LUGLI AMEDEO
OFFICINA MECCANICA

S.C.M.

U.F.S.

GREENCHUCK
TAPPING CHUCK

NeCO

HRE HIDRAULIC

OLMA LUBRICANTS

gorenje
Gorenje Orodjarna, d.o.o.

S.C. M., UFS, and LUGLI

Are pleased to present the results of the Manunet 2009 Chucks Project, cofunded by the Piedmont Region in the P.O.R 2007-2013

The purpose of this project was to develop an innovative Technology, with low environmental impact, applicable universally on CNC machines

The “GREENCHUCK” line for tapping and drilling allows to: apply the MQL (minimal lubrication) Technology - with all the advantages resulting from it – also to the CNC Machine Tools not fitted for this purpose.

Indeed in a viewpoint of mechanical working at low environmental impact, the MQL Lubrication Technology of the tool is becoming a more and more current necessity.

The S.C.M. System is revolutionary

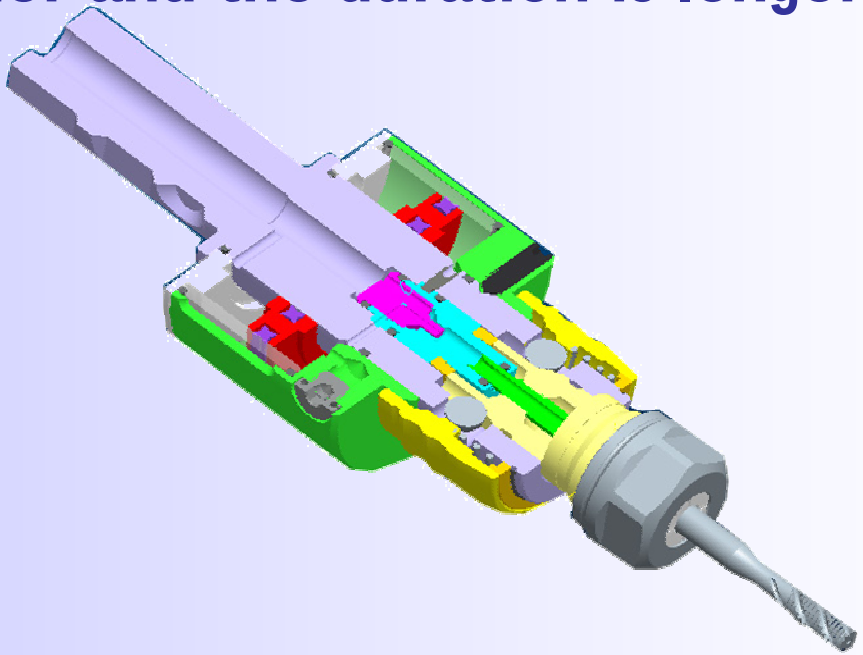
It allows to lubricate the tool (tap or drill) independently from the CNC Machine Tool.

For this reason it is applicable to all CNC Machine Tools

Advantages during the tapping

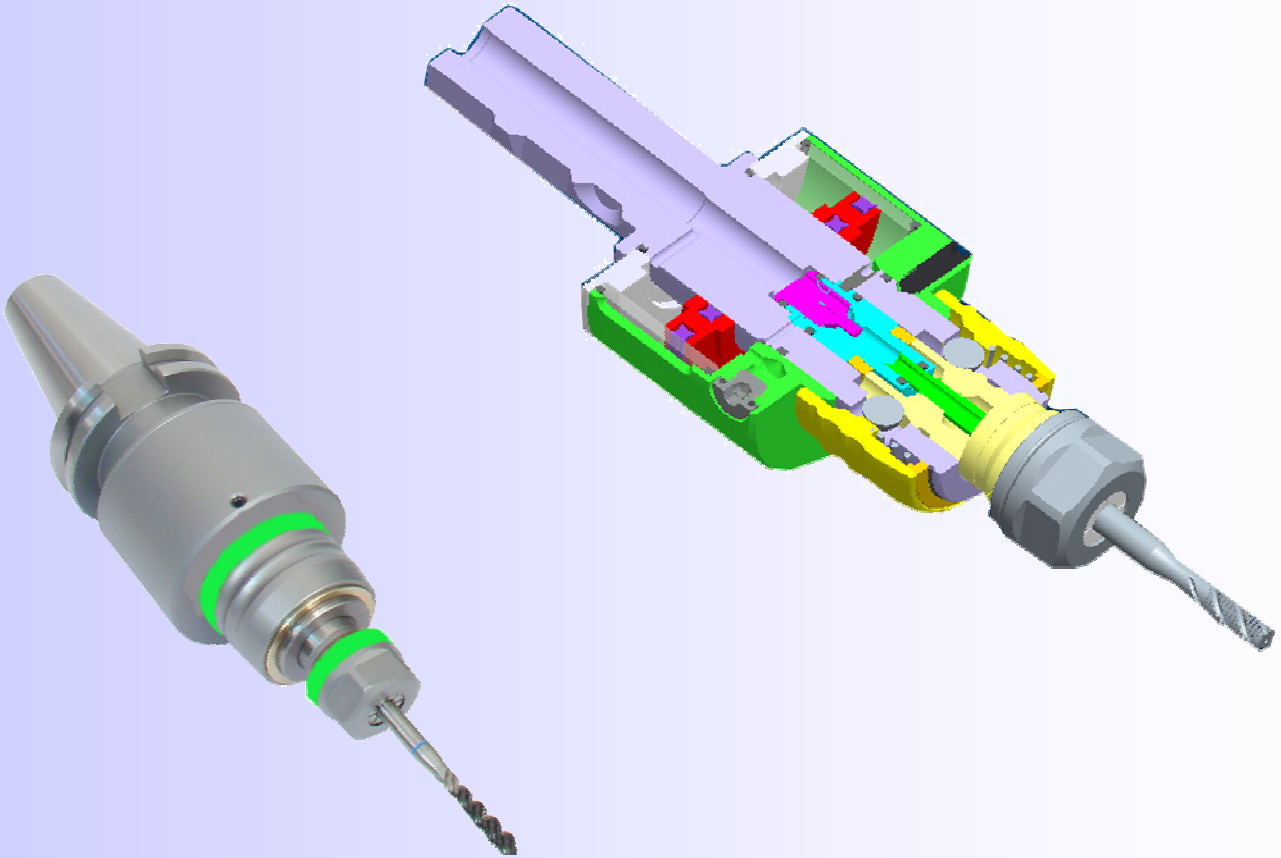
Lubrication of the tap using cutting oil instead of emulsion;

The performance of the tap lubricated with cutting oil is higher and the duration is longer;



- **Very low consumption of cutting oil, because the MQL Technology reduces the consumption of more than 90%;**
- **Zero disposal costs of the emulsion lubricant: no use of emulsion means no need of disposal;**
- **Less environmental pollution; the cutting oil for MQL is biodegradable;**

RESULTS IN TAPPING

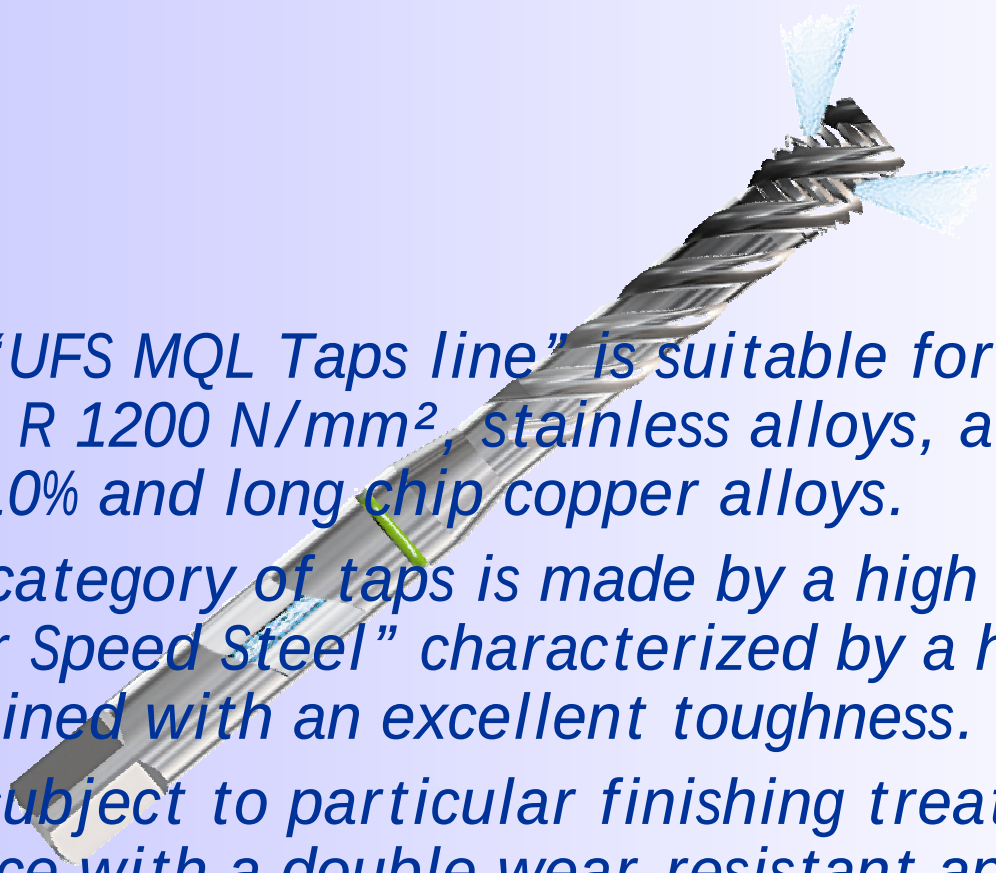


Chuck Code	Tap	Lubricant	No. Of threads	Wear
Collet chuck ER 32	K82M6X-TXC UFS	Emulsion 7% (Blaser BC20)	146	Break
Tapping Chuck GREENCHUCK	K82M6X-TXC UFS	Olio MQL	468	Wear

- **The increase of the duration of the Tap is higher than 300%;**
- **The machining cost using emulsion included the disposal cost is Euro 0,047/1 Minute**
- **The machining cost with MQL oil is Euro 0,02 Euro/1 Minute**
- **The saving is 57,5 %**

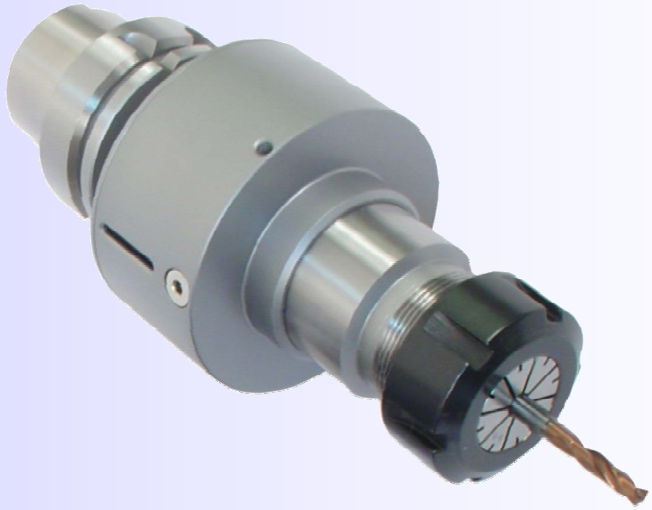
“UFS MQL TAPS”

- *The Company UFS “Utensili Filettatori Sparone” developed a specific tapping line for GREENCHUCKS. This “UFS MQL Taps line” guarantees the best tapping performance, optimizing the air-oil mixture passage through the tapping chuck.*
- *The use of the tapping chucks GREENCHUCK together with the “UFS MQL Tap” protracts the duration of the tool.*



- *The "UFS MQL Taps line" is suitable for common steels up to R 1200 N/mm², stainless alloys, aluminium alloys Si ≤ 10% and long chip copper alloys.*
- *This category of taps is made by a high quality "PM Super Speed Steel" characterized by a high hardness, combined with an excellent toughness.*
- *It is subject to particular finishing treatments of the surface with a double wear-resistant and XP antifriction coating.*

Advantages during the drilling



- The increase of the duration of the drill is 100%;
- The machining cost using the emulsion method included the disposal cost is Euro 0,047/1 Minute
- The machining cost using MQL oil is Euro 0,02 Euro/1 Minute
- The saving is 57,5 %

Chuck Type	Lubrification	Tool no.	No. of holes before the break	Average value
Conventional	**Internal MQL**	**2**	**13**	**23,5**
Conventional	**Internal MQL**	**3**	**34**	
Greenchuck Tapping Chuck	**Automatic MQL**	**4**	**33**	**55**
Greenchuck Tapping Chuck	**Automatic MQL**	**5**	**77**	

Working test

Company: LUGLI AMEDEO OFFICINA MECCANICA

Place: Vigliano Biellese (ITALY)

Date: 20° April 2011

Machine Parameters

Material: AISI 304 - 1,4301 flat 150 x 100 x 15 mm

Machine: Mori Seiki SH403

Cutting parameters

Drill:TIVOLY Ø5; Hard Metal drill, coated (cutting speed = 60m/Minute; Feed = 0,1 mm/rev; depth = 13 mm)

Tap: M6 UFS K82M6X-TXC LA030310F

(cutting speed = 12m/min ; Feed =1 mm/rev ; depth = 12 mm)

The GREENCHUCK is the most efficient solution to benefit from the advantages of the Minimal Lubrication at a “minimal” cost