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# Diameter of Bushed Pin Flexible Coupling Components Formulas

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# List of 12 Diameter of Bushed Pin Flexible Coupling Components Formulas

## Diameter of Bushed Pin Flexible Coupling Components

### 1) Diameter of Driving Shaft of Coupling given Diameter of Pin

$$fx \quad d = 2 \cdot d_1 \cdot \sqrt{N}$$

Open Calculator 

$$ex \quad 34.29286\text{mm} = 2 \cdot 7\text{mm} \cdot \sqrt{6}$$

### 2) Diameter of Driving Shaft of Coupling given Length of Hub of Bushed Pin Coupling

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

Open Calculator 

$$ex \quad 34.26667\text{mm} = \frac{51.4\text{mm}}{1.5}$$

### 3) Diameter of Driving Shaft of Coupling given Outside Diameter of Hub of Bushed Pin Coupling

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

Open Calculator 

$$ex \quad 34.29286\text{mm} = \frac{68.58572\text{mm}}{2}$$



#### 4) Diameter of Driving Shaft of Coupling given Pitch Circle Diameter of Pins

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

[Open Calculator !\[\]\(cbe80b694ebd74fcfe136a095b608235\_img.jpg\)](#)

$$ex \quad 34.29287\text{mm} = \frac{102.8786\text{mm}}{3}$$

#### 5) Diameter of Driving Shaft of Coupling given Thickness of Output Flange

$$fx \quad d = 2 \cdot t_o$$

[Open Calculator !\[\]\(3e2231b1ad3ca8da8658228c00dd08e0\_img.jpg\)](#)

$$ex \quad 34.3\text{mm} = 2 \cdot 17.15\text{mm}$$

#### 6) Diameter of Driving Shaft of Coupling given Thickness of Protective Rim

$$fx \quad d = 4 \cdot t_1$$

[Open Calculator !\[\]\(0d5ec72f61334709c3fc9450209b754f\_img.jpg\)](#)

$$ex \quad 34.32\text{mm} = 4 \cdot 8.58\text{mm}$$


#### 7) Diameter of Pin of Coupling

$$fx \quad d_1 = 0.5 \cdot \frac{d}{\sqrt{N}}$$

[Open Calculator !\[\]\(b64b40baaee5acddc1eab8538ba84754\_img.jpg\)](#)

$$ex \quad 7.000001\text{mm} = 0.5 \cdot \frac{34.29286\text{mm}}{\sqrt{6}}$$




8) Outer Diameter of Bush in Bushed Pin Coupling given Force 

$$fx \quad D_b = \frac{P}{l_b \cdot p_a}$$

Open Calculator 


$$ex \quad 33.98847\text{mm} = \frac{1150\text{N}}{33.5\text{mm} \cdot 1.01\text{N}/\text{mm}^2}$$

9) Outer Diameter of Bush in Bushed Pin Coupling given Torque and Effective Length 

$$fx \quad D_b = 2 \cdot \frac{M_t}{p_a \cdot N \cdot D_p \cdot l_b}$$

Open Calculator 

$$ex \quad 33.94718\text{mm} = 2 \cdot \frac{354500\text{N}^*\text{mm}}{1.01\text{N}/\text{mm}^2 \cdot 6 \cdot 102.8786\text{mm} \cdot 33.5\text{mm}}$$

10) Outside Diameter of Hub of Bushed pin Coupling given Diameter of Driving Shaft 

$$fx \quad d_h = 2 \cdot d$$

Open Calculator 

$$ex \quad 68.58572\text{mm} = 2 \cdot 34.29286\text{mm}$$

11) Pitch Circle Diameter of Bushes or Pins of Coupling 

$$fx \quad D_p = \frac{2 \cdot M_t}{N \cdot P}$$

Open Calculator 

$$ex \quad 102.7536\text{mm} = \frac{2 \cdot 354500\text{N}^*\text{mm}}{6 \cdot 1150\text{N}}$$



## 12) Pitch Circle Diameter of Pins of Coupling

**fx**  $D_p = 3 \cdot d$

Open Calculator 

**ex**  $102.8786\text{mm} = 3 \cdot 34.29286\text{mm}$







## Variables Used

- **d** Diameter of Driving Shaft For Coupling (*Millimeter*)
- **d<sub>1</sub>** Diameter of Pin of Coupling (*Millimeter*)
- **D<sub>b</sub>** Outer Diameter of Bush For Coupling (*Millimeter*)
- **d<sub>h</sub>** Outside Diameter of Hub of Coupling (*Millimeter*)
- **D<sub>p</sub>** Pitch Circle Diameter of Pins of Coupling (*Millimeter*)
- **l<sub>b</sub>** Effective Length of Bush of Coupling (*Millimeter*)
- **l<sub>h</sub>** Length of Hub For Coupling (*Millimeter*)
- **M<sub>t</sub>** Torque Transmitted By Coupling (*Newton Millimeter*)
- **N** Number of Pins in Coupling
- **P** Force on Each Rubber Bush or Pin of Coupling (*Newton*)
- **p<sub>a</sub>** Intensity of Pressure Flange And Bush of Coupling (*Newton per Square Millimeter*)
- **t<sub>1</sub>** Thickness of Protecting Rim For Coupling (*Millimeter*)
- **t<sub>o</sub>** Thickness of Output Flange of Coupling (*Millimeter*)



## Constants, Functions, Measurements used

- **Function:** **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 Millimeter (mm)  
*Length Unit Conversion* 
- **Measurement:** **Pressure** in Newton per Square Millimeter (N/mm<sup>2</sup>)  
*Pressure Unit Conversion* 
- **Measurement:** **Force** in Newton (N)  
*Force Unit Conversion* 
- **Measurement:** **Torque** in Newton Millimeter (N\*mm)  
*Torque Unit Conversion* 



## Check other formula lists

- [Design Parameters Formulas](#)  [Formulas](#) 
- [Diameter of Bushed Pin Flexible Coupling Components](#)

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