

VITECH-TC

KANEFUSA

Tungsten Carbide guillotine knife
VITECH-TC



Kanefusa - A New Dimension of Performance



JQA-QM3710



JQA-EM3137
Head Office
Factory

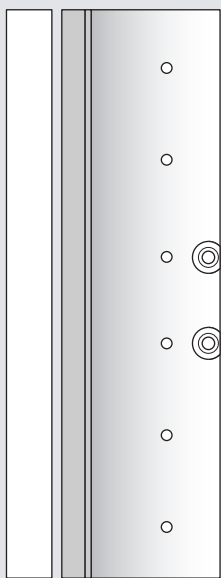
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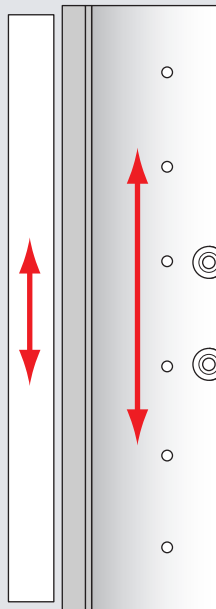
Vital Technology

PAT.EP1245380, US6817103

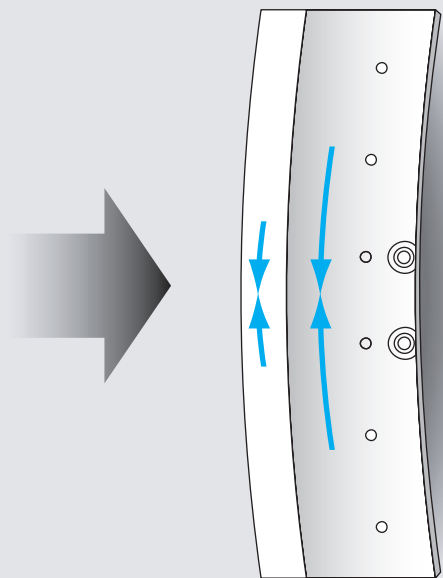
The Problem



Knife and cutting edge material at room temperature.



Knife and cutting edge material at brazing temperature (~ 800 °C).



Knife and cutting edge material at room temperature. The knife bows.

Conventionally the Tungsten Carbide (TC) is brazed to a steel substrate. The TC as well as the steel are heated up to 800 °C during the brazing process. Due to different expanding coefficients they expand to different lengths.

After the TC and the steel are joined together, they cool down and shrink.

The TC shrinks differently from the substrate causing internal stress. As a result the knife bows. The internal stress also damages the TC structure and causes nicking of the edge.



VITECH-TC

The Solution – Vital Technology - VITECH

What is VITECH? VITECH stands for innovative and outstanding paper cutting knives and related knife manufacturing technology.

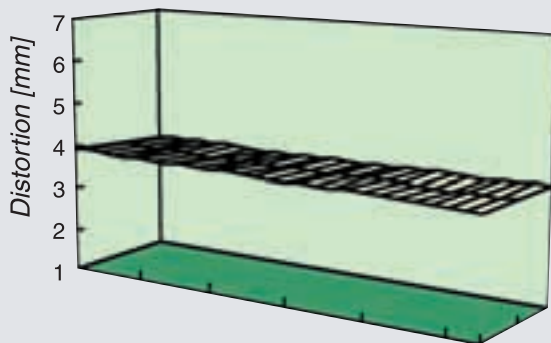
In the case of VITECH-TC, the Tungsten Carbide cutting edge is not brazed but at low temperature bonded to a steel substrate, which eliminates internal stress.

Therefore VITECH-TC paper cutting knives are sharper, straighter and outlast other Tungsten Carbide knives many times.



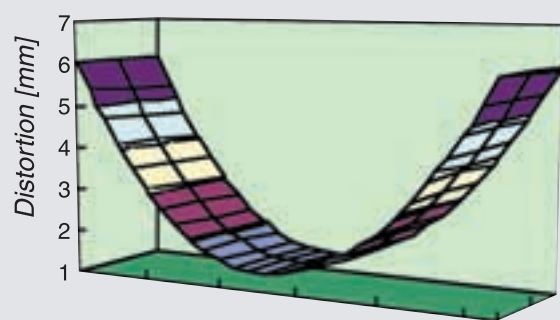
Bowing

VITECH-TC



Bowing of a VITECH-TC cutting knife for a Polar 115 machine.
Knife size: 1390 x 160 x13.75
The measured maximum distortion is 0.23 mm.

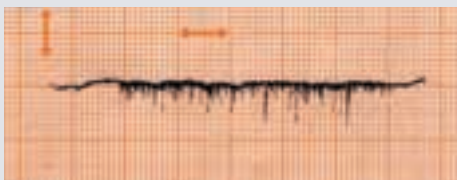
Conventional Inlaid Knife



Bowing of a conventional carbide inlaid paper cutting knife for a Polar 115 machine.
Knife size: 1390 x 160 x13.75
The measured maximum distortion is 4.65 mm.

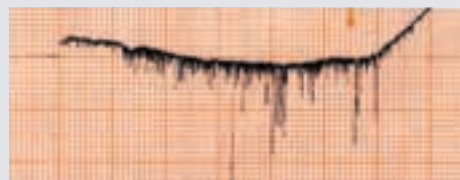
Cutting Edge Roughness

VITECH-TC



The measured cutting edge roughness after 20 cuts in Ivory Carton #36 with a thickness of 3.0 mm is Ra max = 14 μm .

Conventional Inlaid Knife



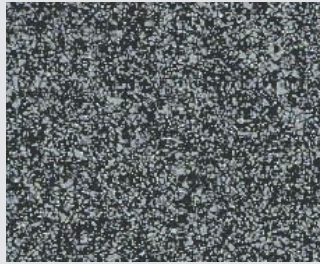
The measured cutting edge roughness after 20 cuts in Ivory Carton #36 with a thickness of 3.0 mm is Ra max = 50 μm .

Tungsten Carbide Grade

The VITECH-TC bonding technology allows the use of a special carbide grade that has advanced technical properties. It is more abrasion resistant and outperforms conventional carbide grades.

In addition the VITECH-TC grade is very even in grain distribution and uniform in size. It allows the grinding of a very sharp but also very durable cutting edge.

VITECH Tungsten Carbide Grade

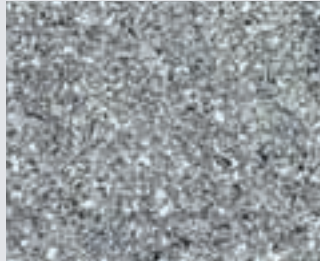


The advantages of this grade are:

- a higher degree of hardness
- a higher resistance to nicking
- it creates a sharper cutting edge

➔ longer life and better cut quality

Conventional Tungsten Carbide Grade



The disadvantages of this grade are:

- easy nicking
- a rough cutting edge
- the edge dulls quicker

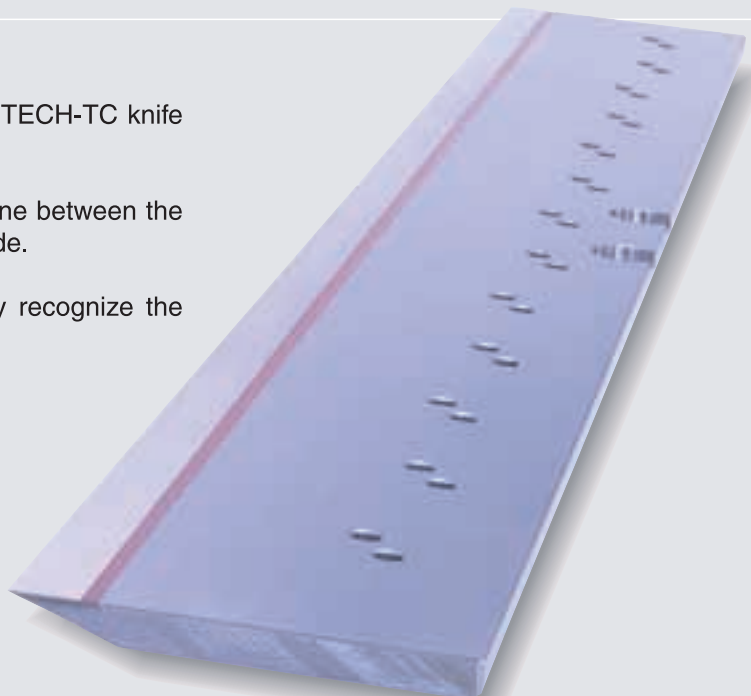
➔ short life and inferior cut quality

Color Marking

It is very easy to distinguish between a VITECH-TC knife and other knives.

The VITECH-TC knife has a red colored line between the substrate material and the Tungsten Carbide.

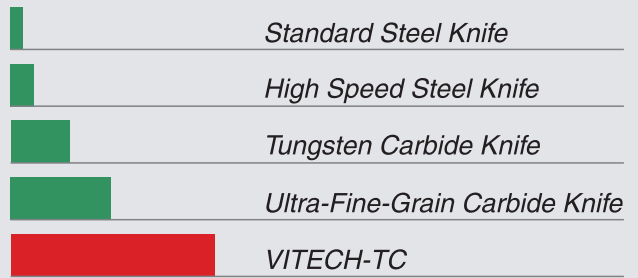
This way the user and grinder can easily recognize the VITECH-TC knife.



User Benefits

- Long tool life for more machine uptime
- Lower ongoing grinding cost
- Higher resistance to nicking and chipping producing smoother cuts

Performance Comparison

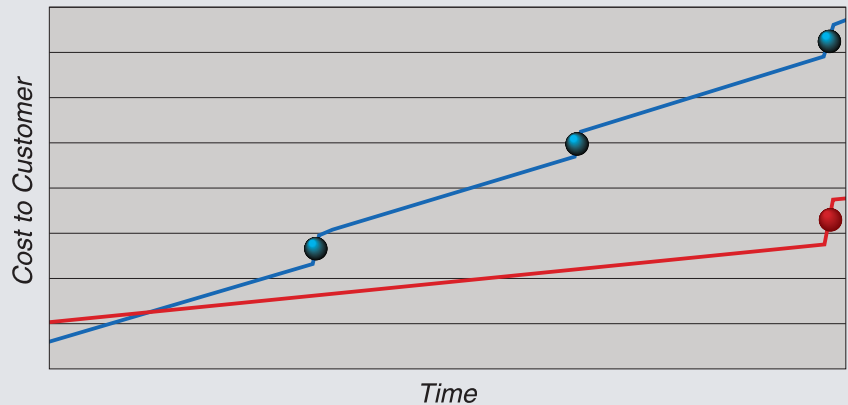


Cost Comparison

Due to its superior performance, the Kanefusa VITECH-TC knife is more cost efficient than any other product on the market.

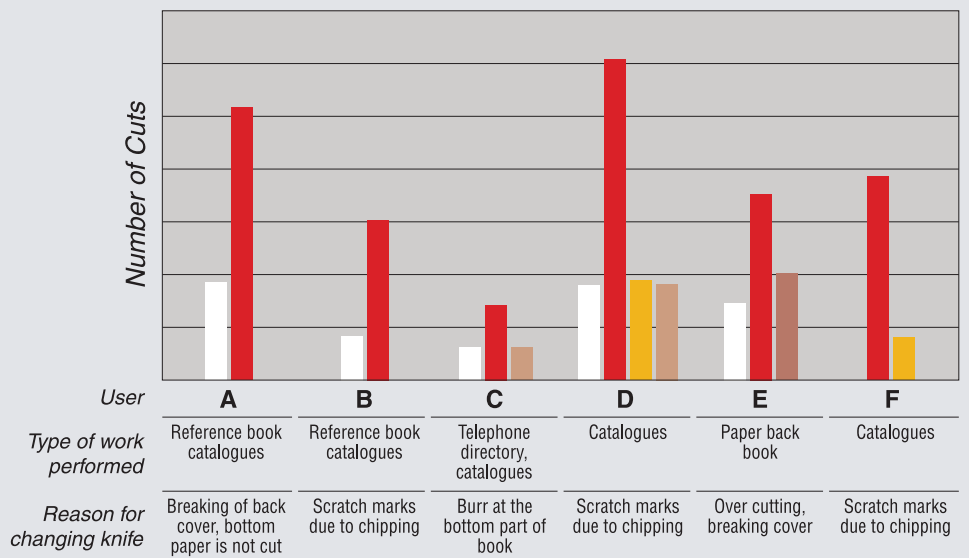
Conventional carbide inlaid knife
VITECH-TC

● Purchase of a new knife
● Purchase of a new knife



Monitor Test Results

■ Conventional Carbide ■ VITECH-TC ■ Competitor A ■ Competitor B ■ Competitor C





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