



# QUADRA

MULTIFONCTIONAL OIL FOR MACHINE TOOLS

## APPLICATIONS

**QUADRA** is particularly recommended for the lubrication of slideways, even loaded, industrial gears and particularly for machine tool gear boxes.

**QUADRA** was especially studied to meet some hydraulic applications.

## BENEFITS

**QUADRA** is to be used whenever the same oil is required to lubricate all the devices of machine tools and to fulfill the following functions :

- **HYDRAULICS** meeting the NF ISO 11158 standard HM category.
- **HYDRAULICS AND SLIDEWAYS** meeting the NF ISO 11158 standard HG category.
- **SLIDEWAYS** meeting the NF ISO 6743-13 standard G category.
- **INDUSTRIAL GEARS** meeting the NF ISO 6743-6 L standard CKB and CKC categories.
- The formulations of **QUADRA** were particularly studied to allow an excellent demulsibility with the soluble metal working fluids, especially those of the UNIL OPAL brands.
- **QUADRA** have a good adhesiveness and excellent anti stick-slip properties : the SKC friction tests on steel-steel and steel-resin slideways give low friction coefficient.
- Thanks to its multifunctional applications, **QUADRA** allows diminution of costs through supply simplification and stock reduction.

## PERFORMANCES

The **QUADRA** brand complies with or exceeds the following specifications, classifications or requirements:

- MACHINE TOOLS :** NF ISO/TR 3498 L-C, G, H and HG
- INDUSTRIAL GEARS :** CREUSOT LOIRE K/KS - DIN 51517 part 3 CLP  
AGMA MILD EP  
CINCINNATI MILACRON P-63 (ISO grade 68) and P-76 (ISO grade 100)  
FORD M2C 83-C - US STEEL 224
- SLIDEWAYS :** FRENCH STEEL INDUSTRY FT 172  
CINCINNATI LAMB P-47 (ISO grade 68) and P-53 (ISO grade 32)
- HYDRAULICS :** FRENCH STEEL INDUSTRY FT 151 and FT 173  
CINCINNATI LAMB P-68 (ISO grade 32), P-69 (ISO grade 68)  
and P-70 (ISO grade 46)  
DIN 51 524 part 2 HLP - AFNOR NF ISO 11158 categories HM and HG



**CHARACTERISTICS**

CHARACTERISTICS	UNITS	METHODS	TYPICAL DATA			
ISO grade	-	-	<b>32</b>	<b>46</b>	<b>68</b>	<b>100</b>
Specific gravity at 15°C	kg/m <sup>3</sup>	NF T 60-101	874	877	881	885
Kinematic viscosity at 40°C	mm <sup>2</sup> /s	NF T 60-100	33,1	46,9	70,5	104,3
Kinematic viscosity at 100°C	mm <sup>2</sup> /s	NF T 60-100	5,7	7	9,1	11,6
Viscosity index	-	NF T 60-136	112	106	103	98
Pour point	°C	NF T 60-105	-27	-27	-24	-24
Flash point	°C	NF T 60-118	216	218	232	240
Copper corrosion	Quotation	NF M 07015	1b			
Rusting test	-	NF T 60151 A/B	Pass			
FZG damage load stage	-	DIN ISO 14635-1	> 12			

*This typical data is given for information only*

**HEALTH, SAFETY AND ENVIRONMENT**

Elimination must be carried out to conform to the rules set for the disposal of used oils.

Must be stored away from bad weather.

Should you need further details, our Technical Department remains at your disposal.

7220 OPAL  
7220 OPAL  
7220 OPAL  
7220 OPAL