Product Data Sheet

# MAK NORCAM 22

Superior multipurpose metalworking fluid for moderate duty machining of a wide range of metals

MAK Norcam 22 is a premium quality, transparent inactive cutting oils for a wide range of applications. They are blended from highly refined, high viscosity index base oils with extreme pressure additive.

**Applications:**
MAK Norcam 22 is developed for a variety of metal cutting operations like turning, drilling, milling etc. in automatic lathes, screw cutting machines. This high performance cutting oil is suitable for both ferrous and non-ferrous metals and for factories that work with mixed metals.

| Recommended Use | Cast Iron | Alloy Steel | Carbon Steel | Al. Alloy | Yellow Metals |
|---|---|---|---|---|---|
| Grinding | -- | -- | -- | -- | -- |
| General Machining | √√ | √√ | √√ | √√ | √√ |
| Drilling | √√ | √√ | √√ | √√ | √√ |

√√ Main applications

**Performance/ Benefits:**
**Good EP property** – provides good load bearing capability and protection to tools along with superior surface finish.

**High VI** – ensures adequate film strength even at high temperatures. It is suitable for single sump machines.

**High Lubricity** – provides excellent lubricity and surface finish. Extends tool life.

**Good Rust Protection** – for both machine tools and work pieces.

**Non-Staining** – inactive sulphur. It is suitable for use with non-ferrous metals.

**Light Colour** – ensures good visibility during the operation.

**Low Oil Mist Characteristics** – reduces oil consumption and provides good working environment.

**Specification:**
- Proprietary Grade

**Typical Physico-Chemical Data: MAK Norcam 22**

| Characteristics | Method | Value |
|---|---|---|
| Appearance | Visual | Clear |
| Colour | Visual | Transparent |
| Density, g/cc @15$^{O}$C | ASTM D 1298 | 0.9194 |
| Kinematic Viscosity @40$^{O}$C, cSt | ASTM D 445 | 21.54 |
| Copper Corrosion, 100$^{O}$C, 3 hrs. | ASTM D130 | 1b |
| Flash Point, COC, $^{O}$C | ASTM D92 | 200 |
| Weld Load, kg | ASTM D 2783 | 250 |

**Additive:**

| EP | Ester | Fatty Oil | Sulphur | Zinc | Phosphorus |
|---|---|---|---|---|---|
| √ | -- | √ | -- | -- | -- |

**Storage & Handling:**
The product should be stored inside. Keep it properly sealed to avoid contamination. Avoid freezing. Shelf life is 3 yrs. under protected storage conditions.

**Health & Safety:**
It is unlikely to be hazardous when properly used in recommended applications. Contamination of the oil from other oils, greases, chemicals, dirty water etc. can occur during the use. It should be avoided. Regular monitoring of the in-use product is recommended.

**Bharat Petroleum Corporation Ltd.**
Product and Application Development Deptt.
BPCL, "A" Installation, Sewree Fort Road, Sewree (East),
Mumbai – 400015 E-mail: MAKcustomercare2@bharatpetroleum.in Tel No.: 022-24176351