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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

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

[Open Calculator !\[\]\(a870788d6ed9b8fd294b7654a8c8526b_img.jpg\)](#)

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

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

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

[Open Calculator !\[\]\(c50c8b7b2cc2cf9ff925edec0ee94c0d_img.jpg\)](#)

$$\text{ex } 26.66667\text{mm} = \frac{40\text{mm}}{1.5}$$

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

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

[Open Calculator !\[\]\(f60b7a900783ac3fd531bfd9c111be6d_img.jpg\)](#)

$$\text{ex } 27.5\text{mm} = \frac{55\text{mm}}{2}$$



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

$$\text{fx } d = \frac{D_{p_{\text{pins}}}}{3}$$

[Open Calculator !\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\)](#)

$$\text{ex } 40\text{mm} = \frac{120\text{mm}}{3}$$

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

$$\text{fx } d = 2 \cdot t_{\text{of}}$$

[Open Calculator !\[\]\(3e2231b1ad3ca8da8658228c00dd08e0_img.jpg\)](#)

$$\text{ex } 27\text{mm} = 2 \cdot 13.5\text{mm}$$

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

$$\text{fx } d = 4 \cdot t_1$$

[Open Calculator !\[\]\(0d5ec72f61334709c3fc9450209b754f_img.jpg\)](#)

$$\text{ex } 27.2\text{mm} = 4 \cdot 6.8\text{mm}$$

7) Diameter of Pin of Coupling

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

[Open Calculator !\[\]\(b64b40baaee5acddc1eab8538ba84754_img.jpg\)](#)

$$\text{ex } 5.511352\text{mm} = 0.5 \cdot \frac{27\text{mm}}{\sqrt{6}}$$



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

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

[Open Calculator !\[\]\(e78f798d4ea5c530c9db49e7d26e6b95_img.jpg\)](#)

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

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

$$\text{fx } D_b = 2 \cdot \frac{M_t}{p_a \cdot N \cdot D_{p_{\text{pins}}} \cdot l_b}$$

[Open Calculator !\[\]\(05be7c7a8995decd503647c99211f7c2_img.jpg\)](#)

$$\text{ex } 32.63386\text{mm} = 2 \cdot \frac{397500\text{N*mm}}{1.01\text{N/mm}^2 \cdot 6 \cdot 120\text{mm} \cdot 33.5\text{mm}}$$

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

$$\text{fx } d_h = 2 \cdot d$$

[Open Calculator !\[\]\(fe3aebe81acea8d45108cd2768939da7_img.jpg\)](#)

$$\text{ex } 54\text{mm} = 2 \cdot 27\text{mm}$$

11) Pitch Circle Diameter of Bushes or Pins of Coupling

$$\text{fx } D_{p_{\text{pins}}} = \frac{2 \cdot M_t}{N \cdot P}$$

[Open Calculator !\[\]\(899d8b7697d64725bf017d3296cfcf1b_img.jpg\)](#)

$$\text{ex } 115.2174\text{mm} = \frac{2 \cdot 397500\text{N*mm}}{6 \cdot 1150\text{N}}$$



12) Pitch Circle Diameter of Pins of Coupling

fx $D_{p_{pins}} = 3 \cdot d$

Open Calculator 

ex $81\text{mm} = 3 \cdot 27\text{mm}$







Variables Used

- **d** Diameter of Driving Shaft for Coupling (*Millimeter*)
- **d₁** Diameter of Pin of Coupling (*Millimeter*)
- **D_b** Outer Diameter of Bush for Coupling (*Millimeter*)
- **d_h** Outside Diameter of Hub of Coupling (*Millimeter*)
- **D_p_{pins}** Pitch Circle Diameter of Pins of Coupling (*Millimeter*)
- **l_b** Effective Length of Bush of Coupling (*Millimeter*)
- **l_h** Length of Hub for Coupling (*Millimeter*)
- **M_t** Torque Transmitted by Coupling (*Newton Millimeter*)
- **N** Number of Pins in Coupling
- **P** Force on each Rubber Bush or Pin of Coupling (*Newton*)
- **p_a** Intensity of Pressure bw Flange & Bush of Coupling (*Newton per Square Millimeter*)
- **t₁** Thickness of Protecting Rim for Coupling (*Millimeter*)
- **t_{of}** Thickness of Output Flange of Coupling (*Millimeter*)



Constants, Functions, Measurements used

- **Function:** **sqrt**, sqrt(Number)
Square root function
- **Measurement:** **Length** in Millimeter (mm)
Length Unit Conversion 
- **Measurement:** **Pressure** in Newton per Square Millimeter (N/mm²)
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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