



# SHELL DELIMA<sup>®</sup> OILS ASHLESS

Premium oils for lubricant circulating systems of paper machines

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## Product Description

**Shell Delima<sup>®</sup> Oils Ashless** are a series of specially formulated metal-free anti-wear circulating oils for use in paper machine lubrication systems. These products contain a balanced combination of inhibitors to resist oxidation, rust, copper corrosion, wear, emulsification, and foam while providing excellent filterability and water separation. The ashless additive system extends service life by providing outstanding oxidative stability and resistance to degradation by certain process chemicals. **Shell Delima<sup>®</sup> Oils Ashless** are especially appropriate where there are environmental concerns or restrictions on the presence of metals such as barium or zinc and are designed to keep systems clean and trouble-free over extended service intervals.

**Shell's Delima<sup>®</sup> Oils Ashless** are available in three ISO viscosity grades (150, 220, 320) to cover the temperatures encountered in the dryer sections of modern, high-speed paper machines.

## Applications

- circulating systems needing effective anti-wear/mild EP protection as well as AGMA R&O or better oxidation performance
- paper machine main lubrication systems operating under severe conditions
- paper machines equipped with fine filters, super-heated steam, or susceptible to severe water contamination
- dryer sections and calender stacks
- controlled crown rolls
- reduction gears and gear head motors
- suction box pumps and vacuum and white water pumps

## Features/Benefits

- excellent oxidation resistance
  - excellent resistance to deposit and sludge formation
  - excellent water separation properties
  - resistance to attack by process chemicals
  - corrosion and rust protection
  - excellent filterability for use with fine filters
  - excellent load-carrying capacity and wear resistance

### Typical Properties of Shell Delima<sup>®</sup> Oils Ashless

	Test	ISO Viscosity Grade		
	Method	150	220	320
Product Code		66580	66581	66582
Gravity, °API	D 1298	27.2	26.7	26.4
Viscosity:				
@ 40°C, cSt	D 445	150	220	320
@ 100°C, cSt	D 445	14.2	18.4	23.4
@ 100°F, SUS	(calc)	790	1166	1708
@ 210°F, SUS	(calc)	76.5	94	117
Viscosity Index	D 2270	91	92	92
Flash Point, COC, °F	D 92	485	490	495
Pour Point, °F	D 97	5	10	10
RBOT, Minutes	D 2272	600	600	600
Rust Test	D 665B			
Synthetic Sea Water		Pass	Pass	Pass
Demulsibility, @ 180°F	D 1401			
Separation time, minutes		15	15	15
Wheeling Steel Demulsibility	D 2711			
Free Water, ml		40	40	40
Four-Ball Wear, min	D 2266			
1 hr, 54°C, 1800 rpm, 40 kgf		0.48	0.53	0.53
Four-Ball EP	D 2783			
Load Wear Index, kgf		41	41	41
Weld Point, kgf		200	200	200
FZG EP Gear, Pass Stage	D 5182	13	13	13

### Handling & Safety Information

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet at <http://www.shell-lubricants.com/msds/>. If you are a Shell Distributor, please call **1+800-468-6457** for all of your service needs. All other customers, please call **1+800-840-5737** for all of your service needs. Information is also available on the World Wide Web: <http://www.shell-lubricants.com/>.