

New Grade for Cast Iron Turning: AC4115K

1. Overview

Cast iron is widely used, particularly in the automotive industry. Gray cast iron is applied to engine blocks and brake discs that require sliding properties, while ductile cast iron is used for parts such as differential cases and carrier cases that require high strength.

In recent years, for improved fuel efficiency through weight reduction, wall thicknesses have been reduced and strength has been increased, leading to an increased adoption rate of high-strength ductile cast irons with a strength of FCD500 or higher. Due to the increase in workpiece strength, cutting tools require greater wear resistance than before.

The newly developed AC4115K grade for cast iron turning features a newly developed CVD coating and a high-hardness substrate, demonstrating excellent wear resistance, especially in continuous machining of high-strength ductile cast iron. This extends tool life, thereby significantly contributing to reducing machining costs.



Photo 1. Appearance of AC4115K

2. Features

2-1 Newly developed coating with superior wear resistance

Applying our proprietary CVD coating technology “Adsotech,” combined with an alumina layer with further refined crystal orientation control and a substrate with excellent plastic deformation resistance, wear resistance is improved to twice that of conventional products. This achieves a long tool life in continuous cast iron machining.

2-2 Adoption of gold-colored coating

A gold-colored coating, which offers excellent identification of worn corners, has been adopted, thereby improving the efficiency of tool management at the workplace.

3. Application Example

Figure 1 shows examples of extended tool life using AC4115K. Both are processes involving continuous machining of high-strength ductile cast iron workpieces, where the high wear resistance of AC4115K has increased the number of parts machined per corner.

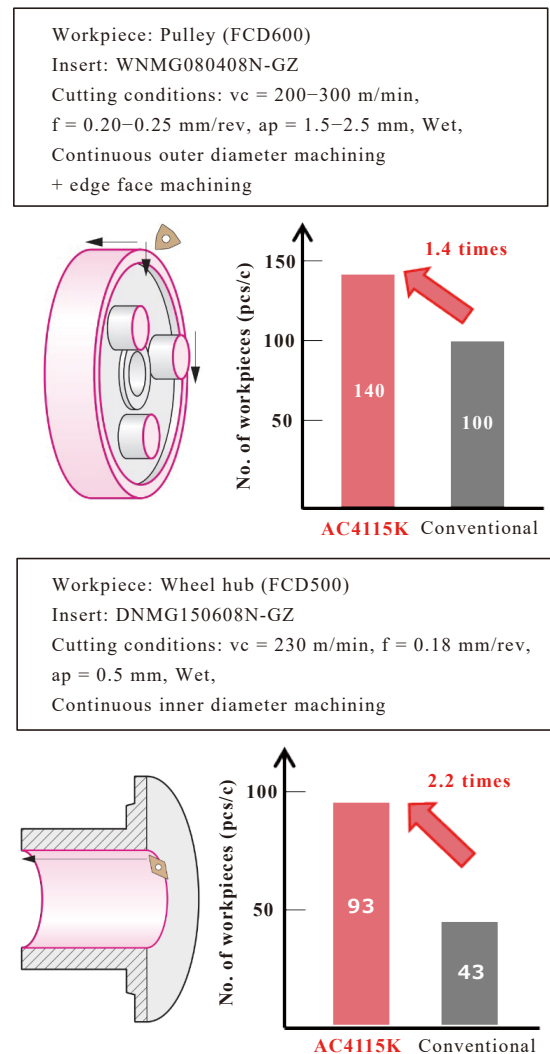


Fig. 1. Application example of AC4115K

• Adsotech is a trademark or registered trademark of Sumitomo Electric Industries, Ltd.