



# AGIP ASTER

AGIP ASTER represent a new generation of chlorine-free complete line of metal-cutting oils available in many grades differing in viscosity and in type and quantity of additives. There is an AGIP ASTER oil to solve every metal-cutting problem.

## CHARACTERISTICS (TYPICAL FIGURES)

AGIP ASTER		MM/E	MP	TA/E	TG
Viscosity at 40°C	mm <sup>2</sup> /s	14	30	17	32
Flash Point COC	°C	200	200	200	215
Pour Point	°C	-9	-12	-9	-12
Mass Density at 15°C	kg/l	0,865	0,875	0,895	0,890

AGIP ASTER		S	M	L	RF	FP
Viscosity at 40°C	mm <sup>2</sup> /s	38	175	10	22	12
Flash Point COC	°C	200	210	145	200	190
Pour Point	°C	-12	-9	-40	-9	-18
Mass Density at 15°C	kg/l	0,895	0,920	0,890	0,900	0,885

## NOTE

It is good practice to avoid contamination by water or aqueous solutions. Do not mix these products with chlorinated oils.

## PROPERTIES AND PERFORMANCE

- Lower disposal costs.
- Best results over a broad field of applications.
- Good rust protection of workpiece and machinery.
- The characteristics of all grades remain unaltered during operation; they do not easily form mists nor do they cause smoke or bad smells.
- The AGIP ASTER line is formulated from severely solvent-refined mineral base stocks so as to ensure healthy working conditions.

## APPLICATIONS

### AGIP ASTER MM/E

This grade is especially suitable for machining of small steel components having a high machinability index, and for machining of copper and copper alloys. The product does not stain or attack the machined materials.



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## **AGIP ASTER MP**

This is a multipurpose oil for metal cutting and for lubricating machine tools. It is recommended for automatic machining of ferrous and non-ferrous metals of medium machinability and for gear cutting operations, especially if there is risk of the lubricating oil being entrained in the cutting oil and vice versa. As a lubricant and a hydraulic fluid it may be used for all applications for which an ISO VG 32 grade is required.

## **AGIP ASTER TA/E**

This is recommended for machining jobs of alloy steels. It is especially suitable for use on Davenport, Gildemeister, Tornos and Index automatic lathes. It is also suitable for gear cutting (hobbing and Gleason machines).

## **AGIP ASTER TG**

This oil is suitable for difficult machining jobs of high-alloy and stainless steels. It is also suitable for severe gear cutting on Fellows and hobbing machines.

## **AGIP ASTER S**

This oil is expressly designed for gear shaving operations when a high degree of finish is required. It may also be used for tapping, threading and broaching.

## **AGIP ASTER M**

This is recommended for all slow-speed manual hand and automatic machine tapping operations involving alloy, high-alloy and stainless steels.

It is also suitable for slow-speed horizontal broaching of high-alloy steels.

## **AGIP ASTER L**

This is a special fluid recommended for honing and lapping ferrous metals. It ensures adequate detergent action on grinding tools and permits rapid settlement of abrasive dust.

## **AGIP ASTER RF**

This grade is recommended for grooving twist bits, screw taps, reamers, etc., and for grinding threads, gears or other items having a hardness in the 62-64 HRC range. It is recommended for Hertline and Raiscauer grinding machines.

## **AGIP ASTER FP**

This cutting oil is especially recommended for deep hole-boring operations on various types of steel and aluminium alloys. It is specifically designed for drilling with straight-flute drills and the BTA and Ejector systems. The balanced action of the antiwelding and antiwear components ensures a satisfactory life for cutting edges and for the slideways of cutting tools. It may also be used for the high-speed slotting of steels having a low machinability index and for broaching medium-alloy steel at high-cutting speeds.

## **NOTE**

Final choice of product depends on cutting parameters. The Technical Assistance Service is available for all necessary information and clarification.