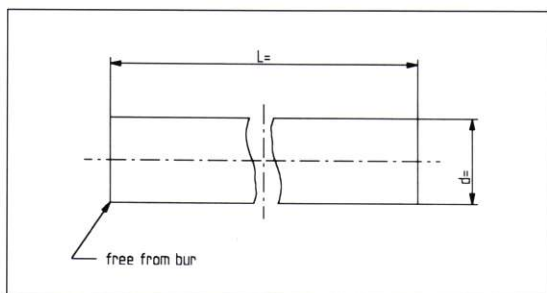


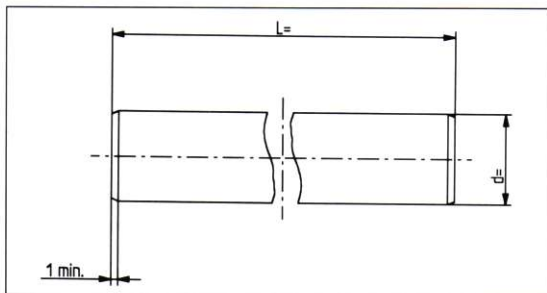
ESSC Shafting standard



ESSC 1

cut with no chamfer only
deburr

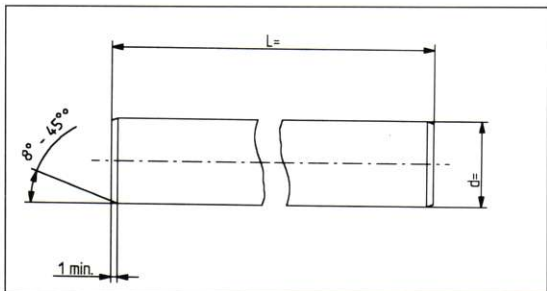
- length tolerance
according DIN 7168
middle range
(see page 47)



ESSC 2

cut with chamfer

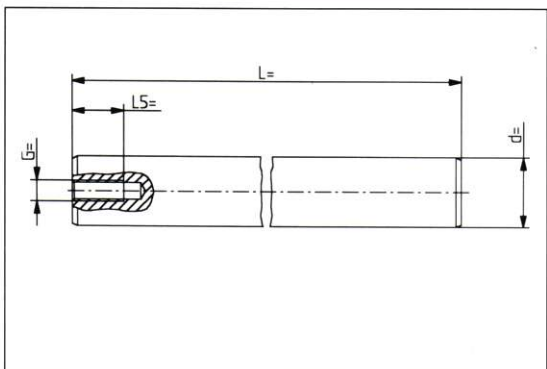
- length tolerance
as ESSC 1



ESSC 3

cut with machined 25°
chamfer and 90° front
surfaces for limited length
tolerance or chamfer
according to customer
specification

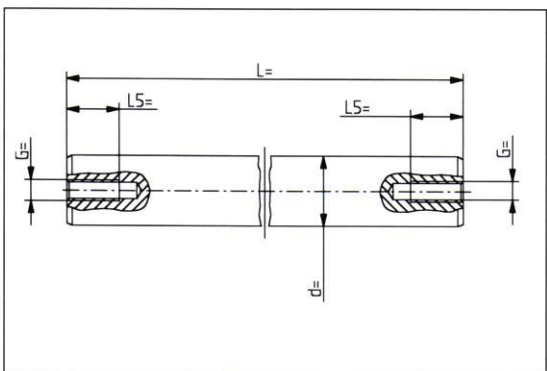
- length tolerance $\pm 0,1$ mm
up to 3.000 mm total length



ESSC 4

cut with machined 25°
chamfer, 90° front surfaces
and one axial hole

- length tolerance as
ESSC 3



ESSC 5

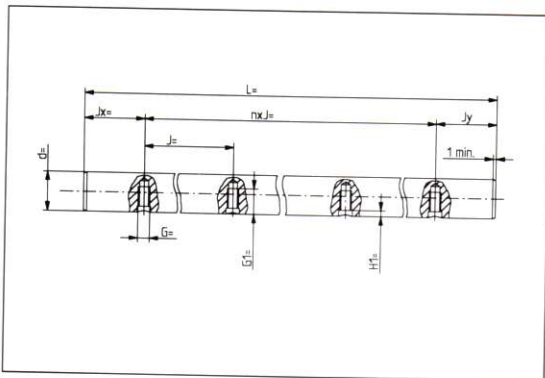
as ESSC 4
with two axial holes

Dimensions of frontside thread

Ø (d)	Thread (G)	Depth (L5)
5	-	-
8	M4	10
10	M4	10
12	M5	12,5
14	M5	12,5
16	M6	15
20	M8	20
25	M10	25
30	M10	25
40	M12	30
50	M16	40
60	M20	50
80	M24	60

Dimensions of frontside thread

Ø (d)	Thread (G)	Depth (L5)
5	-	-
8	M4	10
10	M4	10
12	M5	12,5
14	M5	12,5
16	M6	15
20	M8	20
25	M10	25
30	M10	25
40	M12	30
50	M16	40
60	M20	50
80	M24	60



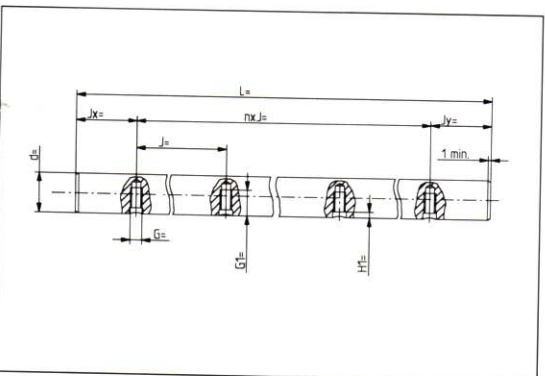
ESSC 6

cut and chamfer as ESSC 2

- with radial holes for LRCB (see page 42)
- first radial hole with $Jx = J/2$
- H1 according to hardness depth

Dimensions of radial thread

Ø	Thread	G	G1	J	Jx
5	-	-	-	-	-
8	-	-	-	-	-
12	M4	5	8	75	37,5
16	M5	6	9,5	100	50
20	M6	7	13	100	50
25	M8	9	14	120	60
30	M10	11	18	150	75
40	M10	11	20	200	100
50	M12	13	23	200	100
60	M14	15	28	300	150
80	M16	16	33	300	150

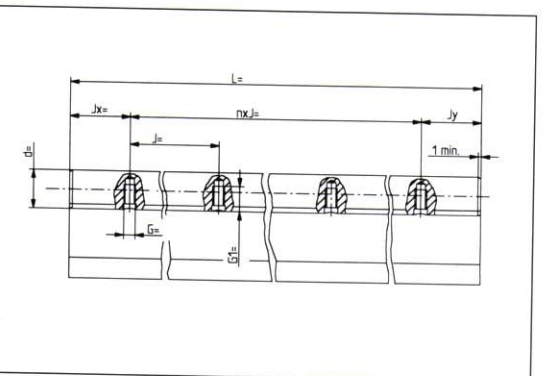


ESSC 7

as ESSC 6

- radial holes with J and Jx according to customer specification

Ø	Thread	G	G1	J	Jx
5	-	-	-	-	-
8	-	-	-	-	-
12	M4	5	8	-	-
16	M5	6	9,5	-	-
20	M6	7	13	-	-
25	M8	9	14	-	-
30	M10	11	18	-	-
40	M10	11	20	-	-
50	M12	13	23	-	-
60	M14	15	28	-	-
80	M16	16	33	-	-

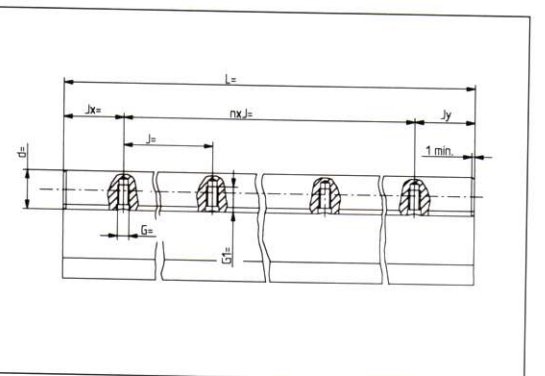


ESSC 8

cut and chamfer as ESSC 2

- Shaft is mounted on LRCB (see page 42)
- first radial hole with $Jx = J/2$
- H1 according to hardness depth

Ø	Thread	G	G1	J	Jx
5	-	-	-	-	-
8	-	-	-	-	-
12	M4	5	8	75	37,5
16	M5	6	9,5	100	50
20	M6	7	13	100	50
25	M8	9	14	120	60
30	M10	11	18	150	75
40	M10	11	20	200	100
50	M12	13	23	200	100
60	M14	15	28	300	150
80	M16	16	33	300	150



ESSC 9

as ESSC 8

- Shaft is mounted on LRCC (see page 42)
- radial holes with J and Jx according to customer specification

Ø	Thread	G	G1	J	Jx
5	-	-	-	-	-
8	-	-	-	-	-
12	M4	5	8	-	-
16	M5	6	9,5	-	-
20	M6	7	13	-	-
25	M8	9	14	-	-
30	M10	11	18	-	-
40	M10	11	20	-	-
50	M12	13	23	-	-
60	M14	15	28	-	-
80	M16	16	33	-	-

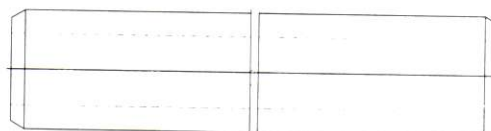
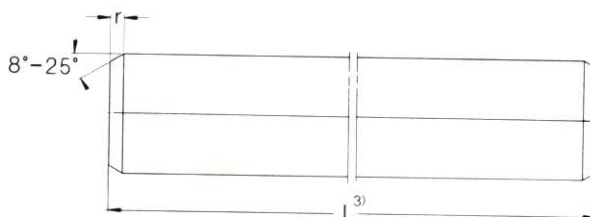
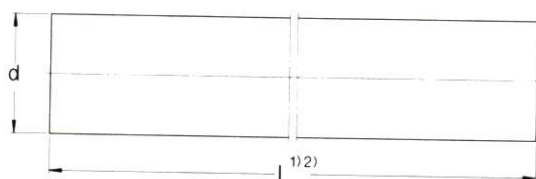
ESSC 10

shaft according to customer specification

- drawing is obligatory of manufacturing

Precision shafts

d 5-80 mm



Standard designs
Designs for fixed lengths
without chamfer

Designs for fixed length
with chamfer

Dimension			Mass		Moment of inertia		Cross sectional area		Designations				
d	d ₁	r _{min}	Solid shaft	Hollow shaft	Solid shaft	Hollow shaft	Solid shaft	Hollow shaft	Solid shafts of precision steel	Solid shafts of stainless steel X90CrMoV18	X46Cr13	Solid shafts with high grade steel hard chromium plated	Hollow shaft high grade steel
mm			kg/m		cm ⁴		mm ²						
5	—	0,8	0,15	—	0,0031	—	19,6	—	LJM 5				
6	—	0,8	0,22	—	0,0064	—	28,3	—	LJM 6				
8	—	0,8	0,39	—	0,020	—	50,3	—	LJM 8	LJMR 8	LJMS 8	LJMH 8	
10	—	0,8	0,62	—	0,049	—	78,5	—	LJM 10	LJMR 10	LJMS 10	LJMH 10	
12	—	1	0,89	—	0,102	—	113	—	LJM 12	LJMR 12	LJMS 12	LJMH 12	
14	—	1	1,21	—	0,189	—	154	—	LJM 14			LJMH 14	
16	7	1	1,57	1,28	0,322	0,310	201	163	LJM 16	LJMR 16	LJMS 16	LJMH 16	LJT 16
20	12	1,5	2,45	1,26	0,785	0,597	314	160	LJM 20	LJMR 20	LJMS 20	LJMH 20	LJT 20
25	14	1,5	3,83	2,40	1,92	1,64	491	305	LJM 25	LJMR 25	LJMS 25	LJMH 25	LJT 25
30	19	1,5	5,51	3,55	3,98	3,46	707	453	LJM 30	LJMR 30	LJMS 30	LJMH 30	LJT 30
40	26	2	9,80	5,40	12,6	9,96	1260	685	LJM 40	LJMR 40	LJMS 40	LJMH 40	LJT 40
50	35	2	15,3	10,6	30,7	27,7	1960	1350	LJM 50	LJMR 50	LJMS 50	LJMH 50	LJT 50
60	36	2,5	22,1	15,1	63,6	57,1	2830	1920	LJM 60	LJMR 60		LJMH 60	LJT 60
80	53	2,5	39,2	20,1	201	153	5030	2565	LJM 80			LJMH 80	LJT 80

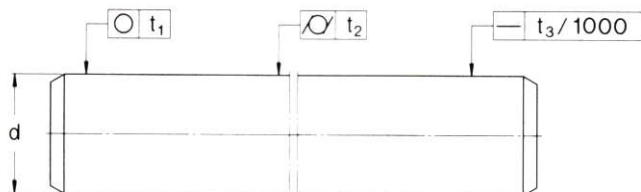
Attention:

d₁ can deviate from the value quoted. Please enquire if necessary.
Different shaft diameters and types on request.

Shafts cut to special length with flat turned ends. The length tolerance of these shafts corresponds to DIN 7168, medium. The designation for a shaft with 20 mm diameter cut to a length of 1,5 m is, for example, LJM 20x1500.

Precision shafts of high-grade steel

d 5-80 mm



Shaft Nominal diameter d mm	Accuracy of dimension and form									
	Shafts to tolerance h6					Shafts to tolerance h7				
	Diameter deviation		Circularity	Cylindricity	Straightness ¹⁾	Diameter deviation		Circularity	Cylindricity	Straightness ¹⁾
	high	low	t ₁	t ₂	t ₃	high	low	t ₁	t ₂	t ₃
	μm									
5	0	- 8	4	5	300	0	-12	5	8	300
6	0	- 8	4	5	300	0	-12	5	8	300
8	0	- 9	4	6	300	0	-15	6	9	300
10	0	- 9	5	7	300	0	-15	7	10	300
12	0	-11	5	8	200	0	-18	8	11	200
14	0	-11	5	8	200	0	-18	8	11	200
16	0	-11	5	8	200	0	-18	8	11	200
20	0	-13	6	9	100	0	-21	9	13	100
25	0	-13	6	9	100	0	-21	9	13	100
30	0	-13	6	9	100	0	-21	9	13	100
40	0	-16	7	11	100	0	-25	11	16	100
50	0	-16	7	11	100	0	-25	11	16	100
60	0	-19	8	13	100	0	-30	13	19	100
80	0	-19	8	13	100	0	-30	13	19	100

¹⁾ Shafts with straightness 50 μm/1000 mm to order