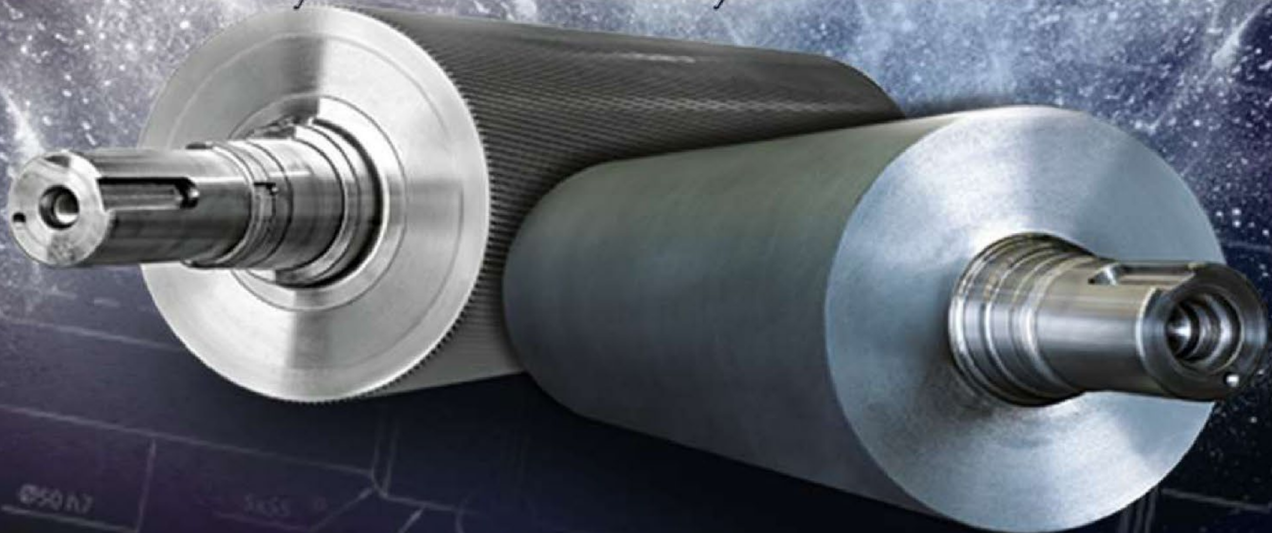
BalaguerRolls
High Quality Centrifugally Cast Rolls

ENGINEERED FOR EXCELLENCE

Always Ahead



QUALITY K00	QUALITY K01	QUALITY K02	CRONOS	QUALITY K12	QUALITY K36
480 - 530 HB	420 - 470 HB	380 - 430 HB	350 - 430 HB	550 - 600HB	510 - 550 HB

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ISO 9001
BUREAU VERITAS
Certification

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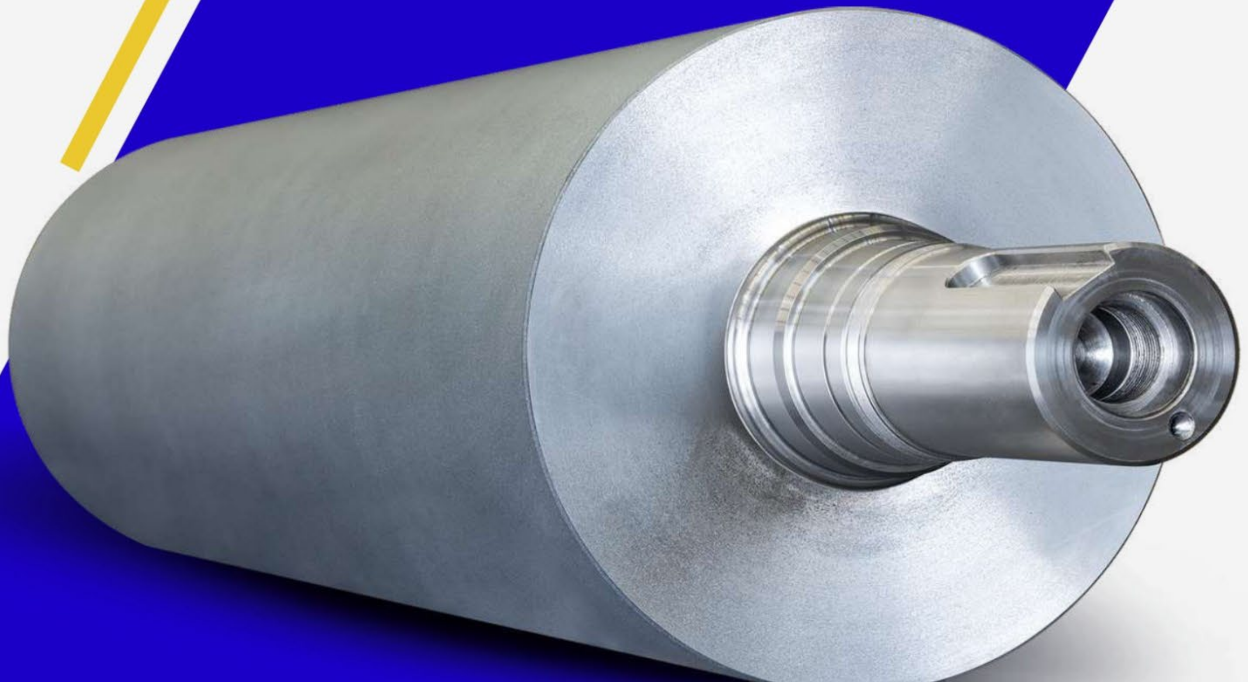

WHY CRONOS BALAGUER ROLL?

This reduction roll decreases the roll working temperature & the flour temperature, provides optimum starch damage, saves energy and mantains the matt finish, while increasing the sustainability of the mill & extraction rate.

CRONOS
BALAGUER ROLL

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Balaguer Rolls introduces CRONOS, the first and only indefinite chill flour milling roll.

Cronos is the result of 6 years of research and development to revolutionize flour production.

Innovation & R&D

- 6 YEARS OF RESEARCH AND DEVELOPMENT
- NEW RECIPE AND CASTING TECHNOLOGIES
- SPECIAL COMPOSITION FOR OPTIMIZED PERFORMANCE
- COMBINED RESISTANT AND SOFT MICROSTRUCTURE FOR BOTH DUCTILITY AND WEAR RESISTANCE

Cronos Quality

Main features

- FORMED BY A SINGLE MATERIAL
- ROLL HARDNESS 350-430HB
- HIGH WEAR RESISTANCE
- SELF-MATEABILITY
- HIGH THERMAL CONDUCTIVITY FOR FAST HEAT DISSIPATION

Cronos Quality

Main advantages

INCREASES EXTRACTION RATE

The extraction rate is significantly higher than the existing rolls from bi-material casting.

MAINTAINS MATT FINISH

The roll gradually wears out and generates new rough areas.

REDUCES ROLL TEMPERATURE

This soft roll adapts and rubs less against the partner. Since there is less rubbing, less heat is generated.

INCREASES MILLING SUSTAINABILITY

Enables greater distance between maintenance shutdowns and a longer useful life.

ENERGY SAVING

Better fit against another roll, thus less energy is needed to grind flour.

OPTIMUM STARCH DAMAGE

Less pression between rolls achieves an optimum starch damage.

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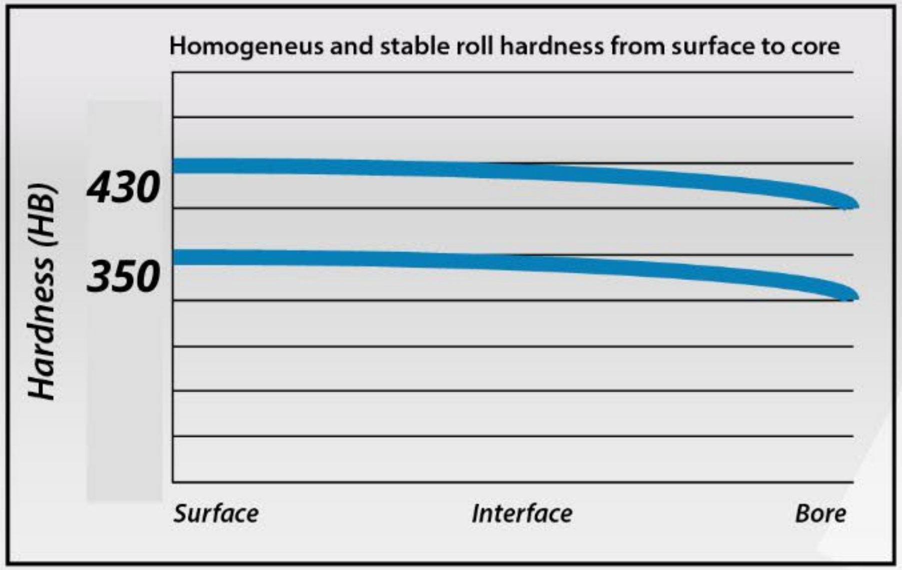
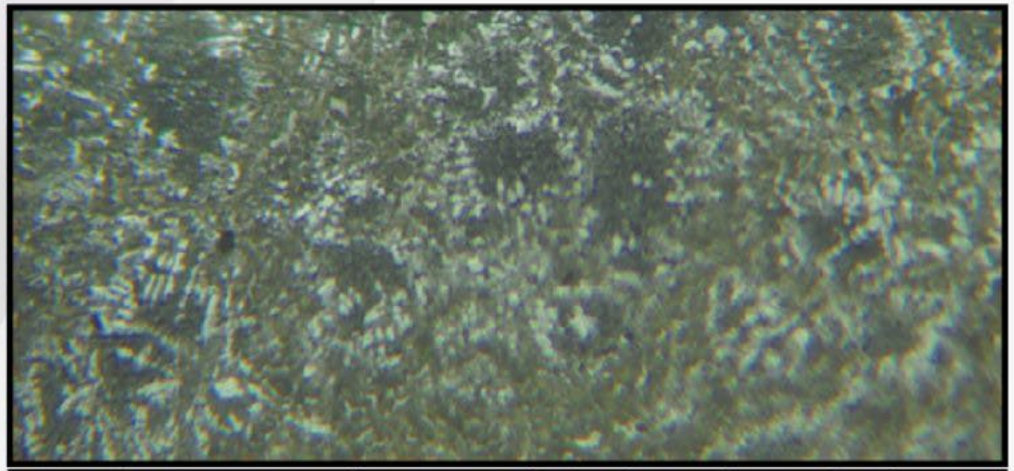
C%	SI%	Mn%	S%	P%	Other Alloys%
3.23-3.85	0.5-2	0.2-0.6	<0.10	0.4-0.8	0.3-2





100 X Magnification. Polished. Nital-4 Etched

CRONOS ROUGHNESS

The image shows the visual surface comparison of a **Cronos roll (left)** and a **K01 roll (right),** both with table finishes (same machining). The **roughness of Cronos** is **definitive** and **visibly noticeable**, even to the naked eye.

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Balaguer's Rolls Report

The following report has been drawn up on the basis of data from the test carried out at Harinera Vilafranquina SA, a 750 tn/day soft wheat mill.

2024 REPORT

The rolls are being tested with the following characteristics:

2 items CIL.Ø250X1000mm K01 (420-470 HB); SMOOTH SANDBLASTED– Passage C1

2 items CIL.Ø250X1000mm K01 (420-470 HB); SMOOTH SANDBLASTED– Passage C2

2 items CIL.Ø250X1000mm CRONOS (350-430 HB); SMOOTH SANDBLASTED– Passage C1

2 items CIL.Ø250X1000mm CRONOS (350-430 HB); SMOOTH SANDBLASTED– Passage C2

BY MAINTAINING ENERGY CONSUMPTION, MORE FLOUR IS OBTAINED

PASSAGE	ROLL	ROLLS TEMPERATURE ˚C	PRODUCT TEMPERATURE AT THE OUTLET IN ˚C	GRANULOMETRY (5') (5 MINUTES OF SITING) FLOUR	ENGINE PERFORMANCE %
C1A	CRONOS	40,27 °C	26,63 °C	40,64%	56%
C1A	K01	44,23 °C	27,37 °C	33,50%	56%
C2A	CRONOS	40,67 °C	30,57 °C	65,27%	52%
C2A	K01	45,60 °C	30,67 °C	56,43%	52%

BY MAINTAINING FLOUR PRODUCTION, LESS ELECTRICAL POWER IS CONSUMED

PASSAGE	ROLL	ROLLS TEMPERATURE ˚C	PRODUCT TEMPERATURE AT THE OUTLET IN ˚C	GRANULOMETRY (5') (5 MINUTES OF SITING) FLOUR	ENGINE PERFORMANCE %
C1A	CRONOS	40,27 °C	26,63 °C	40,64%	56%
C1A	K01	44,23 °C	27,37 °C	40,16%	67%
C2A	CRONOS	40,67 °C	30,57 °C	65,27%	52%
C2A	K01	45,60 °C	30,67 °C	58,53%	54%

Conclusions

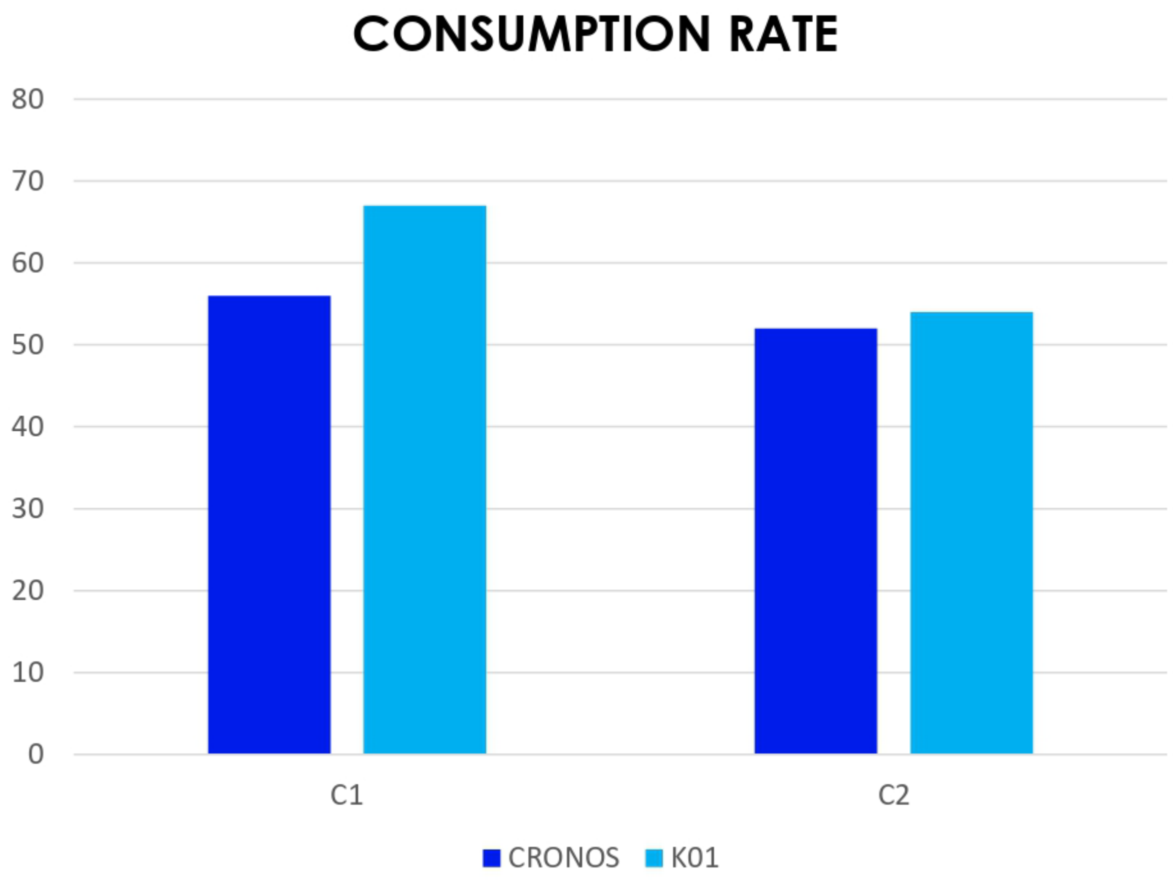
With the same granulometry, which one consumes more power?

This means that the flour they get below 180 µ is good for them (each mill has its own standards, but they are usually around this particle size) so they adjust the rolls to get this particle size, both for the K01 and the Cronos, this means that they have to tighten them more or less to get this measure of flour, and this "tightening" entails an energy consumption.

From the numbers we can see that there is the following energy saving:

For the C1 the Cronos engine consumes 11% less than the K01.

For the C2 the Cronos engine consumes 2% less than the K01, in part logical because all the semolina enters the C1 and at the C2 the product is already more ground.



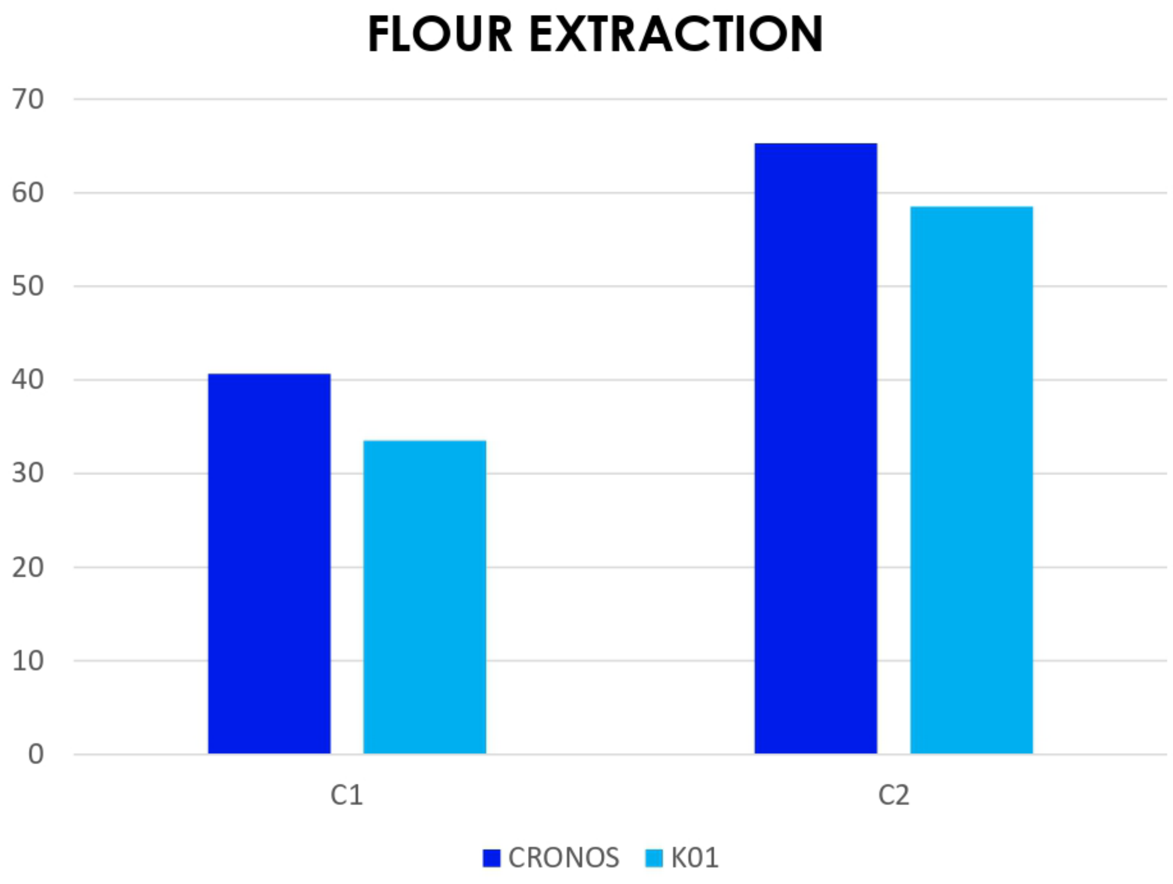
Conclusions

With the same consumption of the Engines which one gives us more performance?

In this test they have put the K01 and Cronos engines to work with the same energy consumption, and they see, from the amount of flour that comes out, which gives them a higher % of the desired granulometry (less than 180 μ), and the results are as follows:

C1 with Cronos rolls gets 7.14% more flour than C1 K01.

C2 with Cronos rolls obtains 8.84% more flour than C2 K01.



Conclusions

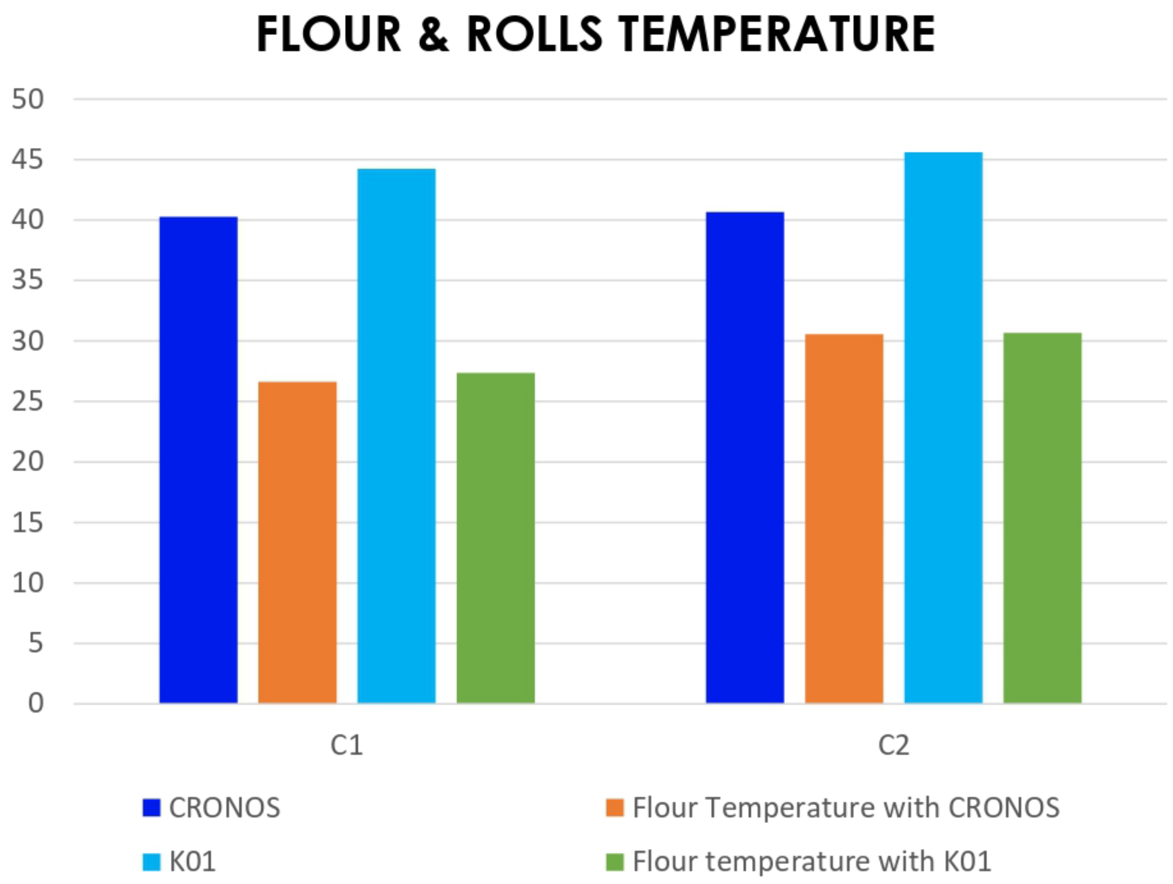
Flour and Rolls temperature

The C1 Cronos rolls have an average temperature of 40.27 °C while the C1 K01 rolls have an average temperature of 44.23 °C.

The C2 Cronos rolls have an average temperature of 40.67 °C while the C2 K01 rolls have an average temperature of 45.6 °C.

The flour obtained from the C1 Cronos rolls has an average temperature of 26.63 °C while that obtained from the C1 K01 rolls has an average temperature of 27.37 °C.

The flour obtained from the rolls of C2 Cronos has an average temperature of 30.57 °C while the flour obtained from the rolls of C2 K01 has an average temperature of 30.67 °C.



Conclusions

Ash analysis of flour from different mill passages

C1A K01 M-3052: *0,49*

C2A K01 M-3051: *0,40*

C1A K06 M-3050: *0,43*

C2A K06 M-3049: *0,39*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