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Design of Rigid Flange Coupling Formulas

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List of 14 Design of Rigid Flange Coupling Formulas

Design of Rigid Flange Coupling

Hub and Flange Dimensions

1) Diameter of Spigot and Recess of Rigid Flange Coupling

fx $d_r = 1.5 \cdot d$ Open Calculator

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

2) Length of Hub of Rigid Flange Coupling given Diameter of Driving Shaft

fx $l_h = 1.5 \cdot d$ Open Calculator

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

3) Outside Diameter of Flange of Rigid Flange Coupling

fx $D_o = 4 \cdot d + 2 \cdot t_1$ Open Calculator

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

4) Outside Diameter of Hub of Rigid Flange Coupling given Diameter of Driving Shaft

Open Calculator

fx $d_h = 2 \cdot d$

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

5) Pitch Circle Diameter of Bolts of Rigid Flange Coupling

Open Calculator

fx $D_p = 3 \cdot d$

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

6) Thickness of flanges of Rigid Flange Coupling

Open Calculator

fx $t_f = 0.5 \cdot d$

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

7) Thickness of Protecting Rim of Rigid Flange Coupling

Open Calculator

fx $t_1 = 0.25 \cdot d$

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

Shaft Dimensions

8) Diameter of Shaft of Rigid Flange Coupling given Diameter of Spigot and Recess

Open Calculator

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

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

9) Diameter of Shaft of Rigid Flange Coupling given Length of Hub

Open Calculator

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

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

10) Diameter of Shaft of Rigid Flange Coupling given Outside Diameter of Flange

Open Calculator

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

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

11) Diameter of Shaft of Rigid Flange Coupling given Outside Diameter of Hub

Open Calculator

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

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

12) Diameter of Shaft of Rigid Flange Coupling given Pitch Circle Diameter of Bolts

Open Calculator

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

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

13) Diameter of Shaft of Rigid Flange Coupling given Thickness of Flanges

Open Calculator

fx $$d = 2 \cdot t_f$$

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

14) Diameter of Shaft of Rigid Flange Coupling given Thickness of Protecting Rim

Open Calculator

fx $$d = 4 \cdot t_1$$

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

Variables Used

- 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)*
- t_1 Thickness of Protecting Rim for Coupling *(Millimeter)*
- t_f Thickness of Flanges of Coupling *(Millimeter)*

Constants, Functions, Measurements used

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

Check other formula lists

- **Design of Cotter Joint Formulas**
- **Design of Knuckle Joint Formulas**
- **Design of Rigid Flange Coupling Formulas**
- **Packing Formulas**
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