



CITGO PACEMAKER® SD OILS

Date 1/09

DESCRIPTION: CITGO Pacemaker SD “Super Demulsibility” Oils are high quality circulating lubrication oils, with superior oil/water separation characteristics, oxidation stability, and rust and corrosion protection specifically designed for steel mill applications. Viscosity grades 150, 190, 220, 320, 460, 550 and 680 exceed the Morgan Construction Company’s requirements for Morgoil® Advanced Bearing Lubricant “Super Demulsibility” specification.

They are available in ISO Viscosity Grades 150, 220, 320, 460 and 680. Intermediate “grades” of 190 and 550 are also available.

- QUALITIES:**
- ISO Grades 150, 190, 220, 320, and 460 demonstrate outstanding water removal characteristics as demonstrated in the modified demulsibility test, ASTM D 2711, at a normal operating temperature of 125°F and ISO 550 and 680 at 180°F.
 - Low carbon forming tendencies and excellent oxidation resistance provide long service life in circulating systems.

APPLICATIONS: CITGO Pacemaker SD Oils are primarily recommended for circulating systems requiring AGMA R&O type lubricants operating in severe conditions such as water contamination. These products were developed to allow rapid oil separation from water at normal mill operating temperatures, especially in Morgan Construction Company steel mill roll bearings.

Depending on the viscosity grade, they can also be used as:

Gear oils

Compressor oils

Rust / oxidation inhibited (R&O) oils

Roll bearing lubricant (blooming, slabbing, hot and cold strip mills)

Morgoil® lubrication system oils

MESTA® system oils

Morgoil and MESTA are registered trademarks of the Morgan Construction Company.

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TYPICAL PROPERTIES:

CITGO PACEMAKER® SD OILS					
Grade	190	220	320	460	680
Material Code	633049001	633044001	633045001	633047001	633050001
Gravity, ASTM D 4052, °API	28.0	27.5	27.0	26.5	26.6
Density, lb/gal	7.39	7.41	7.43	7.46	7.45
Flash Point, ASTM D 92, COC, °F (°C)	532 (278)	560 (293)	570 (299)	580 (304)	579 (304)
Viscosity:					
ASTM D 445, cSt at 40°C	188	222	326	454	676
100°C	16.5	18.7	24.2	30.0	39.3
ASTM D 2161, SUS at 100°F	990	1175	1740	2430	3647
SUS at 210°F	87	96	120	147	192
Viscosity Index, ASTM D 2270	93	94	95	94	96
Pour Point, ASTM D 97, °F (°C)	10 (-12)	10 (-12)	10 (-12)	10 (-12)	5 (-15)
Color, ASTM D 1500	L4.5	4.5	L5.0	L7.5	5.5
Rust Test, ASTM D 665 A	Pass	Pass	Pass	Pass	Pass
Demulsibility, ASTM D 2711 (ml Emulsion at 125°F)	1.0 max	1.0 max.	1.0 max.	1.0 max.	1.0 max.
Water Separation, ASTM D 1401 (ml Emulsion at 40 minutes)	3.0 max.	3.0 max.	3.0 max.	3.0 max.	3.0 max.
Foam Test, ASTM D 892, Seq. I, ml	50-0	50-0	50-0	50-0	50-0
Seq. II, ml	50-0	50-0	50-0	50-0	50-0
Seq. III, ml	50-0	50-0	50-0	50-0	50-0
AGMA Grade	–	5	6	7	8