

## TRANSMISSION FLUID



# PENTOSIN FFL-4

## Fully Synthetic Double Clutch (DCT) Transmission Fluid

### DESCRIPTION

**Pentosin FFL-4** is the only approved first fill and service fill transmission fluid for the new generation of BMW double clutch gear transmissions (DCT). Pentosin FFL-4 is founded on a fully synthetic base oil technology for safe operation at even the highest thermal load. FFL-4 features a special clutch friction performance which makes it mandatory to be applied solely to the double clutch gear box – do not mix with any other gear oils.

Pentosin FFL-4 is also recommended for BMW with ZF and Getrag manual transmissions (1997 on) and Hyundai Genesis (2010 on). It improves synchronization characteristics and helps provide better fuel economy. FFL-4 can be used where BMW MTF-LT-1, MTF-LT-2, Mini MTF-2, MTF-94 or API GL-4 75W-80 manual transmission fluid is specified.

### PRODUCT ATTRIBUTES

Appearance	Amber & Clear
Density at 15°C	842 kg/m <sup>3</sup>
Density at 20°C	839 kg/m <sup>3</sup>
Kinematic Viscosity at 100°C	7 mm <sup>2</sup> /s
Kinematic Viscosity at 40°C	34.7 mm <sup>2</sup> /s
Kinematic Viscosity at 20°C	83.9 mm <sup>2</sup> /s
Viscosity Index	168
Dynamic Viscosity at -40°C	7400 mPa*s
Pour Point	-54°C/-65.2°F
Flash Point	220°C/428°F
pH Value	N/A

SIZE	PART NUMBER	GTIN-13
1 Liter	1080107	4008849173332
20 Liter	1080208	4008849173431

### OE REFERENCE NUMBERS/RECOMMENDATIONS

Make	Reference Number
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Audi	G 052 529 A2
BMW	83 22 0 440 214
BMW	83 22 2 147 477
BMW	83 22 0 309 031
BMW	83 19 2 344 627
BMW	23 00 1 434 404
BMW	23 00 7 533 513
BMW	83 22 2 148 578
BMW	83 22 2 148 579
BMW	83 22 2 339 219
BMW	83 22 9 408 942
Castrol	B0T 341
Ferrari/Shell	TF DCT-F3
Ford	XT-11-QDC
Hyundai	00232-19041
Hyundai	00232-19042

### OE REFERENCE NUMBERS/RECOMMENDATIONS

Make	Reference Number
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Mercedes-Benz	001 989 85 03
Mercedes-Benz	001 989 86 03
MINI	83 22 0 403 247
MINI	83 22 0 140 516
MINI	83 22 2 344 589
Mitsubishi	C0002610
Mitsubishi	MZ320065
Porsche	G 052 529 A2
Volvo	1161838
Volvo	1161839

### APPROVALS/SPECIFICATIONS

Organization Name	Specification Met
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API	GL-5
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Always consult the vehicle owner's manual to identify fluid specification requirements. MSDS available to professional repair technician upon request.

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