

**For Mold & Die**

**“Machining to Zero” with the  
Mold Meister Ball End Mill**

# Features of Mold Meister Ball



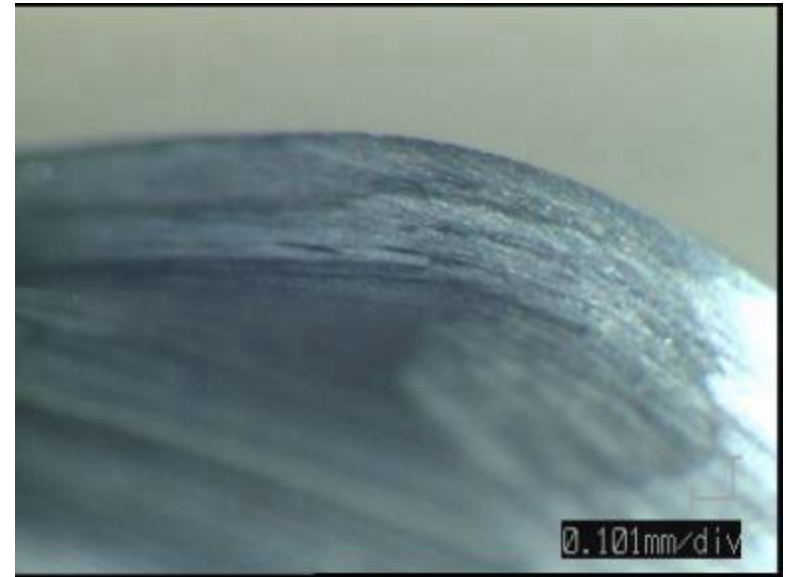
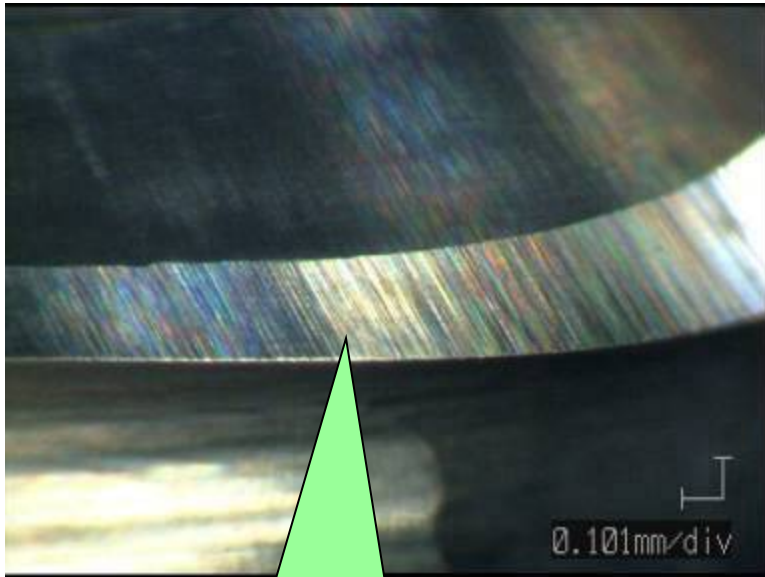
## Features:

- **Precision Carbide End Mill  
Best Suited for “Machining to Zero”**
- **Seamless Ball Tolerance  
Drastically Reduces Polishing  
Time**
- **High Precision Ball Tolerance  
 $\pm 3\mu\text{m}$ , Ball Accuracy Range  
 $180^\circ$**
- **Highly Suitable for Mold and  
Die Work**

## Work Materials:

- **Pre-Hardened Steels, Mold  
Steels, Hardened Steels H13,  
D2, M3 (45-60 Hrc)**

# Appearance of Mold Meister Ball



**Seamless  
One Pass Grinding**

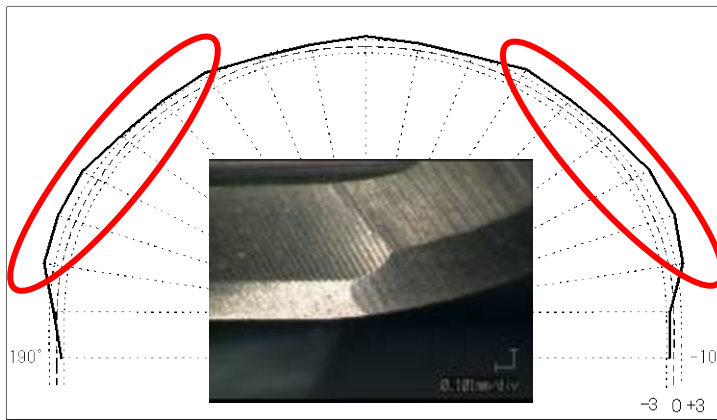
# Actual Measurement of Competitor's Accuracy

Competitor A R1

Nominal:  $\pm 5\mu\text{m}$

A

他社ポール検査成績書



測定角度 Angle	測定値 R
-10°	0.9971
0°	0.9985
10°	1.0058
20°	1.0085
30°	1.0082
40°	1.0058
50°	1.0050
60°	1.0067
70°	1.0031
80°	1.0034
90°	1.0049
100°	1.0029
110°	1.0025
120°	1.0051
130°	1.0041
140°	1.0043
150°	1.0076
160°	1.0077
170°	1.0073
180°	1.0013
190°	1.0014

製番 SerialNumber	
型番 ModelNumber	
R公差 R Tolerance	R 1

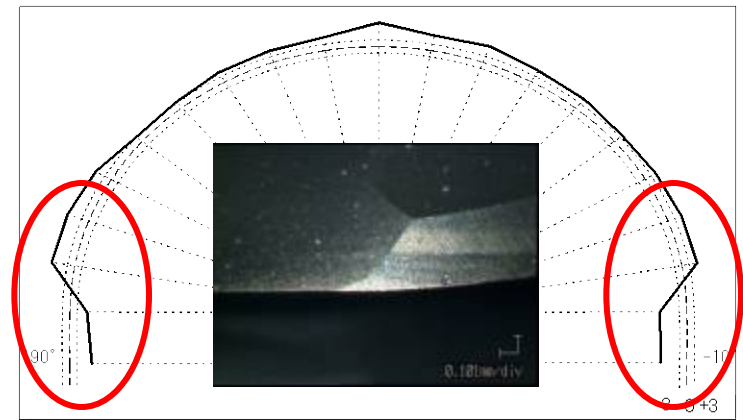
R実測値 R Accuracy	R 1.0000	+0.0085 -0.0015
R最大値 R-Max	20°	R 1.0085
R最小値 R-Min	0°	R 0.9985
外径 Diameter	$\phi$ 1.9985	

Competitor B R3

Nominal:  $\pm 5\mu\text{m}$

B

他社ポール検査成績書



測定角度 Angle	測定値 R
-10°	2.9894
0°	2.9890
10°	3.0063
20°	3.0060
30°	3.0051
40°	3.0042
50°	3.0055
60°	3.0059
70°	3.0031
80°	3.0072
90°	3.0113
100°	3.0062
110°	3.0057
120°	3.0051
130°	3.0035
140°	3.0032
150°	3.0074
160°	3.0092
170°	3.0095
180°	2.9930
190°	2.9910

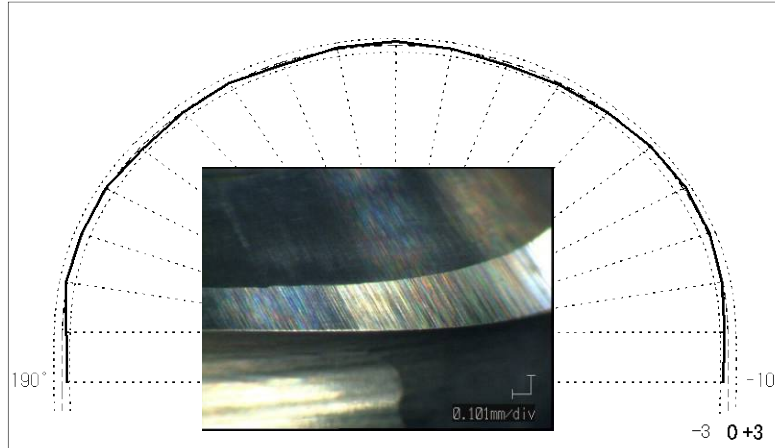
製番 SerialNumber	
型番 ModelNumber	
R公差 R Tolerance	R 3

R実測値 R Accuracy	R 3.0000	+0.0113 -0.0110
R最大値 R-Max	90°	R 3.0113
R最小値 R-Min	0°	R 2.9890
外径 Diameter	$\phi$ 5.9804	

## Nachi R1 Nominal: $\pm 3\mu\text{m}$

NACHI

モールドマスターボール 検査成績書  
Measurements of MOLD MASTER BALL Accuracy



測定角度 Angle	測定値 R
-10°	0.9982
0°	0.9987
10°	0.9998
20°	1.0008
30°	1.0011
40°	1.0006
50°	0.9996
60°	0.9992
70°	0.9987
80°	1.0002
90°	1.0017
100°	1.0008
110°	0.9989
120°	1.0002
130°	0.9996
140°	0.9990
150°	1.0005
160°	1.0004
170°	1.0006
180°	0.9985
190°	0.9982

製番 Serial Number	DI-001	
型番 Model Number	2MMR1	
R公差 R Tolerance	R 1 $\pm$ 0.003	

R実測値 R Accuracy	R 1.0000 +0.0017 -0.0015	
R最大値 R-Max	90°	R 1.0017
R最小値 R-Min	180°	R 0.9985
外径 Diameter	$\phi$ 1.9972	

NACHI-FUJIKOSHI CORP.

検査

# Nachi Inspection Sheet

**Inspection Sheet with all End Mills**

Highly Accurate Milling is Possible with this Tool

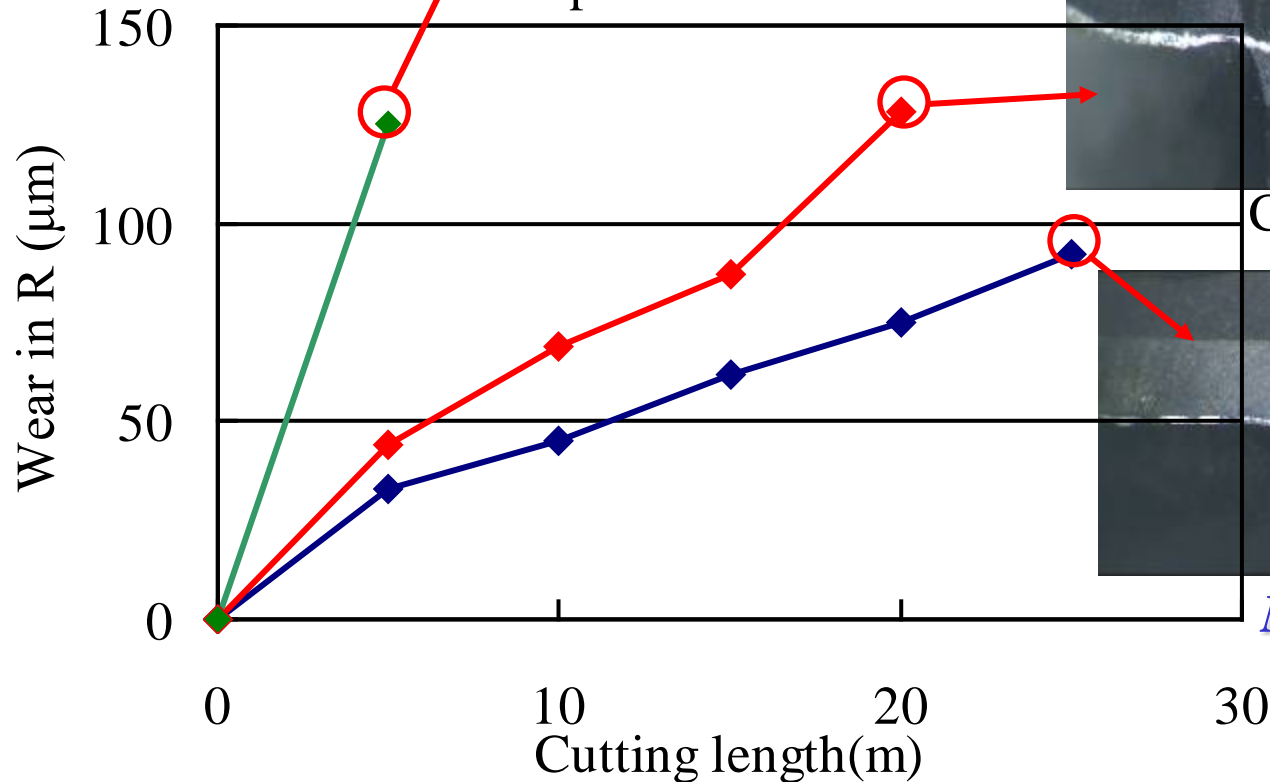
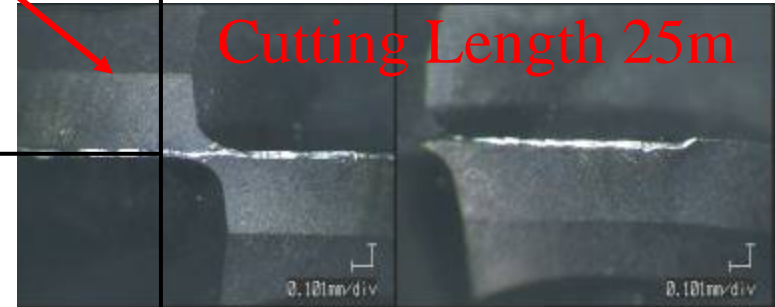
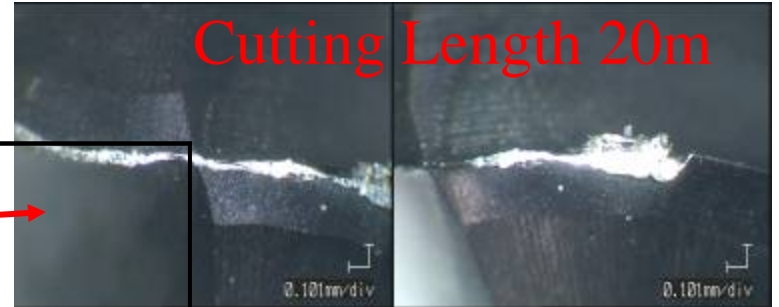
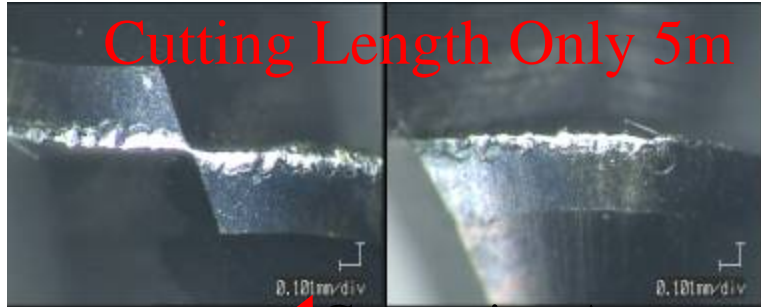
• CAM  
• M/C Easy Compensation

**Reduce Time for Polishing and Rectification Drastically**

# Tool Life Comparison in Hardened Steel Milling

**Conditions**

- Material SKD11(60HRC)
- Speed  $V=151\text{m/min}$  ( $S=12,000\text{min}^{-1}$ )
- Feed  $F=1,400\text{mm/min}$  ( $f=0.058\text{mm/t}$ )
- Cut Depth =0.5mm, Pf=0.4mm
- DRY(Air BLow) • Vertical MC(BT40)



**NACHI Mold Meister**

**Thank You**