28 \text{ mm} = \frac{84 \text{ mm}}{3}$$

Evaluate Formula 

2.6) Diameter of Shaft of Rigid Flange Coupling given Thickness of Flanges Formula

Formula

$$d = 2 \cdot t_f$$

Example with Units

$$28 \text{ mm} = 2 \cdot 14 \text{ mm}$$

Evaluate Formula 

2.7) Diameter of Shaft of Rigid Flange Coupling given Thickness of Protecting Rim Formula

Formula

$$d = 4 \cdot t_1$$

Example with Units

$$28 \text{ mm} = 4 \cdot 7 \text{ mm}$$

Evaluate Formula 



Variables used in list of Design of Rigid Flange Coupling Formulas above

- **d** Diameter of Driving Shaft for Coupling (Millimeter)
- **d_h** Outside Diameter of Hub of Coupling (Millimeter)
- **D_o** Outside Diameter of Flange of Coupling (Millimeter)
- **D_p** Pitch Circle Diameter of Bolts of Coupling (Millimeter)
- **d_r** Diameter of Spigot and Recess of Coupling (Millimeter)
- **l_h** Length of Hub for Coupling (Millimeter)
- **t₁** Thickness of Protecting Rim for Coupling (Millimeter)
- **t_f** Thickness of Flanges of Coupling (Millimeter)

Constants, Functions, Measurements used in list of Design of Rigid Flange Coupling Formulas above

- **Measurement: Length** in Millimeter (mm)
Length Unit Conversion 



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