CNC Machining Pro

Exam Preparation Documentation

Part 2 - Mill

2026

Test Taker first and last name:

Test Taker number:

Test Taker company:

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Final Examination Overview - ICATT CNC Machining Professional

Final examination: Part 1
Weighting: 40 %

Areas of examination

Practical task provided by ICATT - Completed in-company, with required documentation prepared prior to test day – exam site testing includes planning, evaluation and inspection, followed by a presentation and oral examination

Weighting: 50 %

Time suggested: does not include conversion and documentation to submit: 6 h

– Planning exercise*
Weighting: 10 %
Time allotted: 30 min at exam site

– Implementation**
Weighting: 80 %
Time allotted (in company): 5-6 h

– Inspection
Weighting: 10 %
Time allotted: 30 min

Presentation and Oral examination virtually:

Weighting: total % combined with implementation

Presentation: 10 min

Oral examination: 20 min

*The planning exercise and inspection protocol takes place after the written exam. Total time permitted for both: 1h

**Implementation weighting includes
- Performance Evaluation/Inspection 30%
- Documentation submitted 15%
- Presentation 15%
- Oral technical examination 20%

Written examination

Weighting: 50 %

Time permitted: 1.5 h

Part A (50%):
23 multiple choice questions
3 of which can be deselected
6 of which cannot be deselected

– Part B (50%):
8 short answer questions
No deselection possible

Final examination: Part 2
Weighting: 60 %

Areas of examination

Practical task provided by ICATT - Completed in-company, with required documentation prepared prior to test day – exam site testing includes planning, evaluation and inspection, followed by a presentation and oral examination.

Weighting: 50 %

Time suggested: does not include conversion and documentation to submit: 14 h includes pre-fabrication and final

– Planning exercise*
Weighting: at exam site 10%
Time allotted: 30 min

– Implementation**
Weighting: 70%
Time allotted (in company): 5-6 h

– Inspection
Weighting: at exam site 20%
Time allotted: 30 min

Presentation and Oral examination:

Weighting: total % combined with implementation

Presentation: 10 min

Oral examination: 20 min

*The planning exercise and inspection protocol takes place after the written exam. Total time permitted for both: 1h

**Execution weighting includes
- Performance Evaluation 30%
- Documentation submitted 15%
- Presentation 15%
- Oral examination 20%

Written examination

– Task & Functional Analysis
– Production Technology
– Task and Functional analysis
– OSHA and Workers Rights

Weighting: 50 %

Time permitted: 4 h 15 min

Task & Functional Analysis

Time permitted: 105 min
Weighting 40%

Part A: 50%
28 multiple choice questions – 3 of which can be deselected
8 of which cannot be deselected

Part B: 50%
8 short answer questions
No deselection possible

Production Technology

Time permitted: 105 min
Weighting 40%

Production Technology
Part A: 50%
28 multiple choice questions
3 of which can be deselected
8 of which cannot be deselected

Part B-1: 30%
30 PAL Programming questions
No deselection possible
Part B-2: 20%
8 short answer questions
No deselection possible

OSHA and Workers Rights

Time permitted: 45 min
Weighting: 20 %

Part A
20 multiple choice questions
5 of which can be deselected
Part B:
4 short answer questions
1 of which can be deselected

AHK Final Examination Part 2 – 2026	
Standard Preparation List for the Apprenticeship Training Company	**CNC Machining Professional Milling Systems**

Instead of the items listed, alternatively comparable customary tools, measuring and auxiliary equipment can be used. **Items marked with a – in the center column are NOT necessary for this examination.**

I Quality measuring equipment that must be provided by the training company for each test taker:

1.	1 Caliper gauge, Form A	150 mm	DIN 862
2.	1 Caliper gauge, Form B	200 mm	DIN 862
3.	1 Caliper gauge, Form C	135 mm	DIN 862
4.	1 Outside micrometer	0-25 25-50 mm	
5.	1 Depth micrometer	0-25 mm	
6.	1 Bevel protractor or universal		
7.	1 Beveled steel square	100 x 70 mm	

II Tools that must be provided by the training company for each test taker:

1.	1 Marking tool		
2.	1 Center punch		
3.	1 Fitter's hammer	300 g	DIN 1041
4.	1 Rubber or plastic hammer		
5.	1 Flat file	150-3	DIN 7261
6.	1 Triangular file	150-3	DIN 7261
7.	1 File brush or file cleaner		
8.	1 Three square scraper or manual deburrer		
9.	1 sharpening stone or hand lapping		

III Auxiliary equipment that must be provided by the training company for each test taker:

1. 1 Safety glasses
2. 1 Hair net, or hair pulled back safely so that it does not fall in face or near equipment
3. 1 Book of tables (to be provided by the test taker)
4. Non-programmable calculator not connected to a network without possibility of communicating with others (to be provided by test taker)

IV Test equipment that must be provided by the company for 1 to 5 test takers:
Items marked with a – in the center column are NOT necessary for this examination.

1.	1 H7 limit gauge	8
2.	1 Inside micrometer with measuring jaws	5-30 mm
3.	1 Inside precision measuring instrument	–
4.	1 Block gauge set	0-100 mm
5.	1 Lever gauge for alignment with holder and dial gauge 0 – 10 mm	
6.	1 Outside micrometer	–
7.	1 Thread limit plug gauge (go/no-go)	M6
8.	1 Outside micrometer with measuring plates	0-25 mm

Note: Measuring equipment can be in analog or digital form. Instead of the items listed, alternatively comparable customary tools, measuring and auxiliary equipment can be used.

V Tools for manual material processing that must be provided for 1 to 5 test takers:
Items marked with a – in the center column are NOT necessary for this examination.

1.	1 Set of marking stamps (Numbers)	3 mm	
2.	1 Allen key	5 mm	ISO 2936
3.	1 Screwdriver for slotted screws	For flathead screws M6 x 16	ISO 5265
4.	1 Open-end wrenches	–	
5.	1 Machine-tap with tap wrench	M6	
7.	1 Tongs for circlip	–	DIN 5254
8.	1 Split pin drive	–	DIN 6450

VI Tools for material processing that must be provided for each test taker:

Items marked with a – or sizes crossed out in the center column are NOT necessary for this examination.

1.	1 NC spot drill 90º	Ø10	
2.	1 Twist drill	5.0 6.6 7.8 9.0	
3.	1 1 Spiral countersink	–	DIN 343
4.	1 Counterbore	11 x 6.6 15 X 9	DIN 373
5.	1 Countersink 90º or NC spot drill	For drill holes Ø5 to Ø15	
6.	1 Machine reamer H7	8	DIN 212
7.	**Milling tools**		
71.	1 Cylindrical milling cutter **Or** face mill	Ø63N Ø63 for face milling	DIN 1880
7.2	1 T-groove milling cutter with straight shank	16 x 8	DIN 851
7.3	1 End milling cutter for roughing	A8N A10N A12N A16N A20N	DIN 844
7.4	1 End milling cutter for finishing	A8N A10N A12N A16N A20N	DIN 844
7.5	1 Angular milling cutter	B45 x 25N (for chamfers up to 5 mm)	DIN 1833
7.6	1 Quarter circle cutter	–	DIN 6518-B

As an in-company project, tooling may vary significantly from tooling listed in the yellow preparation documentation provided here and alternative tooling must be documented in the provided planning and implementation documentation. The DIN specifications of the tool refer to the HSS, as an alternative carbide can also be used. It is possible to use comparable standard tools, inspection equipment and work equipment as an alternative to the listed items.

AHK Final Examination Part 2 – 2026	
Material provision list	**CNC Machining Professional Milling Systems**

General Information

The semi-finished products must correspond to the specified standards.[1)] During preparation, the adjacent general tolerances must be complied with. Non-underlined dimensions are final dimensions (surface $\sqrt{Rz\ 16}$). Underlined dimensions are raw dimensions, which are subject to change during the test. For the surfaces with an asterisk (*), the labeled dimensions apply $\sqrt{}$.
Projection method 1 applies to drawings( ).

General tolerance per ISO 2768

Toler-ance class	from 0.5 to 3	over 3 to 6	over 6 to 30	over 30 to 120	over 120 to 400
Avg.	±0.1	±0.1	±0.2	±0.3	±0.5

Note: In the United States, it is acceptable to use US equivalent material to what is listed. It is also acceptable to mill or turn a part down to the proper metric dimensions listed although the drawings may indicate that it should not be. Tolerances should still be followed, and the equivalent material must be used.

I Semi-finished products that every test taker must supply and prepare to the following specifications:

1.	1 flat aluminum	80 x 30 x 122	EN 754	EN AW-Al Cu4PbMg	Pre-fab according to drawing 1
2.	2 flat steel	50 x 20 x 43	EN 10278	S235JR+C	Pre-fab according to drawing 2
3.	1 flat aluminum	45 x 25 x 42	EN 10278	EN AW-Al Cu4PbMg	
4.	1 round steel	Ø 30 x 15	EN 10278	11SMn30+C	Pre-fab according to drawing 3
5.	1 round steel	Ø 8* x 57	EN 10278	11SMn30+C	Pre-fab according to drawing 4

II Hardware that every company must provide:

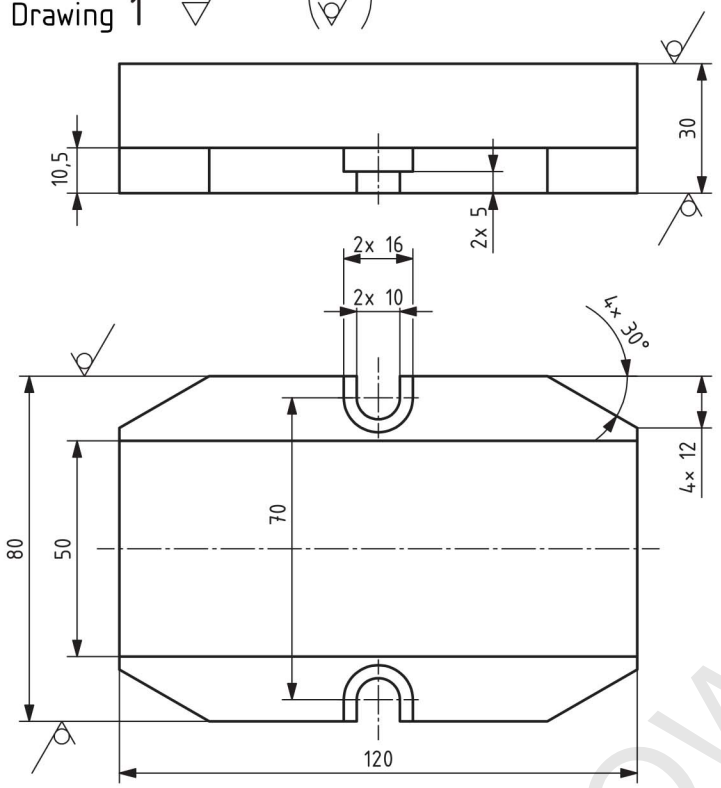
1.	1 slotted pan head shoulder screw	M6 x 16	DIN 923	5.8
2.	2 cap screw	M6 x 16	ISO 4762	8.8
3.	1 low-head cap screw	M8 x 20	DIN 7984	8.8
4.	1 hexagon nut	M8	ISO 4032	8

In the case that the examination is assigned and performed as an in-company project, the material or equivalent must be prepared according to the attached drawings and fabricated prior to final project distribution. Expected time for the PRE-fabrication is 8 hours. The GACC provided documentation must be used when fabricating the parts in these documents. This yellow preparation documentation is also a resource for material, hardware, expected tooling, and measuring equipment for your final exam project. Extensive planning and implementation documentation can be found on the ICATT Apprentice resource page by the GACC Midwest as the administering organization and must be thoroughly completed to present along with your project to the exam board at your assigned written examination time.

Total fabrication time approx. 8 hours

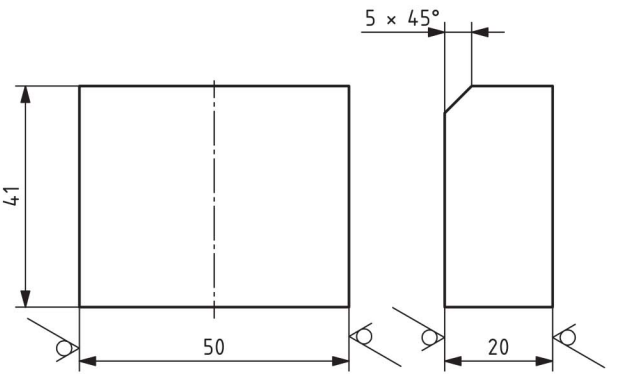
Drawing 1

Rz 16



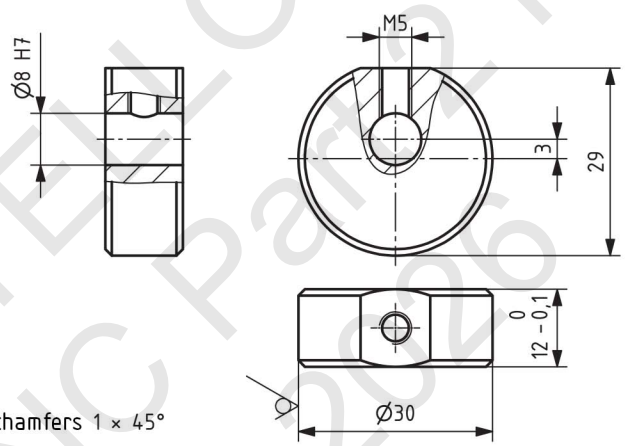
Drawing 2

Rz 16



Drawing 3

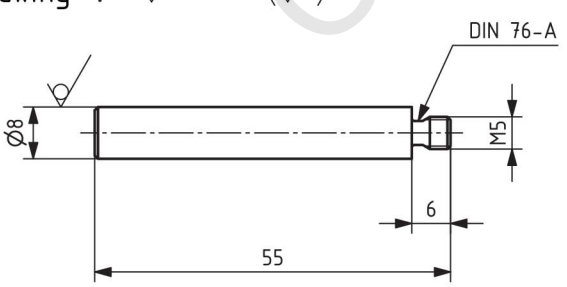
Rz 16



undimensioned chamfers 1 x 45°

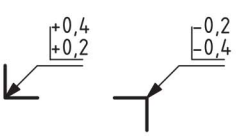
Drawing 4

Rz 16



undimensioned chamfers 0,5 x 45°

ISO 13715



Expected total time for fabrication of drawings 1-4 is 8 hours. Be sure to use the required documentation for planning and implementation.