



Formerly Known As: Whitmore® Matrix® EP

# Shell Gadus (Matrix EP)

## Extreme-Service Grease

- Extreme Pressure
- Water Resistant
- Multipurpose

Shell Gadus (Matrix EP) is a calcium sulfonate complex grease that is highly recommended for difficult applications such as extreme pressure, water, heat, or chemical attack.

### DESIGNED TO MEET CHALLENGES

#### Performance, Features & Benefits

##### Features

The thickener system in Shell Gadus (Matrix EP) has a protective effect like that of molybdenum disulfide, protecting equipment from wear under difficult conditions of extreme load and slow speed.

Shell Gadus (Matrix EP) helps neutralize acids and resists reacting with caustic materials. Shell Gadus (Matrix EP) grease has prevented corrosion despite years of exposure to phosphoric acid fumes.

A continuous temperature of 400°F (200°C) is within its safe range. It can withstand 550°F (288°C) continuously, provided the bearing is replenished every 30 minutes with normal quantities of grease. Occasional temperature spikes to 600°F (315°C) can be sustained for 5 to 10-minute periods without melting or carbonizing.

Shell Gadus (Matrix EP 2) may be used at DN speeds up to 250,000 and is the preferred grade for electric motor bearings.

Shell Gadus (Matrix EP) meets the Bucyrus International specification for multi-purpose grease (SD 4711). It also meets the following standards per DIN 51502: KP2R -20.

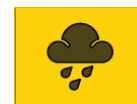
##### Benefits

- LONG LIFE - reduced relubrication frequency.
- WATER RESISTANT - seals out water, even in underwater applications.
- WIDE SPEED RANGE - recommended for use in electric motor bearings as well as slow moving bearings and bushings.

#### Specifications, Approvals & Recommendations

For a full listing of equipment approvals and recommendations, please consult your local Shell & Whitmore Reliability Solutions Helpdesk.

#### Main Applications



Water / Chemicals: Phosphate processing, suction and wet end rolls on paper machines, outdoor cranes and ship lifts, boat trailer wheel bearings and other marine applications.

Highly Loaded Equipment: Pellet mills, shaker screens, belt conveyor pulleys, slewing bearings, pin and bushing, centrifuges, hammermills, sealed work roll bearings, fan bearings and many others.

High Temperature Applications: Oven conveyor bearings, plastic extruder bearings, rotary unions on roto-molders.

Automotive and Earthmoving Applications: Wheel bearings, U-joints, ball joints, pin-and-bushing pivot points and slewing bearings.

## Typical Physical Characteristics

Properties			Method	Shell Gadus (Matrix EP)		
NLGI Grade				0	1	2
Worked Penetration - 60 strokes @ 25°C			ASTM D217	355-385	310-340	265-295
Dropping Point		°F (°C)	ASTM D2265	460 (238)	500 (260)	500 (260)
Viscosity, Base Oil		@ 40°C cSt	ASTM D445	77	119	134
		@ 100°C cSt		7.5	10.8	11.4
Viscosity, Base Oil Polymer		@ 40°C cSt	ASTM D445	--	1,330	1,620
		@ 100°C cSt		--	93.5	114
Density		@60°F lb/gal	Gardner Method	8.09	8.68	8.68
Specific Gravity		(15.5 °C) g/cc		0.969	1.040	1.040
Four Ball EP, Weld Point		kg	ASTM D2596	400	800	800
Four Ball EP, Load Wear Index			ASTM D2596	--	97	140
Four Ball Wear, Scar Width		mm	ASTM D2266	0.60	0.60	0.60
Water Washout		% Loss	ASTM D1264	--	1.5	1.2
Rust Test			ASTM D1743	Pass	Pass	Pass
Copper Strip Corrosion		@ 212°F (100°C)	ASTM D4048 (Modified)	1B	1B	1B
US Steel Mobility		@ 0°F (-18°C) g/min		>30	10	--
		@ 40°F (4°C) g/min		--	--	>50
Color				Green	Green	Green
Thickener				Calcium Sulfonate	Calcium Sulfonate	Calcium Sulfonate

These characteristics are typical of current production. Whilst future production will conform to Shell & Whitmore Reliability Solutions specification, variations in these characteristics may occur.

## Health, Safety & Environment

### Health and Safety

Shell Gadus (Matrix EP) is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from <http://www.epc.shell.com/>

### Protect the Environment

Take used oil to an authorized collection point. Do not discharge into drains, soil or water.

## Additional Information

### Advice

Advice on applications not covered here may be obtained from your Shell & Whitmore Reliability Solutions representative.