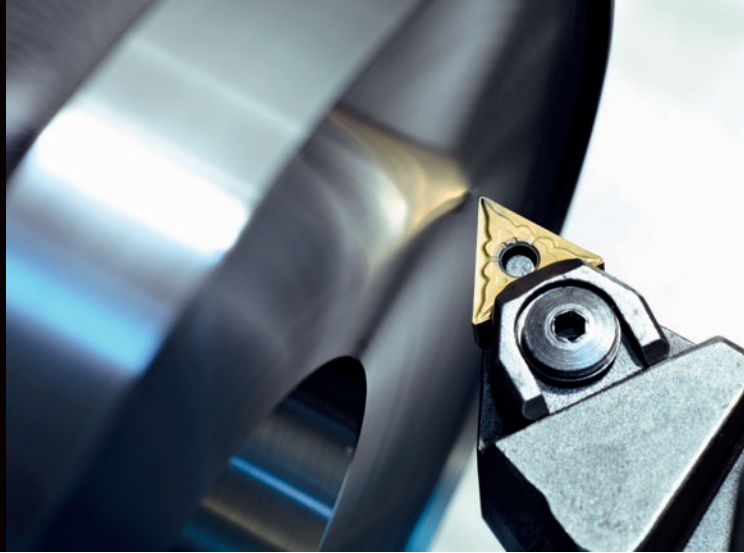


VITAC® BC

An alternative to Pb steels for the automotive and mechanical engineering markets



VITAC® BC is a solution developed specifically for a good fragmentation of chips whatever the machining operation

Areas of application

This variant can be used for automotive and OEM applications, screw machining and mechanical engineering applications.

Clean, Pb-free steels with a low carbon footprint.

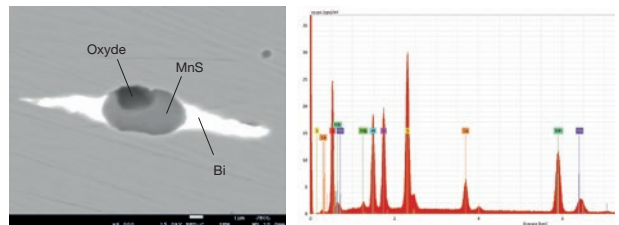
The VITAC® BC process has been designed to allow a substitution of Pb steels. The use of VITAC® BC grades guarantees compliance with European regulations concerning dangerous elements.

VITAC® BC steels are produced from a 100% electrical arc furnace (EAF) process in Hagondange (57), whose carbon footprint is one of the lowest in Europe (< 450 kg CO₂/t).



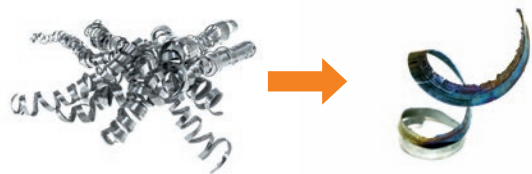
Characteristics

- Control of the inclusion population
- Applicable on a wide range of grades



Advantages

- Excellent chip fragmentation
- Excellent roughness after machining



Benefits

- Machinability identical to Pb grades
- Up to 100% productivity gain compared to a standard grade, through an improvement of the cutting speed, depending on the machining operations.



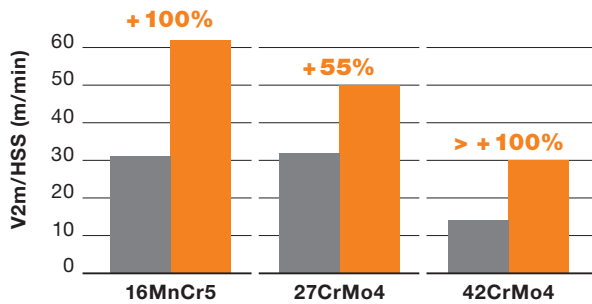
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Excellent performance for drilling operations Better chip fragmentation

Under laboratory conditions



Drilling performance measured on:

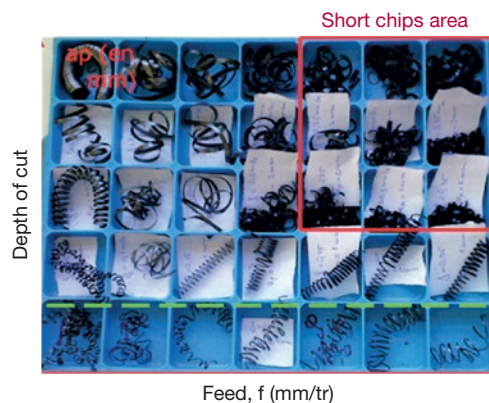
- Standard products
- Grade developed with the VITAC® BC process

The gains measured in the laboratory for the 3 grades concerned vary between + 55% and + 100%, compared to standard grades

In industrial conditions

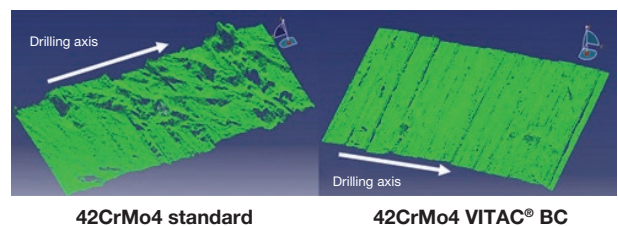
In the case of a deep drilling operation (120 mm), the results obtained with a drill diameter of 1.6 mm on a 42CrMo4 with a hardness of 300 HB at 200 m/min, are:

- Smaller chips
- The cutting force was divided by 2
- Deflection reduced by 1/2
- Productivity gain of 20%



The cutting conditions are chosen in such a way as to keep the chips small, and to keep the productivity the same or improved compared to the standard.

The surface quality of the components after machining is improved:



Capability

Process applied only on the elaborations in Hagondange for diameters from 16 to 80 mm.



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