



MINERAL CIRCULATING OIL

Black Bulls C-ZF RANGE

Black Bulls C-ZF is high performance heavy duty circulation oil range, which is formulated with suitable base oil and advanced additive system combination to meet the critical requirements of rolling mills, circulation system of primary and mill bearing and high-speed no-twist rod mills. It is providing enhanced film strength anti-scuff and anti-wear properties. It does not contain zinc, phenol or heavy metals.

Typical properties:

PROPERTY	TEST METHOD	TYPICAL VALUES			
ISO Viscosity Grade		100	150	220	320
Viscosity cSt @ 40°C	ASTM D 445	101	150	220	320
Viscosity cSt @ 100°C	ASTM D 445	11.33	14.89	18.5	24.65
Viscosity Index,	ASTM D 2270	98	98	97	98
Pour Point, °C,	ASTM D 97	-9	-9	-9	-9
Flash Point, °C,	ASTM D 92	248	254	256	254
Specific Gravity @ 15.6 °C kg/l,	ASTM D 1298	0.8850	0.8860	0.8875	0.8900
Demulsibility at 82°C, Minutes to 3ml	ASTM D1401	25	25	25	25
Demulsibility for non-EP oils, ml water	ASTM D2711	40	40	40	40
Rust Protection,	ASTM D665				
Distilled Water		Pass	Pass	Pass	Pass
Sea Water		Pass	Pass	Pass	Pass
Foaming Characteristics, Seq I, II, III; Tendency/Stability, ml/ml	ASTM D 892				
Seq I		0/0	0/0	0/0	0/0
Seq II		0/0	0/0	0/0	0/0
Seq III		0/0	0/0	0/0	0/0
Copper Corrosion, 3 hours @ 100°C	ASTM D130	1A	1A	1A	1A
FZG Gear Test, Failure Stage	DIN 51354	12	12	12	12

Advantages:

- Rust & Corrosion protection.
- Exceptional anti-wear.
- Excellent demulsibility.
- Superb equipment protection.
- Highly reliable operation.
- Long oil change life.
- Ash less and free from heavy metals.

Application:

- Use in ferrous and non-ferrous mills.
- Back-up roll bearing system. High speed rolling mills.
- Lubrication of systems employing continuous recirculation.
- Hydraulic circuits where special anti-wear properties are not required.

