



## Magna™ CTX Range

Circulating oils

### Description

Castrol Magna™ CTX circulating oil range are based upon high quality mineral oils and performance enhancing additives.

The Magna CTX range provides high oil film strength, outstanding rust protection, antiwear, antiscaff, anti-oxidation and water separating properties.

### Application

Magna CTX circulating oils are engineered for use in MORGOIL™ back-up roll bearing systems such as those manufactured by Primetal (Morgan Construction Company), Danieli, SMS Demag and others. These oils meet or exceed:

- Primetal (previously Morgan Construction Company) Lubricant Specification Rev. 1.1 (27 Jan 2005)
- Danieli Standard N. 0.000.001- Rev 15
- SMS X-Roll® Oil Bearing Standard Lubricant Specification SN 180-3 (Apr 2016)

Magna CTX 100 is also recommended for high speed No-Twist™ Rod Mills with a single lubricant circulating system.

In No-Twist Rod Mills having two lubricating systems, the higher viscosity grades are used in the low speed roughing stands and the lighter grades in the higher speed finishing stands.

The higher viscosity grades of this product are also very suitable to be used as paper machine lubricants, due to the high thermal/oxidative stability, as well as the outstanding performance in rust protection, water separation and wear/scuffing protection. In such applications, it functions as a joint bearing/gear lubricant in most lubricating points, including the rolling bearings of the driers.

Magna CTX circulating oils are also suitable for use on other primary mill and mini-mill bearing application systems.

### Advantages

- High viscosity indices.
- Excellent oxidation stability permits extended oil life.
- Exceptional hydrolytic stability in presence of moisture contamination.
- Excellent filterability in wet conditions.
- Excellent water separation properties.
- Good rust protection properties and low copper corrosion tendency.
- High film strength and outstanding anti-wear properties to provide high protection against bearing wear and gear scuffing under severe loading conditions.
- Low carbon forming tendency minimises bearing deposits and helps to maintain oil cleanliness under severe operating conditions.
- Efficient filtration with all types of filters, including those using fuller's earth as filtering medium.

## Typical Characteristics

Name	Method	Units	CTX 100	CTX 150	CTX 220	CTX 320	CTX 460	CTX 680
ISO Viscosity Grade	-	-	100	150	220	320	460	680
Density @ 15°C / 59°F	ISO 12185/ ASTM D4052	kg/m <sup>3</sup>	888	890	898	903	900	900
Kinematic Viscosity @ 40°C / 104°F	ISO 3104/ ASTM D445	mm <sup>2</sup> /s	100	150	220	320	460	680
Kinematic Viscosity @ 100°C / 212°F	ISO 3104/ ASTM D445	mm <sup>2</sup> /s	11.3	14.6	19.2	24.6	31.2	38.6
Viscosity Index	ISO 2909/ ASTM D2270	-	98	>95	>95	96	96	>90
Pour Point	ISO 3016/ ASTM D97	°C/°F	-21/-6	-18/ -0.4	-18/0	-15/5	-12/ 10	-9/16
Flash Point - open cup method	ISO 2592/ ASTM D92	°C/°F	240/ 464	240/ 464	240/ 464	250/ 482	250/ 482	260/ 500
Flash Point - closed cup method	ISO 2719/ ASTM D93	°C/°F	220/ 428	220/ 428	220/ 428	226/ 439	226/ 439	230/ 446
Foam Sequence I - tendency / stability	ISO 6247/ ASTM D892	ml/ml	10/0	10/0	0/0	0/0	0/0	0/0
Foam Sequence II - tendency / stability	ISO 6247/ ASTM D892	ml/ml	35/0	30/0	0/0	25/0	10/0	20/0
Foam Sequence III - tendency / stability	ISO 6247/ ASTM D892	ml/ml	0/0	30/0	0/0	0/0	0/0	0/0
Water Separation @ 82°C / 180°F (40/37/3)	ISO 6614/ ASTM D1401	min	10	10	10	10	15	15
Rust test - distilled water (24 hrs)	ISO 7120/ ASTM D665A	Rating	Pass	Pass	Pass	Pass	Pass	Pass
Rust test - synthetic seawater (24 hrs)	ISO 7120/ ASTM D665B	Rating	Pass	Pass	Pass	Pass	Pass	Pass
Copper corrosion (3 hrs@100°C/212°F)	ISO 2160/ ASTM D130	Rating	1a	1a	1a	1a	1a	1a
Oxidation Stability - Rotating Pressure Vessel test	ASTM D2272/ IP 229	min	330	348	311	286	261	-
Four Ball Weld Load test - Weld Point/Load Wear Index	ASTM D2783	kgf	160/ 39.6	160/ 32.6	160/ 40.4	160/ 40.8	160/ 40.3	160/ 40.5
Four Ball Wear test - Wear Scar Diameter (15 or 40 kgf / 75°C / 1200 rpm / 1 hr)	ASTM D4172	mm	0.38	0.39	0.44	0.45	0.47	0.44
FZG Gear Scuffing test - A/ 8.3/90	ISO 14635-1	Failure Load Stage	>12	>12	>12	>12	>12	>12

Subject to usual manufacturing tolerances.

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