POWMET
## powder metallurgy

# POWDER METALLURGY
from the Ukrainian manufacturer

Since 1990, POWMET has been engaged in the production of parts and blanks for various industries. Parts from powder metallurgy are advantageously different from parts made by casting or mechanical processing of metals. Powder metallurgy is an advanced method of metal processing. The main advantages are the possibility of creating different compositions of metal powders to obtain certain physical and mechanical parameters of the product (hardness, wear resistance, frictional and antifrictional properties).
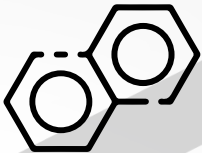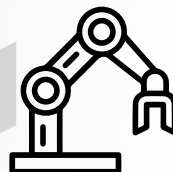
PRODUCT
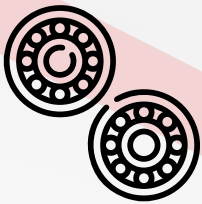
Bushings
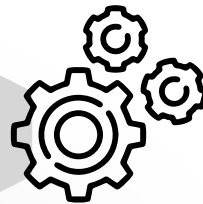
Gears

Mestizos

Friction products

Structural steel parts

Structural parts made of stainless steel

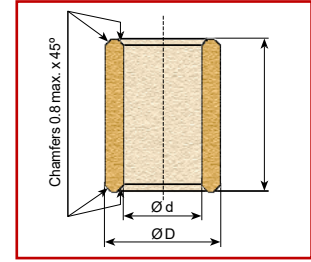+38 (044) 334 75 31 **|** info@powmet.com.ua **|** powmet.com.ua

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EDRPOU: 35811890, IBAN: UA 32 300528 0000026002455039961, Bank: JSC "OTP BANK"

BUSHES
BRONZE

TYPE A	CYLINDRICAL		
Diameter before installation, mm		**L = length, mm** admission js13	**Quantity in the party, units**
d = Ø internal admission G7	**D = Ø external** admission s7		
2^{+12}_{+2}	5^{+31}_{+19}	2 - 3	25
3^{+12}_{+2}	6^{+31}_{+19}	4 - 5 - 6 - 10	25
4^{+16}_{+4}	6^{+31}_{+19}	5 - 8 - 10	25
4^{+16}_{+4}	7^{+38}_{+23}	4 - 8 - 12	25
4^{+16}_{+4}	8^{+38}_{+23}	4 - 5 - 6 - 8 - 10 - 12	25
5^{+16}_{+4}	8^{+38}_{+23}	5 - 8 - 10 - 12 - 15 - 16	25
5^{+16}_{+4}	9^{+38}_{+23}	4 - 5 - 8	25
5^{+16}_{+4}	10^{+38}_{+23}	5 - 6 - 8 - 10 - 12 - 15	25
6^{+16}_{+4}	9^{+38}_{+23}	4 - 6 - 10 - 12 - 16	25
6^{+16}_{+4}	10^{+38}_{+23}	4 - 5 - 6 - 10 - 12 - 15 - 16	25
6^{+16}_{+4}	12^{+46}_{+28}	5 - 6 - 8 - 10 - 12 - 15 - 16	25
7^{+20}_{+5}	10^{+38}_{+23}	5 - 8 - 10	25
8^{+20}_{+5}	10^{+38}_{+23}	6 - 10 - 15	25
8^{+20}_{+5}	11^{+46}_{+28}	6 - 8 - 12 - 16 - 20	25
8^{+20}_{+5}	12^{+46}_{+28}	6 - 8 - 10 - 12 - 15 - 16 - 20	25
8^{+20}_{+5}	14^{+46}_{+28}	8 - 10 - 12 - 15 - 16 - 20	25
9^{+20}_{+5}	12^{+46}_{+28}	6 - 10 - 14	25
9^{+20}_{+5}	14^{+46}_{+28}	10 - 12 - 15 - 20	25
10^{+20}_{+5}	13^{+46}_{+28}	10 - 12 - 15 - 16 - 20 - 25	25
10^{+20}_{+5}	14^{+46}_{+28}	8 - 10 - 16 - 20 - 25	25
10^{+20}_{+5}	15^{+46}_{+28}	10 - 12 - 15 - 16 - 20 - 25	10
10^{+20}_{+5}	16^{+46}_{+28}	8 - 10 - 12 - 15 - 16 - 20 - 25	10
10^{+20}_{+5}	18^{+46}_{+28}	10 - 12 - 15 - 20 - 25	10
12^{+24}_{+6}	14^{+46}_{+28}	10 - 12 - 15 - 20	10
12^{+24}_{+6}	15^{+46}_{+28}	10 - 12 - 15 - 16 - 20 - 25	10
12^{+24}_{+6}	16^{+46}_{+28}	8 - 10 - 12 - 15 - 16 - 20 - 25	10
12^{+24}_{+6}	17^{+46}_{+28}	12 - 15 - 16 - 20 - 25	10
12^{+24}_{+6}	18^{+46}_{+28}	8 - 10 - 12 - 15 - 16 - 20 - 25 - 30	10
12^{+24}_{+6}	20^{+56}_{+35}	12 - 15 - 20 - 25 - 30	10
14^{+24}_{+6}	18^{+46}_{+28}	10 - 14 - 15 - 18 - 20 - 22 - 25 - 28	10
14^{+24}_{+6}	20^{+56}_{+35}	10 - 12 - 14 - 15 - 18 - 20 - 22 - 25 - 28 - 30	10
14^{+24}_{+6}	22^{+56}_{+35}	15 - 20 - 25 - 30	10
15^{+24}_{+6}	18^{+46}_{+28}	15 - 20 - 25 - 30	10
15^{+24}_{+6}	19^{+56}_{+35}	10 - 15 - 16 - 20 - 25 - 32	10
15^{+24}_{+6}	20^{+56}_{+35}	10 - 12 - 15 - 20 - 25 - 30	10
15^{+24}_{+6}	21^{+56}_{+35}	10 - 15 - 16 - 20 - 25 - 32	10
15^{+24}_{+6}	22^{+56}_{+35}	15 - 16 - 20 - 25 - 30	10
16^{+24}_{+6}	20^{+56}_{+35}	12 - 15 - 16 - 20 - 25 - 30 - 32	10
16^{+24}_{+6}	22^{+56}_{+35}	12 - 15 - 16 - 20 - 25 - 30 - 32 - 35	10
17^{+24}_{+6}	22^{+56}_{+35}	15 - 20 - 25 - 30 - 35	10
18^{+24}_{+6}	22^{+56}_{+35}	12 - 15 - 18 - 20 - 22 - 25 - 28 - 30 - 36	10
18^{+24}_{+6}	24^{+56}_{+35}	12 - 18 - 22 - 28 - 30 - 36	10
18^{+24}_{+6}	25^{+56}_{+35}	16 - 18 - 20 - 22 - 25 - 28 - 30 - 35 - 36	10

Admission specified in mkm (1 μm = 10^{-3} mm = 0,001 mm)
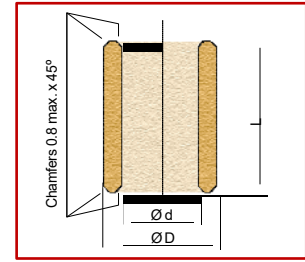Divergence: IT-9 for D≤ 50 and IT-10 for D>50

MARKING

Cylindrical bronze bushing with inner diameter (d) 25 mm, outer diameter (D) 30 mm and length (L) 35 mm, marked as:
POWMET Bushing A-25-30-35
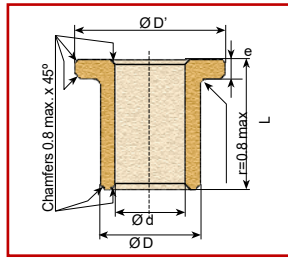(the letter A denotes a bronze cylindrical sleeve)

Chamfers 0.8 max. x 45°

TYPE A | CYLINDRICAL

Diameter before installation, mm		L = length, mm admission js13	Quantity in the party, units
d = Ø internal admission G7	D = Ø external admission s7		
20 (+28/+7)	24 (+56/+35)	16 - 20 - 25 - 32	10
20 (+28/+7)	25 (+56/+35)	15 - 16 - 20 - 25 - 30 - 32 - 35	10
20 (+28/+7)	26 (+56/+35)	15 - 16 - 20 - 25 - 30 - 32 - 35 - 40	10
20 (+28/+7)	27 (+56/+35)	16 - 20 - 25 - 32	10
20 (+28/+7)	28 (+56/+35)	16 - 20 - 25 - 30 - 32 - 35 - 40	10
20 (+28/+7)	30 (+56/+35)	20 - 25 - 30 - 35 - 40	10
22 (+28/+7)	27 (+56/+35)	15 - 18 - 20 - 22 - 25 - 28 - 30 - 35 - 36 - 40	10
22 (+28/+7)	28 (+56/+35)	18 - 20 - 22 - 25 - 28 - 30 - 35 - 36 - 40	10
22 (+28/+7)	29 (+56/+35)	18 - 22 - 28 - 36	10
25 (+28/+7)	30 (+56/+35)	20 - 25 - 30 - 32 - 35 - 40	10
25 (+28/+7)	32 (+68/+43)	20 - 25 - 30 - 32 - 35 - 40 - 45	10
25 (+28/+7)	35 (+68/+43)	25 - 30 - 35 - 40 - 45 - 50	5
28 (+28/+7)	32 (+68/+43)	20 - 22 - 25 - 28 - 32 - 36 - 40	5
28 (+28/+7)	33 (+68/+43)	20 - 22 - 25 - 28 - 32 - 36 - 40 - 45	5
28 (+28/+7)	35 (+68/+43)	25 - 30 - 35 - 40 - 45 - 50	5
28 (+28/+7)	36 (+68/+43)	22 - 28 - 36 - 45	5
30 (+28/+7)	35 (+68/+43)	20 - 25 - 30 - 35 - 40 - 45 - 50	5
30 (+28/+7)	38 (+68/+43)	20 - 24 - 25 - 30 - 35 - 38 - 40 - 45 - 50	5
30 (+28/+7)	40 (+68/+43)	20 - 25 - 30 - 35 - 40 - 45 - 50	5
32 (+34/+9)	38 (+68/+43)	20 - 25 - 32 - 40 - 50	5
32 (+34/+9)	40 (+68/+43)	20 - 25 - 30 - 32 - 35 - 40 - 45 - 50	5
35 (+34/+9)	40 (+68/+43)	20 - 25 - 30 - 35 - 40 - 45 - 50	5
35 (+34/+9)	41 (+68/+43)	25 - 35 - 40	5
35 (+34/+9)	44 (+68/+43)	22 - 28 - 35	5
35 (+34/+9)	45 (+68/+43)	25 - 30 - 35 - 40 - 45 - 50 - 60	5
36 (+34/+9)	42 (+68/+43)	22 - 28 - 36 - 45	5
36 (+34/+9)	45 (+68/+43)	22 - 28 - 36 - 45	5
38 (+34/+9)	44 (+68/+43)	25 - 35 - 45	5
40 (+34/+9)	45 (+68/+43)	35 - 40 - 45 - 50	5
40 (+34/+9)	46 (+68/+43)	25 - 30 - 32 - 40 - 50	5
40 (+34/+9)	50 (+68/+43)	25 - 32 - 40 - 45 - 50 - 60	5
45 (+34/+9)	51 (+83/+53)	28 - 36 - 45 - 56	5
45 (+34/+9)	55 (+83/+53)	30 - 35 - 40 - 45 - 50 - 55 - 60	5
45 (+34/+9)	56 (+83/+53)	28 - 36 - 45 - 56	5
45 (+34/+9)	60 (+83/+53)	40 - 45 - 50 - 60	2
50 (+34/+9)	56 (+83/+53)	32 - 40 - 50 - 63	2
50 (+34/+9)	60 (+83/+53)	32 - 40 - 45 - 50 - 60 - 63 - 70 - 100	2
55 (+40/+10)	65 (+83/+53)	40 - 55 - 70	2
60 (+40/+10)	70 (+89/+59)	50 - 60 - 90 - 120	2
60 (+40/+10)	72 (+89/+59)	50 - 60 - 70	1
60 (+40/+10)	80 (+89/+59)	90 - 120	1
63 (+40/+10)	70 (+89/+59)	40 - 50	1
70 (+40/+10)	80 (+89/+59)	90 - 120	1
80 (+56/+10) (G8)	95 (+125/+71) (s8)	70 - 80 - 90	1
80 (+56/+10) (G8)	100 (+125/+71) (s8)	80 - 120	1
100 (+66/+12) (G8)	120 (+133/+79) (s8)	80 - 120	1

Admission specified in mkm (1 µm = 10^{-3} mm = 0,001 mm)
Divergence: IT-9 for D≤ 50 and IT-10 for D>50

MARKING

A cylindrical bronze bushing with an inner diameter (d) of 16 mm, an outer diameter (D) of 20 mm and a length (L) of 25 mm is designated as: **POWMET Bushing B-16-20-25/24-2** (the letter B denotes a flanged bronze bushing, and the values 24-2 correspond to the diameter and thickness of the flange)

TYPE B | FLANGES

Diameter before installation, mm				L = length, mm	Flange, mm		Quantity in the party, units
d = Ø internal admission G8		D = Ø external admission s8		admission js13	D' = Ø flange admission js13	e = thickness admission js14	
3	+16/+2	6	+37/+19	4 - 5 - 6 - 10	9	1,5	25
4	+22/+4	8	+45/+23	4 - 5 - 8 - 10 - 12	12	2	25
6	+22/+4	10	+45/+23	6 - 10 - 15 - 16	14	2	25
8	+27/+5	12	+55/+28	8 - 10 - 12 - 15 - 16	16	2	25
9	+27/+5	14	+55/+28	6 - 10 - 14	19	2,5	10
10	+27/+5	13	+55/+28	10 - 16 - 20	16	1,5	10
10	+27/+5	14	+55/+28	10 - 15 - 20	18	2	10
10	+27/+5	15	+55/+28	10 - 15 - 16 - 20	20	3	10
10	+27/+5	16	+55/+28	8 - 10 - 16	22	3	10
12	+33/+6	15	+55/+28	12 - 16 - 20	18	1,5	10
12	+33/+6	17	+55/+28	10 - 12 - 15 - 16 - 20 - 25	22	3	10
12	+33/+6	18	+55/+28	8 - 12 - 20	24	3	10
14	+33/+6	18	+55/+28	14 - 18 - 22	22	2	10
14	+33/+6	20	+68/+35	14 - 15 - 18 - 20 - 22 - 25 - 28 - 30	25	3	10
15	+33/+6	19	+68/+35	16 - 20 - 25	23	2	10
15	+33/+6	20	+68/+35	15 - 20 - 25 - 30	25	3	10
15	+33/+6	21	+68/+35	16 - 20 - 25 - 32	27	3	10
16	+33/+6	20	+68/+35	16 - 20 - 25	24	2	10
16	+33/+6	22	+68/+35	15 - 16 - 20 - 25 - 30 - 32	28	3	10
18	+33/+6	22	+68/+35	18 - 22 - 28	26	2	10
18	+33/+6	24	+68/+35	18 - 22 - 28	30	3	10
18	+33/+6	25	+68/+35	20 - 25 - 30 - 35	32	4	10
20	+40/+7	24	+68/+35	10 - 16 - 20 - 25	28	2	10
20	+40/+7	26	+68/+35	15 - 16 - 20 - 25 - 30 - 32	32	3	10
20	+40/+7	28	+68/+35	20 - 25 - 30 - 35	35	4	10
22	+40/+7	27	+68/+35	18 - 22 - 28	32	2,5	10
22	+40/+7	28	+68/+35	15 - 20 - 25 - 30 - 35 - 40	33	4	10
22	+40/+7	29	+68/+35	18 - 22 - 28 - 36	36	3,5	10
25	+40/+7	30	+68/+35	20 - 25 - 32	35	2,5	10
25	+40/+7	32	+82/+43	20 - 25 - 30 - 32 - 35 - 40	40	4	10
25	+40/+7	35	+82/+43	16 - 25 - 30	45	5	10
28	+40/+7	33	+82/+43	22 - 28 - 36	38	2,5	10
28	+40/+7	36	+82/+43	22 - 25 - 28 - 30 - 35 - 36 - 40	44	4	10
30	+40/+7	38	+82/+43	20 - 25 - 30	46	4	10
30	+40/+7	40	+82/+43	25 - 30 - 35 - 40	48	4	10
32	+48/+9	38	+82/+43	20 - 25 - 32	44	3	10
32	+48/+9	40	+82/+43	20 - 25 - 30 - 32 - 35 - 40	48	4	10
35	+48/+9	45	+82/+43	20 - 25 - 30 - 35 - 40	55	5	10
36	+48/+9	42	+82/+43	22 - 28 - 36	48	3	10
36	+48/+9	45	+82/+43	22 - 28 - 36	54	4,5	10
40	+48/+9	46	+82/+43	25 - 32 - 40	52	3	5
40	+48/+9	50	+82/+43	25 - 30 - 32 - 35 - 40	60	5	5
45	+48/+9	51	+99/+53	28 - 36 - 45	57	3	5
45	+48/+9	56	+99/+53	28 - 36 - 45	67	5,5	5
50	+48/+9	56	+99/+53	32 - 40 - 50	62	3	5
50	+48/+9	60	+99/+53	32 - 40 - 50	70	5	5
60	+56/+10	70	+105/+59	50 - 60	80	5	5

Admission specified in mkm (1 µm = 10^{-3} mm = 0,001 mm)
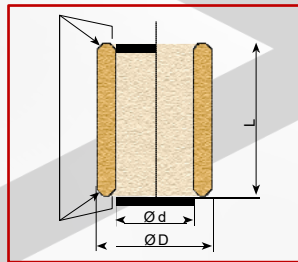Divergence: IT-9 for D ≤ 50 and IT-10 for D > 50
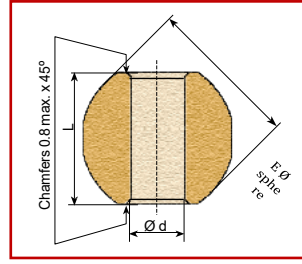
MARKING

A spherical bronze bushing with an inner diameter (d) of 10 mm, a sphere diameter (E) of 22 mm and a length (L) of 16 mm is designated as:
POWMET Bushing C-10-22-16
(the letter C denotes a spherical bushing)

TYPE B | SPHERICAL

d = Ø internal admission H7	E = Ø spheres, mm admission ±0.05	L = length, mm admission ±0.15	Quantity in the party, units
4	10	8	25
5	12	9	25
6	14	11	25
7	16	12	25
8	18	13	25
9	20	14,5	25
10	22	16	25
12	23	16	25

Divergence: IT-9 for D≤ 50 and IT-10 for D>50

MARKING

A cylindrical bronze bushing with an inside diameter (d) of 1 inch, an outside diameter (D) of 1½ inches, and a length (L) of 2 inches is designated as:
POWMET Bushing A-1-1½-2
(the letter A denotes a bronze cylindrical sleeve)
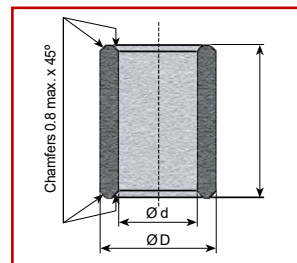
TYPE A | CYLINDRICAL
(dimensions in inches)

Diameter before installation, inch		L = length, mm	Quantity in the party, units
d = Ø internal допуск G7	D = Ø external admission s7	admission js13	
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{4}$ - $\frac{3}{8}$ - $\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$	25
$\frac{3}{8}$	$\frac{5}{8}$	$\frac{3}{8}$ - $\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - 1	25
$\frac{1}{2}$	$\frac{11}{16}$	$\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - 1 - 1$\frac{1}{4}$	10
$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - 1 - 1$\frac{1}{4}$	10
$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - 1 - 1$\frac{1}{4}$	10
$\frac{5}{8}$	$\frac{7}{8}$	$\frac{1}{2}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - 1 - 1$\frac{1}{4}$	10
$\frac{3}{4}$	$\frac{7}{8}$	$\frac{5}{8}$ - $\frac{3}{4}$ - $\frac{7}{8}$ - 1 - 1$\frac{1}{4}$	10
$\frac{3}{4}$	1	$\frac{5}{8}$ - $\frac{3}{4}$ - $\frac{7}{8}$ - 1 - 1$\frac{1}{4}$	10
$\frac{3}{4}$	1$\frac{1}{4}$	$\frac{5}{8}$ - $\frac{3}{4}$ - $\frac{7}{8}$ - 1 - 1$\frac{1}{4}$	10
1	1$\frac{1}{8}$	$\frac{3}{4}$ - 1 - 1$\frac{1}{4}$ - 1$\frac{1}{2}$	10
1	1$\frac{1}{2}$	$\frac{3}{4}$ - 1 - 1$\frac{1}{4}$ - 1$\frac{1}{2}$	5
1$\frac{1}{2}$	2	1$\frac{1}{2}$ - 2 - 2$\frac{1}{4}$ - 2$\frac{1}{2}$	5
2	2$\frac{1}{2}$	1$\frac{1}{2}$ - 2 - 2$\frac{1}{4}$ - 2$\frac{1}{2}$	2
2$\frac{1}{2}$	3	1$\frac{1}{2}$ - 2 - 2$\frac{1}{4}$ - 2$\frac{1}{2}$	1

Divergence: IT-9 forr D≤ 2'' and IT-10 for D≥ 2''

BUSHES
IRON

Chamfers 0,8 max. x 45º — Ø d — Ø D

TYPE AF | CYLINDRICAL

Diameter before installation, mm		L = length, mm	Quantity in the
d = Ø internal admission G7	**D = Ø external** admission s7	admission js13	**party, units**
3 (+12/+2)	6 (+31/+19)	4 - 10	25
4 (+16/+4)	8 (+38/+23)	8	25
6 (+16/+4)	9 (+38/+23)	6 - 10 - 12 - 16	25
6 (+16/+4)	10 (+38/+23)	6 - 10 - 16	25
6 (+16/+4)	12 (+46/+28)	6	25
8 (+20/+5)	11 (+46/+28)	8 - 12 - 16	25
8 (+20/+5)	12 (+46/+28)	8 - 12 - 16 - 20	25
10 (+20/+5)	13 (+46/+28)	10 - 20 - 25	25
10 (+20/+5)	14 (+46/+28)	10 - 16 - 20	25
10 (+20/+5)	15 (+46/+28)	10	10
12 (+24/+6)	15 (+46/+28)	12 - 16 - 20	10
12 (+24/+6)	16 (+46/+28)	12 - 16 - 20 - 25	10
12 (+24/+6)	17 (+46/+28)	12	10
14 (+24/+6)	18 (+46/+28)	14 - 22	10
14 (+24/+6)	20 (+56/+35)	14 - 28	10
15 (+24/+6)	19 (+56/+35)	16 - 20	10
16 (+24/+6)	20 (+56/+35)	16 - 20 - 25 - 32	10
16 (+24/+6)	22 (+56/+35)	16 - 20 - 25	10
18 (+24/+6)	22 (+56/+35)	18 - 22	10
18 (+24/+6)	24 (+56/+35)	22	10
20 (+28/+7)	24 (+56/+35)	16 - 20 - 25 - 32	10
20 (+28/+7)	26 (+56/+35)	16 - 20 - 25 - 32	10
22 (+28/+7)	27 (+56/+35)	18 - 22	10
25 (+28/+7)	30 (+56/+35)	20 - 25 - 32	10
25 (+28/+7)	32 (+68/+43)	20 - 25 - 32	10
30 (+28/+7)	38 (+68/+43)	24 - 30 - 38	5
32 (+34/+9)	38 (+68/+43)	32	5
35 (+34/+9)	44 (+68/+43)	22 - 28 - 35	5
36 (+34/+9)	42 (+68/+43)	22	5
40 (+34/+9)	46 (+68/+43)	25 - 32 - 40	5
40 (+34/+9)	50 (+68/+43)	25 - 32 - 40 - 50	5
45 (+34/+9)	51 (+83/+53)	28 - 45	5
45 (+34/+9)	55 (+83/+53)	35	5
45 (+34/+9)	56 (+83/+53)	36	5
50 (+34/+9)	56 (+83/+53)	32	2
50 (+34/+9)	60 (+83/+53)	32 - 50	2
60 (+40/+10)	70 (+89/+59)	60 - 90	2
70 (+40/+10)	80 (+89/+59)	120	1
80 (+56/+10) (G8)	100 (+125/+71) (s8)	120	1
100 (+66/+12) (G8)	120 (+133/+79) (s8)	120	1

Admission specified in mkm (1 µm = 10^{-3} mm = 0,001 mm)
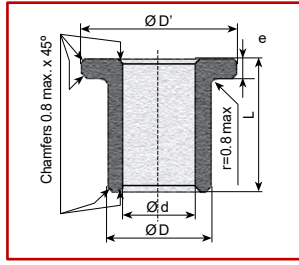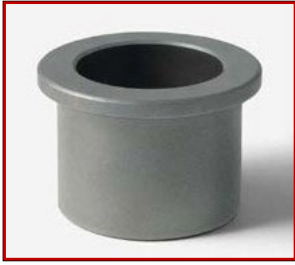Divergence: IT-9 for D ≤ 50 and IT-10 for D > 50

MARKING

A cylindrical iron sleeve with an inner diameter (d) of 25 mm, an outer diameter (D) of 30 mm and a length of 32 mm is designated as:

POWMET Sleeve AF-25-30-32
(the letters AF denote an iron cylindrical sleeve)

Ø d — Ø D
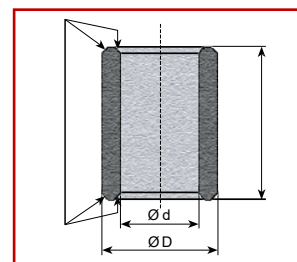
MARKING

A cylindrical iron sleeve with an inner diameter (d) of 16 mm, an outer diameter (D) of 22 mm and a length (L) of 25 mm is designated as:
POWMET Bushing BF-16-22-25/28-3
(the letters BF denote the iron cylindrical sleeve, and the values 28-3 correspond to the diameter and thickness of the flange)

TYPE BF | FLANGE					
Diameter before installation, mm		**L = length, mm** admission js13	**Flange, mm**		**Quantity in the party, units**
d = Ø internal admission G8	**D = Ø external** admission s8		**D′ = Ø flange** admission js13	**e = thickness** admission js14	
3^{+16}_{+2}	6^{+37}_{+19}	4	9	1	25
6^{+22}_{+4}	10^{+45}_{+23}	6 - 10 - 16	14	5	25
8^{+27}_{+5}	12^{+55}_{+28}	8 - 12 - 16	16	2	25
10^{+27}_{+5}	13^{+55}_{+28}	10 - 16	16	2	10
10^{+27}_{+5}	15^{+55}_{+28}	10 - 16 - 20	20	15	10
12^{+33}_{+6}	15^{+55}_{+28}	12 - 16 - 20	18	2,5	10
12^{+33}_{+6}	17^{+55}_{+28}	12 - 16	22	1,5	10
14^{+33}_{+6}	18^{+55}_{+28}	14 - 18 - 22	22	2,5	10
16^{+33}_{+6}	20^{+68}_{+35}	16 - 20	24	2	10
16^{+33}_{+6}	22^{+68}_{+35}	16 - 20 - 25	28	2	10
18^{+33}_{+6}	24^{+68}_{+35}	18 - 22	30	3	10
20^{+40}_{+7}	24^{+68}_{+35}	16 - 20 - 25	28	3	10
20^{+40}_{+7}	26^{+68}_{+35}	16 - 20 - 25	32	2	10
22^{+40}_{+7}	29^{+68}_{+35}	18 - 22 - 28 - 36	36	3	10
25^{+40}_{+7}	30^{+68}_{+35}	20 - 32	35	3,5	10
25^{+40}_{+7}	32^{+82}_{+43}	25 - 32	39	2,5	10
30^{+40}_{+7}	38^{+82}_{+43}	30	46	3,5	10
32^{+48}_{+9}	40^{+82}_{+43}	20 - 32	48	4	10
36^{+48}_{+9}	45^{+82}_{+43}	22 - 36	54	4	10
40^{+48}_{+9}	50^{+82}_{+43}	25 - 32 - 40	60	4,5	5
50^{+48}_{+9}	60^{+99}_{+53}	50	70	5	5
60^{+56}_{+10}	70^{+105}_{+59}	60	80	5	5

Admission specified in mkm (1 µm = 10^{-3} mm = 0,001 mm)
Divergence: IT-9 for D≤ 50 and IT-10 for D>50

RODS FOR MECHANICAL PROCESSING
IRON AND BRONZE

TYPE T | BRONZE

SOLID

D = Ø external mm	L = length, mm	Quantity in the party, units
15 ±0.8	30 min.	5
20 ±0.8	25 min.	5
20 ±0.8	50 min.	2
25 ±0.8	25 min.	2
25 ±0.8	50 min.	2
32 ±0.8	40 min.	2
32 ±0.8	80 min.	1
42 ±0.8	50 min.	1
42 ±0.8	100 min.	1
45 ± 1	90 min.	1
52 ± 1	60 min.	1
52 ± 1	120 min.	1
62 ±1.5	120 min.	1
70 ±1.5	120 min.	1
80 ±1.5	120 min.	1
105 ± 2	120 min.	1
125 min.	80 min.	1
125 min.	140 min.	1
149 min.	80 min.	1
149 min.	140 min.	1
178 min.	140 min.	1
202 min.	80 min.	1

HOLLOW

d = Ø internal mm	D = Ø external mm	L = length, mm	Quantity in the party, units
38 ± 0.8	66 ±1.5	65 min.	1
38 ± 0.8	66 ±1.5	120 min.	1
45 ± 0.8	105 ±1.5	120 min.	1
53 ± 1	85 ±1.5	65 min.	1
53 ± 1	85 ±1.5	120 min.	1
68 ± 1.5	104 ±1.5	65 min.	1
68 ± 1.5	104 ±1.5	120 min.	1
83 ± 1.5	123 ±2	65 min.	1
83 ± 1.5	123 ±2	120 min.	1
98 ± 1.5	142 ±2	65 min.	1
98 ± 1.5	142 ±2	120 min.	1
59 max.	125 min.	80 min.	1
59 max.	125 min.	140 min.	1
79 max.	149 min.	80 min.	1
79 max.	149 min.	140 min.	1

MARKING

A solid bronze rod with a diameter (D) of 25 mm and a length (L) of 50 mm is designated as:
POWMET Rod T-25-50
(the letter T denotes a bronze rod for processing)

TYPE TF | IRON

SOLID

D = Ø external mm	L = length, mm	Quantity in the party, units
15 ± 1	30 ± 2	5
20 ± 1	25 ± 2	5
20 ± 1	50 ± 2	2
25 ± 1	25 ± 2	2
25 ± 1	50 ± 2	2
32 ± 1	40 ± 2	2
32 ± 1	80 ± 2	1
42 ± 1	50 ± 2	1
42 ± 1	100 ± 2	1
45 ± 1	90 ± 2	1
52 ± 1	60 ± 2	1
52 ± 1	120 ± 2	1
62 ± 1	120 ± 2	1
70 ± 1	120 ± 2	1
80 ± 1	120 ± 2	1

HOLLOW

d = Ø internal mm	D = Ø external mm	L = length, mm	Quantity in the party, units
38 ±1	66 ±1.5	65 ±2	1
38 ±1	66 ±1.5	120 ±2	1
53 ±1	85 ±1.5	65 ±2	1
53 ±1	85 ±1.5	120 ±2	1

MARKING

A hollow iron rod with an inner diameter (d) of 38 mm, an outer diameter (D) of 55 mm and a length (L) of 120 mm is designated as:
POWMET Rod TF-38-66-120
(the letters TF denote an iron rod for machining)

Admissionи specified in mkm (1 μm = 10^{-3} mm = 0,001 mm)