STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	CBN 46	
Stock removal	110 µ	
Pieces per load	168	
Cycle time without handling		4:00 min.
Rinsing agent	honing oil	

Parts specification

Material	100 Cr_6
Hardness	60 - 65 HRC
Previous operation	turned, hardened
Dimensions mm	Ø 30 x Ø 14 x 13

Premachined condition

Base size	13.08 ± 0.045 mm
Surface	glide ground
Flatness	0.03 mm
Parallelism	0.05 mm

Results

Tolerance in dimension		± 2.5 µ
Cpk	1.33	
Ra	0.15 µ	
Rz	1.2 µ	
Flatness	1 µ	
Parallelism	2 µ	
Surface optical:		bright crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	100 Cr_6
Hardness	60 - 65 HRC
Previous operation	turned, hardened
Dimensions	Ø 34 x Ø 25 x 15 mm

Premachined condition

Base size	15.2 ± 0.05 mm
Surface	turned
Flatness	0.05 mm
Parallelism	0.08 mm

Process specification

Machine	DLM 705	
Working wheel	CBN 46	
Stock removal	180 µ	
Pieces per load	132	
Cycle time without handling		2:30 min.
Rinsing agent	honing oil	

Results

Tolerance in dimension		± 2.5 µ
Cpk	1.33	
Ra	0.16 µ	
Rz	1.6 µ	
Flatness	1 µ	
Parallelism	2 µ	
Surface optical:		bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D 64	
Stock removal	650 µ	
Pieces per load	30	
Cycle time without handling		2:30 min.
Rinsing agent	honing oil	

Parts specification

Material	Al die cast
	$AlMgSi_1$
Previous operation cast	
Dimensions	100 x 55 x 32 mm

Premachined condition

Base size	32.5 mm
Surface	milled
Flatness	0.5 mm
Parallelism	0.7 mm

Results

Tolerance in dimension		± 5 µ
Cpk	1.33	
Ra	0.4 µ	
Rz	4 µ	
Flatness	2 µ	
Parallelism	3 µ	
Surface optical:		bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	$Fe_{17}Co_2Cr_{0.8}Mo_{0.2}V$
Hardness	62 ± 2 HRc
Previous operation	turned, hardened
Dimensions	Ø 27 x 6.3 mm

Premachined condition

Base size	6.3 mm
Surface	turned
Flatness	0.05 mm
Parallelism	0.07 mm

Process specification

Machine	DLM 705	
Working wheel	D4 / B54	
Stock removal	120 µ	
Pieces per load	108	
Cycle time without handling		3:30 min.
Rinsing agent	honing oil	

Results

Tolerance in dimension		± 4 µ
Cpk	1.33	
Ra	0.25 µ	
Rz	2.5 µ	
Flatness	2 µ	
Parallelism	3 µ	
Surface optical:		bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Built into a thermostatic expansion valve

Parts specification

Material X_5CrNi_{1810}
1.430

Previous operation stamped

Dimensions Ø 39 mm

Premachined condition

Base size 2.5 mm

Surface rolled

Flatness 0.06 mm

Process specification

Machine DLM 705

Working wheel D4 / B54

Stock removal 120 µ

Pieces per load 108

Cycle time without handling 3:30 min.

Rinsing agent honing oil

Results

Tolerance in dimension ± 4 µ

Cpk 1.33

Ra 0.25 µ

Rz 2.5 µ

Flatness 2 µ

Parallelism 3 µ

Surface optical: bright crosshatch

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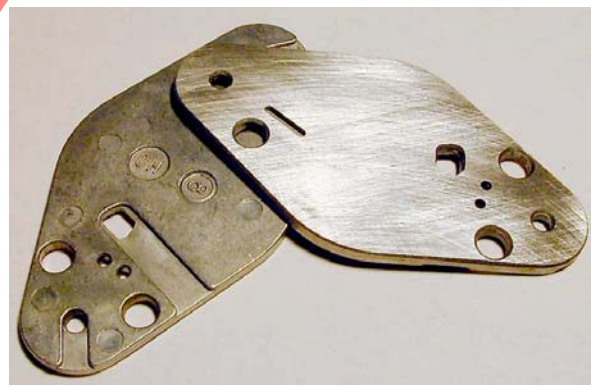
FEELING FOR FINISHING

FLATHONING ON DLM 705



Parts specification

Material	Al al die cast
	$AlSi_9Cu_3$
	DIN 3.2163
Previous operation	cast
Dimensions	95 x 52 mm

Premachined condition

Base size	3.5 mm
Surface	cast
Flatness	0.1 mm

Process specification

Machine	DLM 705	
Working wheel	D64	
Stock removal	500 µ	
Pieces per load	30	
Cycle time without handling		2:00 min.
Rinsing agent	honing oil	

Results

Tolerance in dimension	± 8 µ
Cpk	1.33
Ra	0.6 µ
Rz	5 µ
Flatness	1.5 µ
Surface optical:	bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	130 µ	
Pieces per load	30	
Cycle time without handling		4:00 min.
Rinsing agent	honing oil	

Parts specification

Material	Sint D_{11}
	DIN 3.2163
Previous operation	sintered, turned plasmanitriocarburated
Dimensions	95 x 52 mm

Premachined condition

Base size	8.1 mm
Surface	sintered, turned
Flatness	0.06 mm

Results

Tolerance in dimension	± 2.5 µ
Cpk	1.33
Ra	0.4 µ
Rz	4 µ
Flatness	2 µ
Surface optical:	bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	Duroplast
	Rx 622
Previous operation injected	
Dimensions	∅ 33 mm

Premachined condition

Base size	3.0 mm
Surface	injected with injection- and ejection marks
Flatness	0.05 mm

Process specification

Machine	DLM 705
Working wheel	D 30
Stock removal	250 µ
Pieces per load	192
Cycle time without handling	1:30 min.
Rinsing agent	H_2O with additive

Results

Tolerance in dimension	± 2.5 µ
Cpk	1.33
Ra	0.4 µ
Rz	6.3 µ
Flatness	2 µ
Surface optical:	crosshatch

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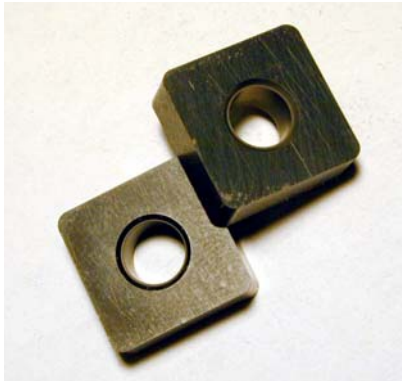
FEELING FOR FINISHING

FLATHONING ON DLM 705



Parts specification

Material	carbide
	Rx 622
Previous operation	sintered
Dimensions	12x12 mm

Premachined condition

Base size	3.0 mm
Surface	sintered
Flatness	0.1 mm

Process specification

Machine	DLM 705	
Working wheel	D 25	
Stock removal	250	
Cycle time without handling		2:30 min.
Rinsing agent	honing oil	

Results

Tolerance in dimension	± 2.5 µ
Cpk	1.33
Ra	0.2 µ
Rz	2 µ
Flatness	1 µ
Surface optical:	crosshatch

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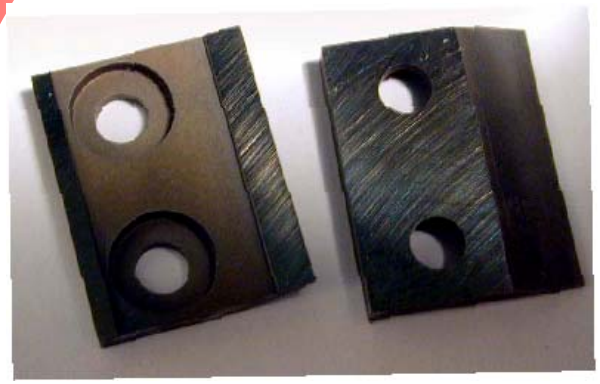
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705	
Working wheel	D 46	
Stock removal	650 µ	
Pieces per load	126	
Cycle time without handling		25:00 min.
Rinsing agent	honing oil	

Parts specification

Material	carbide
	Fx15 HIP
Previous operation	sintered
Dimensions	20x15x3 mm

Premachined condition

Base size	3.1 mm
Surface	raw
Flatness	0.02 mm
Parallelism	0.02 mm

Results

Tolerance in dimension		± 2 µ
Cpk	1.33	
Ra	0.017 µ	
Rz	0.287 µ	
Flatness	1.2 µ	
Parallelism	1 µ	
Surface optical:		bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B76	
Stock removal	120 µ	
Pieces per load	1‘500	
Cycle time without handling		6:00 min.
Rinsing agent	honing oil	

Parts specification

Material	$100Cr_8$
	62 HRc
Previous operation	stamped
Dimensions	Ø 6 x 1.12 mm

Premachined condition

Base size	1.12 mm
Surface	raw
Flatness	0.05 mm
Parallelism	0.08 mm

Results

Tolerance in dimension	± 5 µ
Cpk	1.33
Ra	0.1 µ
Rz	1 µ
Flatness	0.5 µ
Parallelism	1 µ
Surface optical:	bright crosshatch

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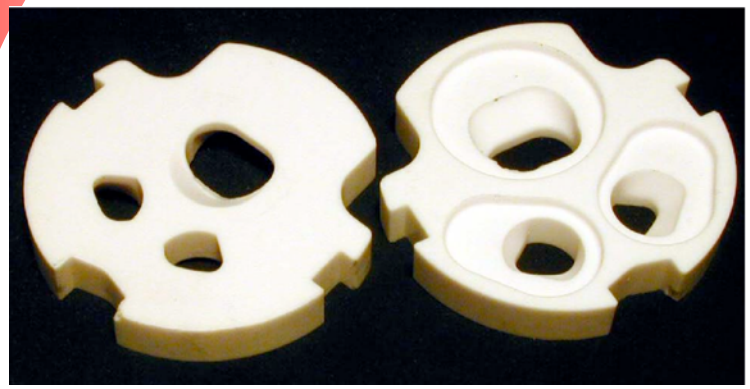
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705	
Working wheel	D76	
Stock removal	420 µ	
Pieces per load	90	
Cycle time without handling		2:00 min.
Rinsing agent	honing oil	

Parts specification

Material	Al_2O_3 ceramics
Previous operation	sintered
Dimensions	Ø 44 x 6 mm

Premachined condition

Base size	6.4 mm
Surface	raw
Flatness	0.2 mm
Parallelism	0.3 mm

Results

Tolerance in dimension		± 5 µ
Cpk	1.33	
Ra	0.4 µ	
Rz	4 µ	
Flatness	1 µ	
Parallelism	2 µ	
Surface optical:		crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	CBN 46	
Stock removal	45 µ	
Pieces per load	80	
Cycle time without handling		4:00 min.
Rinsing agent	honing oil	

Parts specification

Material	100 Cr_6 (1.3505)
Hardness	62 ± 2 HRc
Previous operation	turned, hardened
Dimensions	Ø 20 x Ø 12 x 7 mm
Application	Diesel injection

Premachined condition

Base size	7 ± 0.05 mm
Surface	turned
Flatness	0.03 mm
Parallelism	0.04 mm

Results

Tolerance in dimension		± 1.5 µ
Cpk	1.33	
Ra	0.16 µ	
Rz	1.7 µ	
Flatness	0.6 µ	
Parallelism	1 µ	
Surface optical:	bright crosshatch	

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	D 25 / D125
Stock removal	500 µ
Pieces per load	24
Cycle time without handling	8:00 min.
Rinsing agent	honing oil

Parts specification

Material	steel / bronze
Previous operation	turned
Dimensions	Ø 80 x 6 mm

Premachined condition

Base size	6.3 mm
Surface	turned
Flatness	0.5 mm
Parallelism	0.7 mm

Results

Tolerance in dimension	± 5 µ
Cpk	1.33
Ra bronze / steel	0.2 µ / 0.7 µ
Rz	2.0 µ / 6 µ
Flatness	2 µ
Parallelism	3 µ
Surface optical:	bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	carbon (graphite)
Previous operation	sintered
Dimensions	Ø 30 x Ø 24 mm

Premachined condition

Base size	5.3 mm
Surface	injected
Flatness	0.15 mm
Parallelism	0.25 mm

Process specification

Machine	DLM 705	
Working wheel	D 16	
Stock removal	300 µ	
Pieces per load	156	
Cycle time without handling		1:00 min.
Rinsing agent	honing oil	

Results

Tolerance in dimension	± 3 µ
Cpk	1.33
Ra	0.2 µ
Rz	2.0 µ
Flatness	0.7 µ
Parallelism	1.2 µ
Surface optical:	bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	Duroplast
	Rx 620
Previous operation	injected
Dimensions	∅ 38 mm

Premachined condition

Base size	14 mm
Surface	raw
Flatness	0.2 mm
Parallelism	0.2 mm

Process specification

Machine	DLM 705	
Working wheel	D 46	
Stock removal	250 µ	
Pieces per load	120	
Cycle time without handling		2:00 min.
Rinsing agent	H_2O	

Results

Tolerance in dimension	± 3 µ
Cpk	1.33
Ra	0.4 µ
Rz	5 µ
Flatness	1.2 µ
Parallelism	3 µ
Surface optical:	bright crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	brass
Previous operation	milled
Dimensions	20 x 25 mm

Premachined condition

Base size	1.8 mm
Surface	raw
Flatness	0.05 mm
Parallelism	0.06 mm

Process specification

Machine	DLM 705	
Working wheel	D 25	
Stock removal	100 µ	
Pieces per load	80	
Cycle time without handling		2:00 min.
Rinsing agent	H_2O	

Results

Tolerance in dimension	± 1 µ
Cpk	1.33
Ra	0.16 µ
Rz	2 µ
Flatness	1 µ
Parallelism	2 µ
Surface optical:	bright crosshatch

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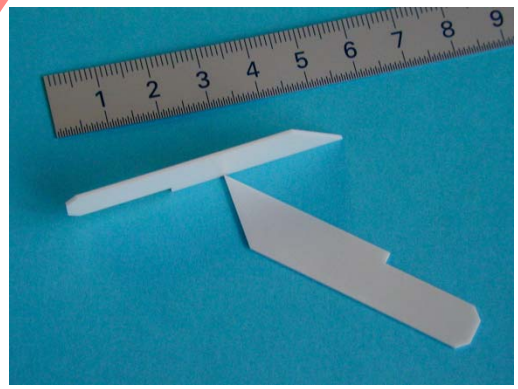
FEELING FOR FINISHING

FLATHONING ON DLM 705



Parts specification

Material Al_2O_3 ceramics

Previous operation shape ground

Dimensions 55 x 10 x 0.8 mm

Premachined condition

Base size 1.2 mm

Surface sintered

Flatness 0.05 mm

Parallelism 0.05 mm

Process specification

Machine DLM 705

Working wheel D126

Stock removal 400 µ

Pieces per load 70

Cycle time without handling 3:00 min.

Rinsing agent H_2O

Results

Tolerance in dimension ± 2 µ

Cpk 1.33

Ra 0.4 µ

Rz 4 µ

Flatness 3 µ

Parallelism 6 µ

Surface optical: crosshatch

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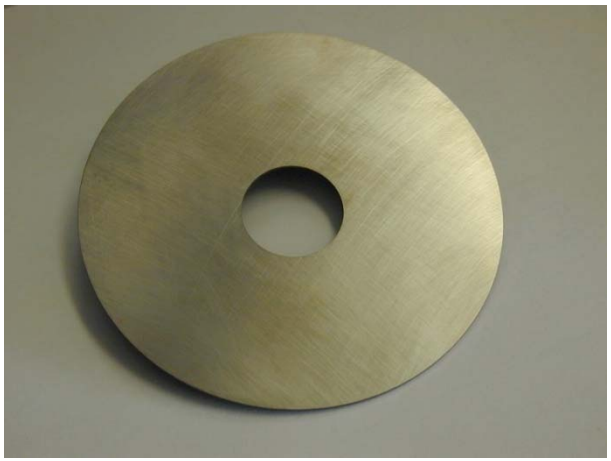
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705
Working wheel	D126
Stock removal	400 µ
Pieces per load	6
Cycle time without handling	5:30 min.
Rinsing agent	Honing oil

Parts specification

Material	carbide K10
Previous operation	sintered
Dimensions	Ø 4 ½" x 1" x 0.04645"
	Ø 114,3 x 25.4 x 1,18mm

Premachined condition

Base size	0.062/1.580 mm
Surface	sintered

Results

Tolerance in dim.	± 5 µ
Cpk	1.33
Ra	0.15 µ
Flatness	12 µ / 0.0000472
Parallelism	2 µ / 0.0000787
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	Bronce (CuSn8H290)
Previous operation	punched
Dimensions	40 x 21 x 2 mm

Premachined condition

Base size	2,100 mm
Surface	smoothed

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	120 µ	
Pieces per load	80	
Cycle time without handling		2:00 min
Rinsing agent	Honing oil	

Results

Tolerance in dim.	± 2 µ
Cpk	1.33
Ra	0.2 µ
Flatness	5 µ
Parallelism	2 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	carbide
Previous operation	sintered
Dimensions	29 x 16 x 9 mm

Premachined condition

Overmeasure	9.400 mm
Surface	sintered

Process specification

Machine	DLM 705
Working wheel	D46
Stock removal	400 µ
Pieces per load	50
Cycle time without handling	5:30 min.
Rinsing agent	Honing oil

Results

Tolerance in dim.	± 5 µ
Cpk	1.33
Ra	0.15 µ
Flatness	0.5 µ
Parallelism	1-2 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	420 stainless steel
Previous operation	fine blanking
Dimensions	ø 20 x 4 mm

Application Razor

Premachined condition

Base size	4.37 mm

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	80 µ	
Pieces per load	200	
Cycle time without handling		1:00 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	± 10 µ
Cpk	1.33
Ra	0.2 µ
Flatness	< 5 µ
Parallelism	< 5 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	455 stainless steel
Previous operation	blanking
Dimensions	ø 17,5 x 5.93 mm

Application Razor

Premachined condition

Base size	5.23 mm
Surface	blanking

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	450 µ	
Pieces per load	180	
Cycle time without handling		1:30 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	5,08 ± 75 µ
Cpk	1.33
Ra	0.4 µ
Parallelism	20 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	ceramics
Previous operation	sintered
Dimensions	ø 67 mm

Premachined condition

Base size	~7 mm
Surface	sintered

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	390 µ	
Pieces per load	30	
Cycle time without handling		2:30 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	6 ± 10 µ
Cpk	1.33
Ra	0.4 µ
Flatness	1,5 – 3 µ
Parallelism	2-4 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	sintered metal
Previous operation	sintered
Dimensions	ø 5,5 x ø 3 x 3.2 mm

Premachined condition

Base size	3.56 mm
Surface	sintered

Process specification

Machine	DLM 705	
Working wheel	D46 AL	
Stock removal	360 µ/min.	
Pieces per load	1430	
Cycle time without handling		3:00 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	3.29 mm ± 3 µ
Cpk	1.33
Ra	0.2 - 0.4 µ
Flatness	< 1 µ
Parallelism	< 1 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts specification

Material	sintered steel soft
Previous operation	sintered
Dimensions	ø 48 x 10 mm

Premachined condition

Base size	1.5 mm
Surface	sintered

Process specification

Machine	DLM 705	
Working wheel	B91	
Stock removal	200 µ	
Pieces per load	48	
Cycle time without handling		4:00 min.
Rinsing agent	Water	

Results

Tolerance in dim.	1.3 mm ± 20 µ
	groove depth
Cpk	1.33
Ra	0.5 µ
Flatness	1-3 µ
Parallelism	3 µ
Surface optical:	crosshatch

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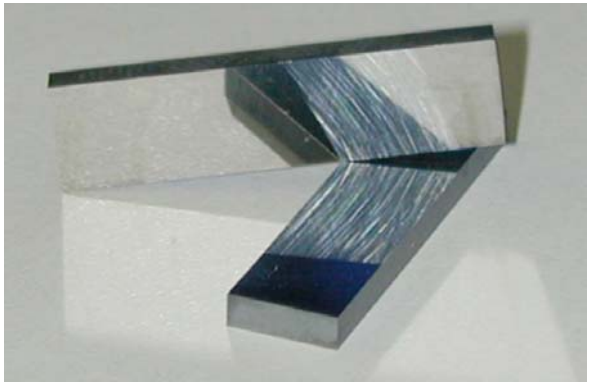
FEELING FOR FINISHING

FLATHONING ON DLM 705



Parts specification

Material	carbide
Previous operation	sintered
Dimensions	28 x 7,2 x 2,795 mm

Premachined condition

Base size	2,99 mm
Surface	sintered

Process specification

Machine	DLM 705	
Working wheel	D30	
Stock removal	200 µ	
Pieces per load	150	
Cycle time without handling		3:00 min.
Rinsing agent	oil	

Results

Tolerance in dim.	2,795 mm ± 1 µ
Cpk	1.33
Ra	< 0.1 µ
Flatness	< 1 µ
Parallelism	< 2 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	170 µ	
Pieces per load	48	
Cycle time without handling		1:30 min.
Rinsing agent	Oil	

Parts specification

Material	16MnCrS5
Previous operation	fine blanked
Dimensions	∅ 50,9x5,35 mm

Application Drilling machine

Premachined condition

Base size	5,500 mm
Surface	feingestanzt
with blanking burr	up to 5,56 mm

Results

Tolerance in dim.	5,0 + 10 µ
Cpk	1.33
Ra	0.6 µ
Flatness	1 µ
Parallelism	2 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts description

Material	sintered steel
Previous operation	sintered
Dimensions	∅ 32,05 x 2,48 mm

Application Diesel injection

Premachined condition

Base size	2,600 mm
Surface	sintered

Process specification

Machine	DLM 705	
Working wheel	B76	
Stock removal	120	
Pieces per load	60 µ	
Cycle time without handling		4:30 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	2,25 mm ± 1 µ
Classes	2,23 – 2,28 mm
Ra	0.15 µ
Flatness	1 µ
Parallelism	2 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D76	
Stock removal	900 µ	
Pieces per load	120	
Cycle time without handling		10:00 min.
Rinsing agent	Oil	

Parts description

Material	SiN	
Previous operation	sintered	
Dimensions mm		12.5 x 12.5 x 7.940

Premachined condition

Base size	8.86 mm
Surface	sintered

Results

Tolerance in dim.		7.940 mm ± 5 µ
CpK	1.33	
Ra	0.05 µ	
Flatness	1 µ	
Parallelism		1 µ
Surface optical:		crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	300 µ	
Pieces per load	114	
Cycle time without handling		2:00 min.
Rinsing agent	Oil	

Parts description

Material	steel soft
Previous operation	fine blanked
Dimensions	Ø 38 x 6,2 mm

Premachined condition

Base size	6.50 mm
Surface	raw

Results

Tolerance in dim.	5.97 mm ± 5 µ
CpK	1.33
Ra	0.5 µ
Flatness	5 µ
Parallelism	2 µ
Surface optical:	crosshatch

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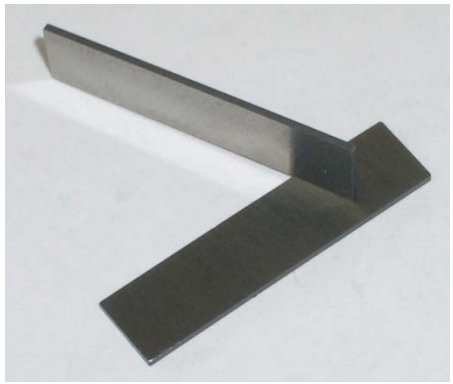
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	300 µ	
Pieces per load	250	
Cycle time without handling		10:00 min.
Rinsing agent	Oil	

Parts description

Material	carbide
Previous operation	sintered
Dimensions	26 x 6 x 0.65 mm

Premachined condition

Base size	0.95 mm
Surface	raw

Results

Tolerance in dim.	0.63 mm ± 5 µ
CpK	1.33
Ra	0.2 µ
Flatness	2 µ
Parallelism	1 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	300 µ/min.	
Pieces per load	205	
Cycle time without handling		1:00 min.
Rinsing agent	Oil	

Parts description

Material	steel soft
Previous operation	fine blanked
Dimensions	∅ 23 x 6.25 mm

Premachined condition

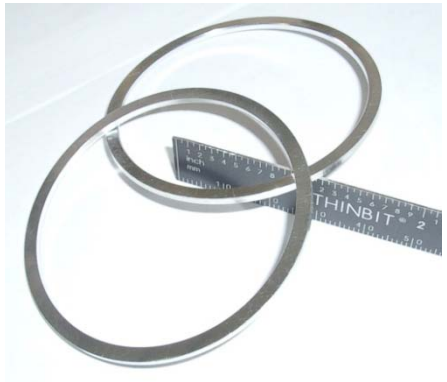
Base size	6.25 mm
Surface	raw

Results

Tolerance in dim.	6.1 mm ± 10 µ
CpK	1.33
Ra	0.5 µ
Flatness	5 µ
Parallelism	2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705



Parts description

Material	Aluminium
Previous operation	turned on a lathe
Dimensions	∅ 60 x 30 x 1.6 mm

Premachined condition

Base size	1.6 mm
Surface	turned on a lathe

Process specification

Machine	DLM 705	
Working wheel	D30	
Stock removal	100 µ	
Pieces per load	30	
Cycle time without handling		1:30 min.
Rinsing agent	Oil	

Results

Tolerance in dim.	1.5 mm ± 5 µ
CpK	1.33
Ra	0.5 µ
Flatness	10 µ
Parallelism	2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	300 µ	
Pieces per load	40	
Cycle time without handling		7:30 min.
Rinsing agent	Oil	

Parts description

Material	Bronze
Previous operation	blanking
Dimensions	40 x 40 x 1.5 mm

Premachined condition

Base size	1.8 mm
Surface	raw

Results

Tolerance in dim.	1.65 mm ± 5 µ
CpK	1.33
Ra	0.4 µ
Flatness	10 µ
Parallelism	2 µ
Surface optical:	crosshatch

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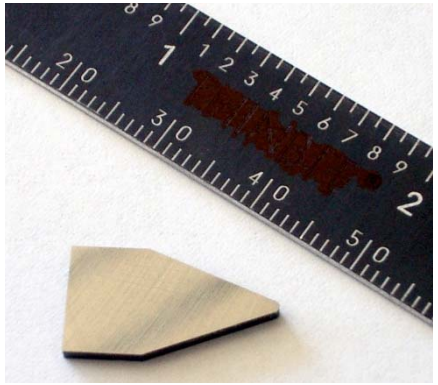
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	300 µ	
Pieces per load	300	
Cycle time without handling		7:00 min.
Rinsing agent	Oil	

Parts description

Material	carbide
Previous operation	sintered
Dimensions	9 x 17 x 1.5 mm

Premachined condition

Base size	1.8 mm
Surface	raw

Results

Tolerance in dim.	1.6 mm ± 5 µ
CpK	1.33
Ra	0.3 µ
Flatness	1 µ
Parallelism	1 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B91	
Stock removal	133 µ	
Pieces per load	48	
Cycle time without handling		1:30 min.
Rinsing agent	Oil	

Parts description

Material	steel
Previous operation	milling
Dimensions	40 x 60 mm

Premachined condition

Base size	12.200 mm
Surface	milled

Results

Tolerance in dim.	12.000 mm ± 5 µ
CpK	1.33
Ra	0.4 µ
Flatness	5 µ
Parallelism	3 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	1000 µ	
Pieces per load	6	
Cycle time without handling		5:30 min.
Rinsing agent	Oil	

Parts description

Material	Carbide
Previous operation	sintered
Dimensions	Ø 152 x 108 x 11.5 mm

Premachined condition

Base size	12.500 mm
Surface	raw

Results

Tolerance in dim.	11.506 mm ± 5 µ
CpK	1.33
Ra	0.15 µ
Flatness	6 µ
Parallelism	5 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	540 µ	
Pieces per load	72	
Cycle time without handling		1:50 min.
Rinsing agent	Oil	

Parts description

Material	Carbide
Previous operation	sintered
Dimensions	Ø 37 x 32 x 11 mm

Premachined condition

Base size	11.500 mm
Surface	raw

Results

Tolerance in dim.	10.380 mm ± 5 µ
CpK	1.33
Ra	0.28 µ
Flatness	4 µ
Parallelism	5 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D76	
Stock removal	1200 µ	
Pieces per load	40	
Cycle time without handling		2:00 min.
Rinsing agent	Oil	

Parts description

Material	Sapphire
Previous operation	sawed
Dimensions	Ø 32,3 x 3,3 mm

Application watch industry

Premachined condition

Base size	4,5 mm
Surface	sawed

Results

Tolerance in dim.	3,3 mm ± 5 µ
Ra	0.3 µ
Flatness	< 1 µ
Parallelism	0,6 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B54	
Stock removal	470 µ	
Pieces per load	60	
Cycle time without handling		5:00 min.
Rinsing agent	Oil	

Parts description

Material	Steel
Previous operation	fine blanked
Dimensions	Ø 37 x 28 x 3 mm

Premachined condition

Base size	2.53 mm
Surface	fine blanked

Results

Tolerance in dim.	2.41 mm ± 5 µ
CpK	1.33
Ra	0.2 µ
Flatness	1 µ
Parallelism	1 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	D126
Stock removal	1500 µ/min.
Pieces per load	6
Cycle time without handling	5:00 min.
Rinsing agent	Oil

Parts description

Material	Carbide
Previous operation	sintered
Dimensions mm	Ø 154 x 107 x 10

Premachined condition

Base size	11.5 mm
Surface	sintered

Results

Tolerance in dim.	10.5 mm ± 5 µ
CpK	1.33
Ra	0.14 µ
Flatness	5 µ
Parallelism	3 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D46	
Stock removal	400 µ	
Pieces per load	40	
Cycle time without handling		7:00 min.
Rinsing agent	Oil	

Parts description

Material	Magnetite
Previous operation	sintered
Dimensions	Ø 50 x Ø 30 x 8 mm

Premachined condition

Base size	8.4 mm
Surface	raw

Results

Tolerance in dim.	8.00 mm ± 5 µ
CpK	1.33
Ra	0.8 µ
Flatness	2 µ
Parallelism	2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B76, dummy wheel
Stock removal	180 µ/min.
Pieces per load	120
Cycle time without handling	3:30 min.
Rinsing agent	Oil

Parts description

Material	100Cr6
Previous operation	turned on lathe
Dimensions	Ø 26 x Ø 18 x 7 mm

Premachined condition

Base size	7.180 mm
Surface	turned on lathe

Results

Tolerance in dim.	7.0 mm ± 5 µ
CpK	1.33
Ra	0.2 µ
Flatness	5 µ
Parallelism	5 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D12	
Stock removal	40 µ	
Pieces per load	1000	
Cycle time without handling		3:00 min.
Rinsing agent	Oil	

Parts description

Material	(Phos)Bronze
Previous operation	blanking
Dimensions	Ø 7.5 x Ø 4 x 2.235 mm

Premachined condition

Base size	2.27 mm
Surface	blanking

Results

Tolerance in dim.	2.235 mm ± 1,5 µ
CpK	2.1
Ra	0.14 µ
Flatness	0.3 µ
Parallelism	0.26 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B126	
Stock removal	160 µ	
Pieces per load	66	
Cycle time without handling		2:00 min.
Rinsing agent	Oil	

Parts description

Material	hardened steel C10
Previous operation	blanking
Dimensions	Ø 42 x 2,8 mm

Premachined condition

Base size	2.96 mm + burr
Surface	raw

Results

Tolerance in dim.	2.8 mm ± 8 µ
CpK	1.33
Ra	0.3 µ
Flatness	max. 5 µ
Parallelism	3 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B126	
Stock removal	100 µ	
Pieces per load	168	
Cycle time without handling		2:00 min.
Rinsing agent	Oil	

Parts description

Material	hardened steel C10
Previous operation	blanking, hardened, de-burred
Dimensions	Ø 27 x 1.2 mm

Premachined condition

Base size	1.29 mm
Surface	raw

Results

Tolerance in dim.	1.2 mm ± 10 µ
CpK	1.33
Ra	0.18 µ
Flatness	3-4 µ
Parallelism	1-2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D16 Cu	
Stock removal	30 µ	
Pieces per load	55	
Cycle time without handling		40:00 min.
Rinsing agent	Oil	

Parts description

Material	hard metal
Previous operation	sintered
Dimensions	43.5 x 2.7 mm

Premachined condition

Base size	2.740 mm
Surface	sintered

Results

Tolerance in dim.	2.700 ± 5 µ
Ra	0.015 µ (<N1)
Flatness	1 µ
Parallelism	2 µ
Surface optical: hatch	Bright, slight cross

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	D126	
Stock removal	750 µ	
Pieces per load	24	
Cycle time without handling		40:00 min.
Rinsing agent	Oil	

Parts description

Material	hard metal	
Previous operation	sintered	
Dimensions		80 x 50 x 3 mm

Premachined condition

Base size	3.75 mm
Surface	sintered

Results

Tolerance in dim.	3 mm + 8 µ	
CpK	1.33	
Ra	0.1 µ	
Flatness	-	
Parallelism		2 - 3 µ
Surface optical:		cross hatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B 76 / D 25
Pieces per load	280
Cycle time without handling	4:00 min. approx.
Rinsing agent	Oil

Parts description

Material	100Cr6
Previous operation	hardened
Dimensions mm	D=13,95 mm, L=8.33

Premachined condition

Base size	8.60 mm
Surface	hardened

Results

Tolerance in dim.	+/- 3 µ
CpK	>1.00
Ra	0.08 µ
Flatness	0.5 µ
Parallelism	1 µ
Surface optical:	crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B25
Pieces per load	Large side 145 pcs
	Small side 210 pcs
Cycle time without handling	2:00 min. approx.
Rinsing agent	Oil

Parts description

Material	Pöhler 800
Previous operation	hardened
Dimensions mm,	D1 = 19 mm, D2 = 9
	L= 5.14 mm

Premachined condition

Base size	5.15 mm
Surface	hardened

Results

Tolerance in dim.	+/- 20 µ
CpK	>1.00
Rz	1.3 µ
Flatness	0.8 µ
Parallelism	1 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705	
Working wheel	B76	
Pieces per load	910	
Cycle time without handling		10:00 min. approx.
Rinsing agent	Oil	

Parts description

Material	40Cr13
Previous operation	turned on lathe
Dimensions	D= 9 mm, L= 10 mm

Premachined condition

Base size	10.15 mm
Surface	turned on lathe

Results

Tolerance in dim.	10 +/- 0.005 µ
CpK	>1.33
Ra	0.4 µ
Flatness	0.005 µ
Parallelism	-
Surface optical:	bright

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	D126
Pieces per load	25
Stock removal	600 µ
Cycle time without handling	1:40 min.
Rinsing agent	Oil

Parts description

Material	CuPb10 Sn
Previous operation	sawed
Dimensions	50 x 86 mm

Premachined condition

Base size	6,85 ± 0,25 mm
Surface	sawed

Results

Tolerance in dim.	6,40 ± 0,02 mm
Ra	< 0,5 µ
Flatness	< 0,003 µ
Parallelism	< 0,01 mm
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts description

Material	Brass
Previous operation	tumbled
Dimensions	15 x 15 mm

Premachined condition

Base size	1.2 mm
Surface	tumbled

Process specification

Machine	DLM 705
Working wheel	D20
Pieces per load	300
Stock removal	0.1 mm
Cycle time without handling	1:00 min.
Rinsing agent	Oil

Results

Tolerance in dim.	1.1 ± 0,007 mm
Ra	< 0,14 µ
Flatness	< 0,0073 mm
Parallelism	< 0,001 mm
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B54
Stock removal	350 µ
Pieces per load	24 pcs
Cycle time without handling	2:30 min.
Rinsing agent	Oil

Parts description

Material	20 Cr Mo S5
Previous operation	sintered
Dimensions	Ø 86 mm

Premachined condition

Base size	34.6 mm
Surface	raw

Results

Tolerance in dim.	34.2 mm, ± 2 µ
Cpk	1.33
Ra	0.2 µ
Flatness	2 µ
Parallelism	2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B54
Stock removal	240 µ
Pieces per load	42
Cycle time without handling	5:00 min.
Rinsing agent	Oil

Parts description

Material	20 Cr Mo S5
Previous operation	sintered
Dimensions	Ø 54 x 3.9 mm

Premachined condition

Base size	4.1 mm
Surface	raw

Results

Tolerance in dim.	3.9 mm, ± 2 µ
Cpk	1.33
Ra	0.2 µ
Flatness	2 µ
Parallelism	2 µ
Surface optical:	crosshatch

STÄHLI
FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts description

Material	$Al_2 0_3$ ceramic
Previous operation	sintered
Dimensions	Ø 16.1 x 3.4 mm

Premachined condition

Base size	Ø 16.1 x 3.4 mm
Surface	raw

Process specification

Machine	DLM 705
Working wheel	D 76
Stock removal	
Pieces per load	
Cycle time without handling	2:00 min.
Rinsing agent	Oil

Results

Tolerance in dim.	± 5 µ
Cpk	1.33
Ra	0.4 µ
Flatness	1 µ
Parallelism	2 µ
Surface optical:	mat

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	CBN-K / dummy wheel
Stock removal	50 µ
Pieces per load	48
Cycle time without handling	5:00 min.
Rinsing agent	Oil

Parts description

Material	100 Cr 6
Previous operation	turned on a lath
Dimensions	Ø 47 - Ø 62 x 15 mm

Premachined condition

Base size	15.1 mm
Surface	turned on a lath

Results

Tolerance in dim.	15 mm, +0 / - 5 µ
Cpk	1.33
Ra	0.8 µ
Flatness	1 µ
Parallelism	2 µ
Surface optical:	bright, crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts description

Material	Special ceramic (Zn 0?)
Previous operation	sintered
Dimensions	Ø 47 x 43.5 mm

Premachined condition

Base size	43.5 mm
Surface	raw

Process specification

Machine	DLM 705
Working wheel	D 126 T
Stock removal	1200 µ
Pieces per load	36 / 40
Cycle time without handling	3:30 min.
Rinsing agent	Oil

Results

Tolerance in dim.	42.3 mm, ± 2 µ
Cpk	1.33
Ra	1.5 µ
Flatness	0.02 µ
Parallelism	0.02 µ
Surface optical:	bright, crosshatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Parts description

Material	X46 Cr 13
Previous operation	punched
Dimensions	Ø 9 mm

Premachined condition

Base size	Ø 9 x 0.9 mm
Surface	raw

Process specification

Machine	DLM 705
Working wheel	B 76 rot
Stock removal	100 - 125µ
Pieces per load	600
Cycle time without handling	4:00 min.
Rinsing agent	Oil

Results

Tolerance in dim.	0.8 mm, +0 / - 50 µ
Cpk	1.33
Ra	0.4 µ
Flatness	0.01 µ
Parallelism	--
Surface optical:	bright

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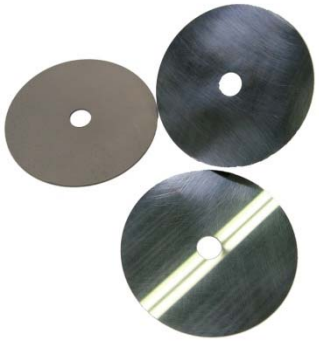
FLATHONING ON DLM 705



Process specification

Machine	DLM 705
Working wheel	D 151
Stock removal	650 µ
Pieces per load	6
Cycle time without handling	12:00 min.
Rinsing agent	Oil

Parts description

Material	hard metall
Previous operation	sintered
Dimensions	Ø 101 mm

Premachined condition

Base size	1.0 mm
Surface	sintered, raw/porous

Results

Tolerance in dim.	0.35 mm, ± 30 µ
Cpk	1.33
Ra	0.1 µ
Flatness	50 µ
Parallelism	1 µ
Surface optical:	bright, cross hatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B 25
Stock removal	100 µ
Pieces per load	30
Cycle time without handling	3:00 min.
Rinsing agent	Oil

Parts description

Outer ring	
Material	100 Cr6
Previous operation	ground
Dimensions	Ø 75/63 x 15 mm

Premachined condition

Base size	15.1 mm
Surface	ground

Results

Tolerance in dim.	15 mm, + 0 / - 5 µ
Cpk	1.33
Ra	< 0.06 µ
Flatness	< 0.025 µ
Parallelism	0.0005 µ
Surface optical:	cross hatch

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FEELING FOR FINISHING

FLATHONING ON DLM 705

Process specification

Machine	DLM 705
Working wheel	B 64
Stock removal	bis 460 µ
Pieces per load	6
Cycle time without handling	2:00 min.
Rinsing agent	Oil

Parts description

Housing ring

Material	100 Cr6
Previous operation	turned, hardened, tempered
Dimensions	Ø 135 x 7 mm

Premachined condition

Base size	7.4 +/- 0.1 mm
Surface	rough

Results

Tolerance in dim.	7 mm, + 0 / - 0.09 mm
Cpk	1.33
Ra	< 0.2 µ
Flatness	< 4 µ
Parallelism	< 5 µ
Surface optical:	cross hatch

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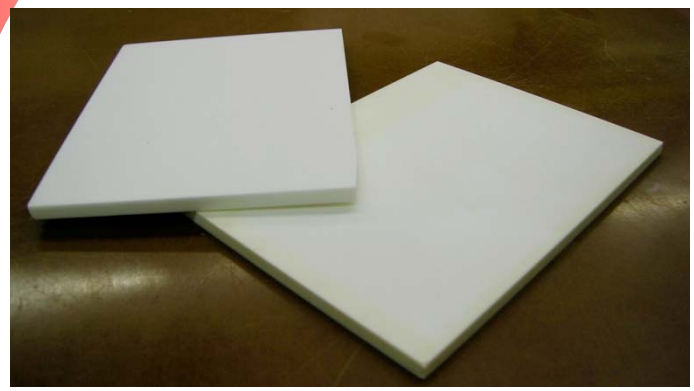
FEELING FOR FINISHING

FLATHONING ON DLM 705



Process specification

Machine	DLM 705
Working wheel	D91 Hex
Stock removal	1400 µ
Pieces per load	6
Cycle time without handling	6:00 min.
Rinsing agent	Oil

Parts description

Material	AL203
Previous operation	raw
Dimensions	131 x 98 x 6.5 mm

Premachined condition

Base size	6.5 mm
Surface	raw

Results

Tolerance in dim.	4.85 mm, ± 20 µ
Cpk	1.33
Ra	0.8 µ
Flatness	< 6 µ
Parallelism	< 6 µ
Surface optical:	bright