WATER MISCIBLE COOLANTS

ADDINOL PENTA-COOL WM 442

PRODUCT DESCRIPTION

ADDINOL Penta-Cool WM 442 is a boric acid-free, amine-containing cooling lubricant concentrate for universal application also for heavy machining processes.

APPLICATION

- Suited for processing:
  - iron and steel
  - cast alloys
  - aluminium and other non-ferrous metals (check for proneness to staining)
- For processing magnesium alloys please check individually with ADDINOL Application Technology.

PLEASE NOTE

When mixing, add concentrate under constant agitation to the water, never vice versa!

Increased non-ferrous metal processing may lead to staining. In this case, please partially replace or renew the emulsion. (Machining of non-ferrous metals up to 80% of the total proportion of the various materials is possible).

TYPE

- **Semi-synthetic**
- **Mineral oil content approx. 30%**

DELIVERY

Delivery preferable in drums and 20L cans.

OPERATION CONCENTRATION

Depending on application:

- **> 5% for grinding operations**
- **> 7% for general machining**

SHELF LIFE AND TRANSPORT OF CONCENTRATE

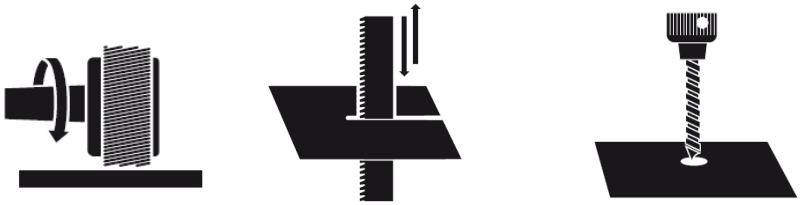
Can be used at room temperature in closed containers up to 12 months after the production date. Transport and store frost-free!

CHARACTERISTICS

- Free of formaldehyde releasing components
- Outstanding corrosion protection
- Fine-disperse emulsion with excellent wetting behaviour

ADVANTAGES AND BENEFITS

- **No health hazards**
- **Temporary storage of workpieces possible (no wet storage)**
- **Superior cooling and lubricating effect**



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SPECIFICATIONS AND TYPICAL PARAMETERS

Concentrate

Feature	Test condition / unit		Penta-Cool WM 442	Method acc. to
Appearance, colour			clear, translucent	visual
Storage temperature		°C	from +5 up to +40	
Density	at 15°C	kg / m³	998	DIN EN ISO 12185
Viscosity	at 20°C	mm²/s	150	DIN EN ISO 3104
Mineral oil content		%	~ 30	
Refractive index		% per °Brix	1.2	

Emulsion with water

Operating concentration	universal application	> 5%	
pH-value in DIN 20 water	5% emulsion	9.5	DIN 51369
Corrosion protection	5% emulsion	0/0	DIN 51360-2
Stability in hard water	Mixing water	between 5°dH and 30° dH	
	in operation	stable up to 150°dH	

ADDINOL - The Experts for High-Performance Lubricants

We at ADDINOL develop and produce more than 600 high-performance lubricants of the new generation. Among these are automotive lubricants for highest demands and pioneering developments for industrial applications. Our customers all over the world benefit from the high and stable quality of our ADDINOL high-performance lubricants, our know-how and the individual customer advisory service of our competent experts. Our company has world wide activities. ADDINOL high-performance lubricants are distributed by more than 120 international partners.

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