

RAVENOL®

OIL ANALYSIS TRANSFER FLUID DTF-1



RESULTS OF THE OIL ANALYSIS

Parameters Measurement methods	Unit	BMW DTF-1	RAVENOL Transfer Fluid DTF-1
Appearance/colour	-	yellow-brown	yellow-brown
Colour code DIN ISO 2049:2001-06"	-	1,1	L1,5
Density 15°C DIN EN ISO 12185:1997-1	kg/m ³	833,9	833,9
Viscosity 40°C E-DIN 51659-2:2014-08	mm ² /s	28,62	28,46
Viscosity 100°C E-DIN 51659-2:2014-08	mm ² /s	6,05	5,97
Viscosity index DIN ISO 2909:2004-08	-	166	162
Brookfield -40°C ASTM D 2983:2009	mPa·s	6600	5180
Flash point DIN EN ISO 2592:2002-09	°C	228	220
VKA AW 40kg 1hr DIN EN ISO 20623:2018-04	mm	0,56	0,48
VKA EP Weld-Load DIN EN ISO 20623:2018-04	kg	1600/1800	1800/2000
KRL 20hr KV100°C DIN 51350-6:1996-08	mm ² /s	5,864	5,711
Shear stability, KRL, loss of viscosity	%	3,07	4,34
Foaming test sequence I ASTM D 892:2013	ml/ml	10/0	0/0
Foaming test sequence II ASTM D 892:2013	ml/ml	20/0	10/0
Foaming test sequence III ASTM D 892:2013	ml/ml	10/0	10/0
Copper Corrosion ASTM D130: 2012	-	2c	1a

BROOKFIELD -40°C

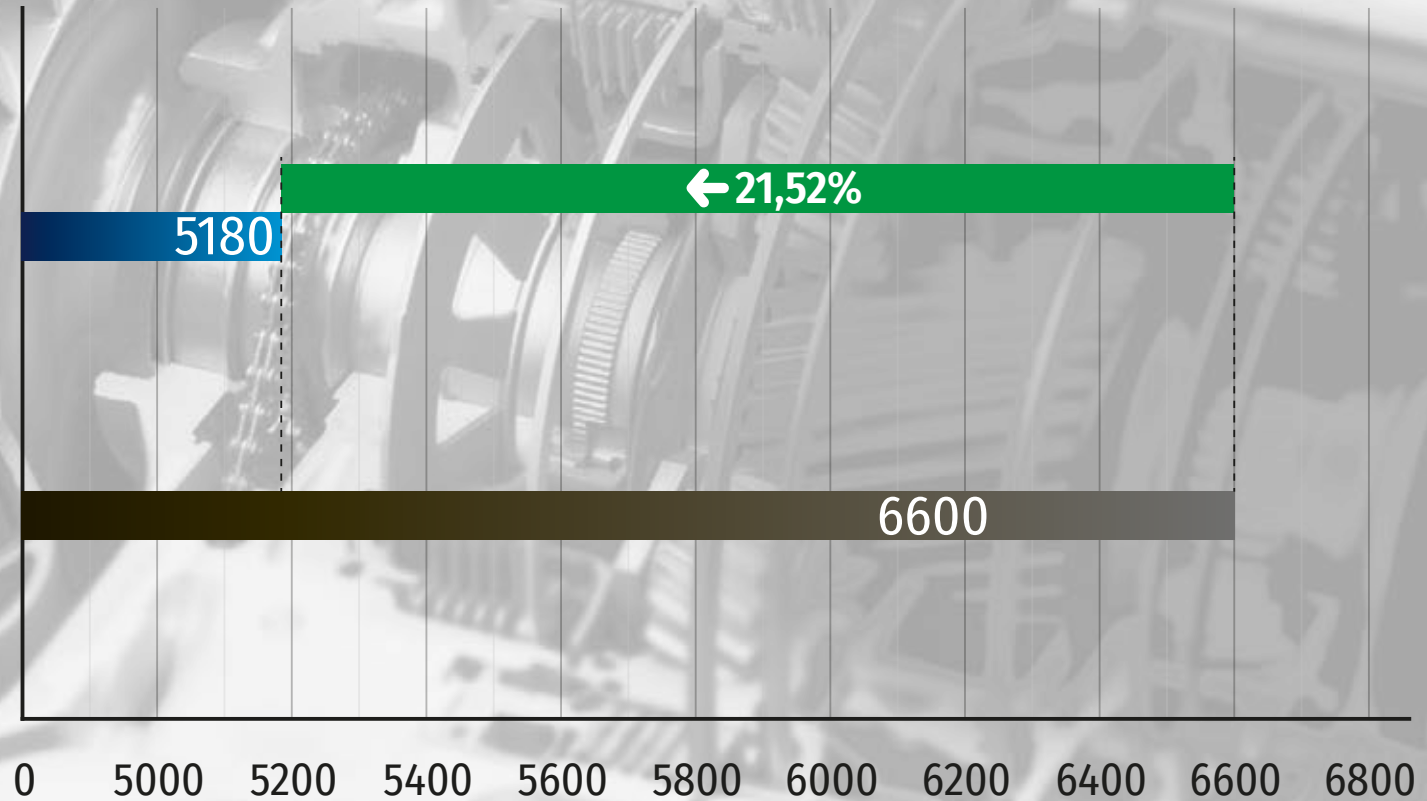
ASTM D 2983

The lower the dynamic viscosity, the better. With regard to the parameters for dynamic viscosity at minus 40 °C, RAVENOL Transfer Fluid DTF-1 delivers 21,52% higher performance than the original oil BMW DTF-1.



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TRANSFER FLUID DTF-1

BMW
DTF-1



MPA·S

VKA AW 40KG 1H

FBT = FOUR BALL TESTER

WEIGHT 40 KG CYCLE TIME 1 HOUR

Wear mark, the smaller the better. With regard to its anti-wear characteristics, RAVENOL DTF Transfer Fluid delivers 14,29 % higher performance than the BMW DTF-1.



0,48



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TRANSFER FLUID DTF-1

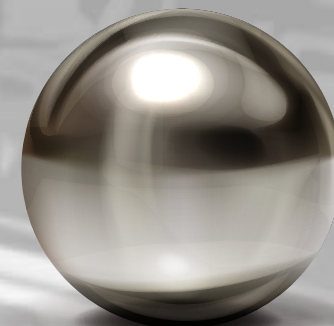
BMW

DTF-1

0,56



MM



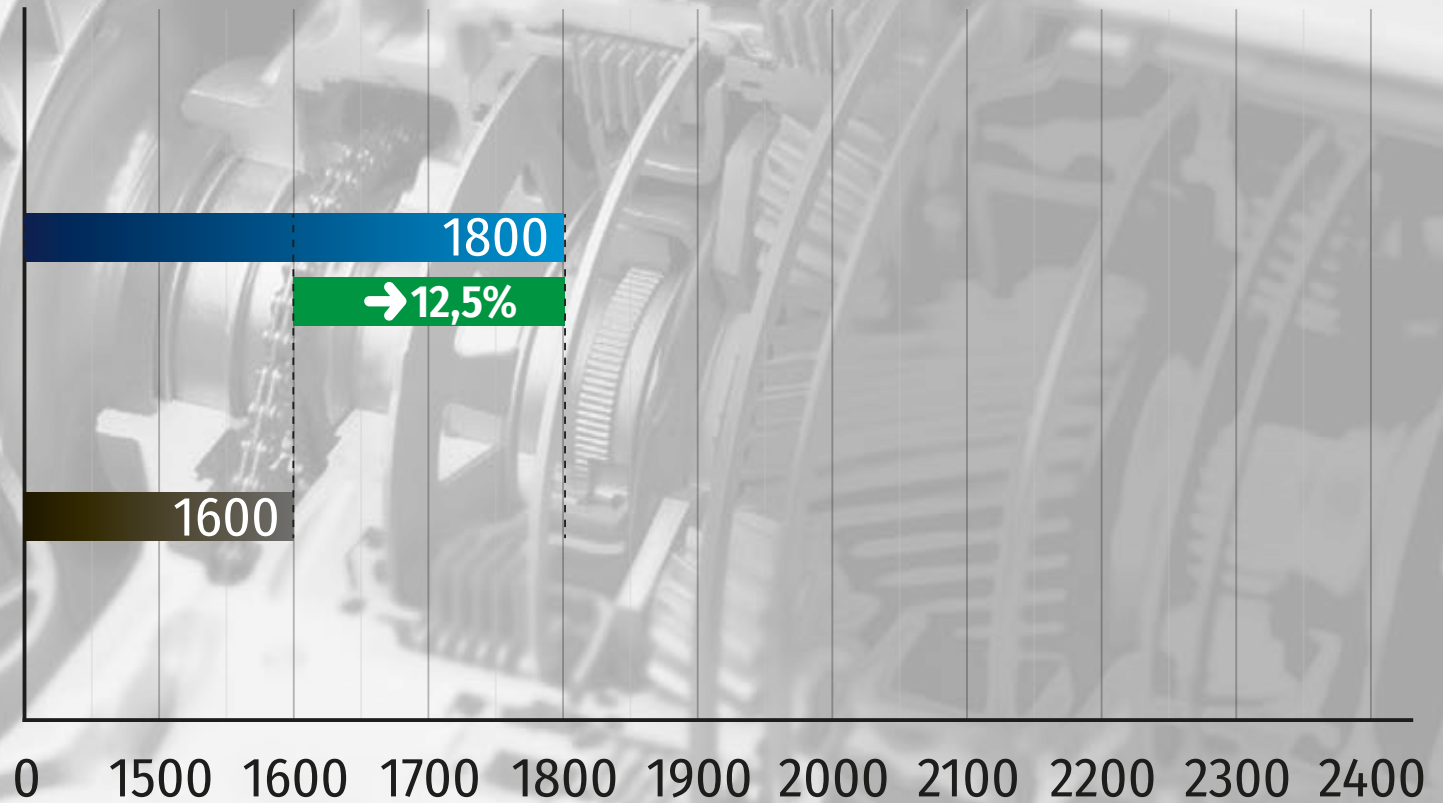
VKA EP WELD-LOAD

DIN EN ISO 20623:2018-04
FBT-FOUR BALL TESTER



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BMW
DTF-1



KG

SHEAR STABILITY, KRL, LOSS OF VISCOSITY

DIN 51350-6

TAPERED ROLLER BEARING TEST 20-HOUR

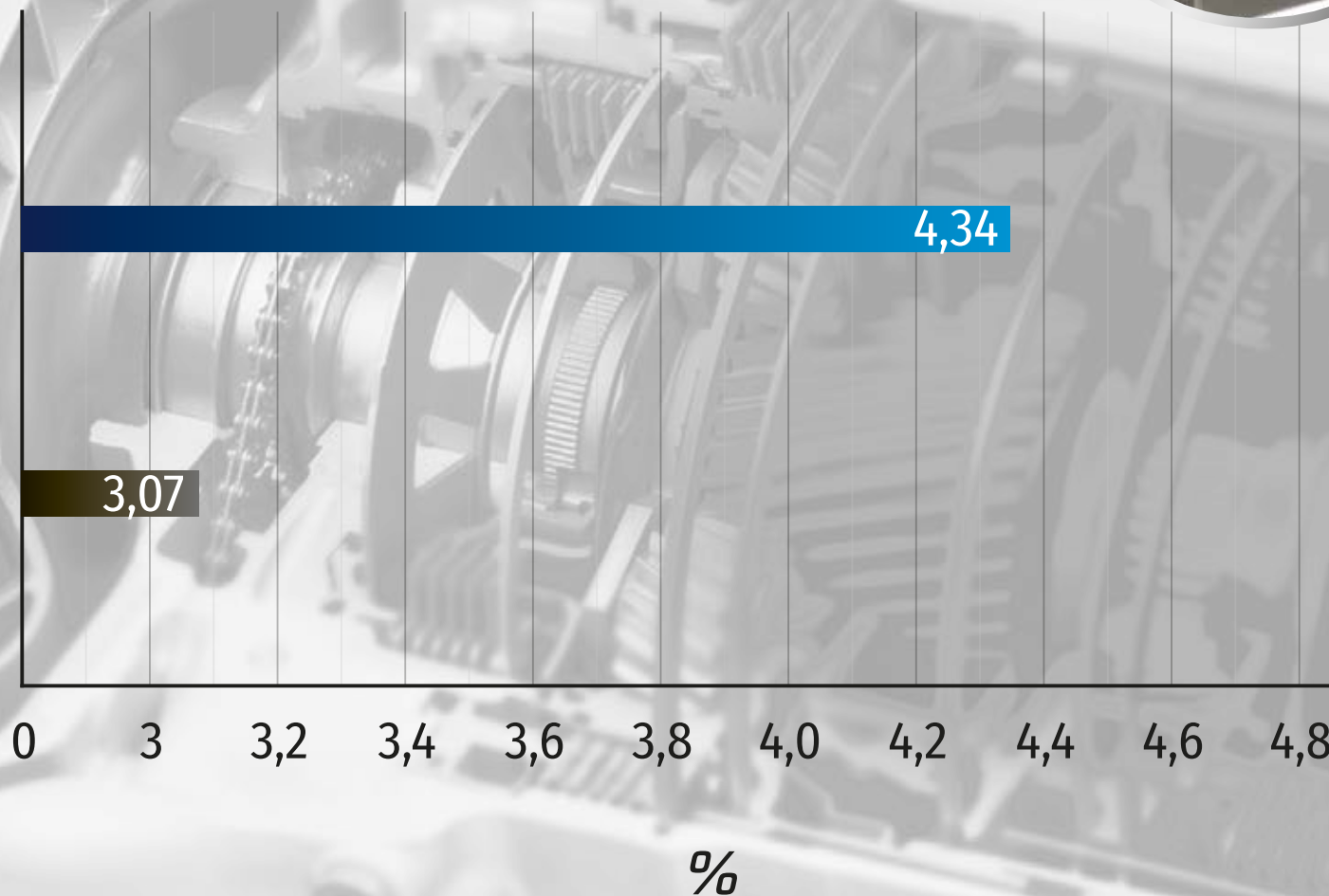


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BMW

DTF-1



COPPER STRIP TEST: EFFECT OF CORROSION ON COPPER

ASTM D130: 2012

Test duration 3 hr
Temperature: 150 °C



FRESHLY POLISHED

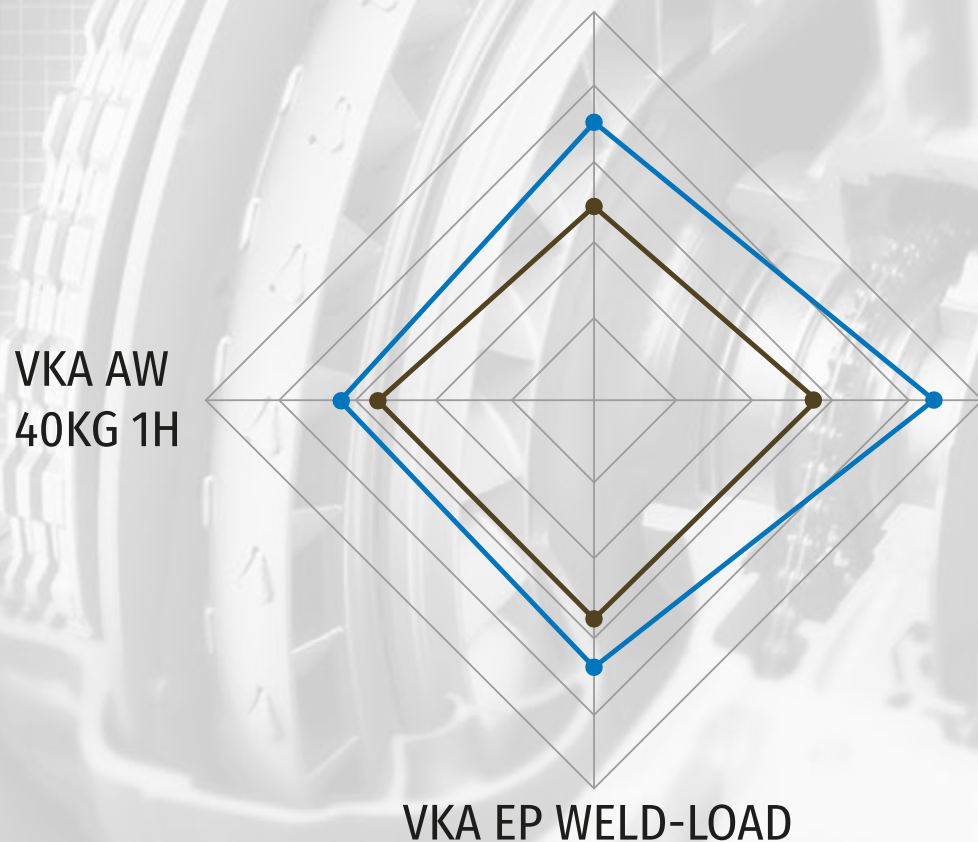
RAVENOL TRANSFER FLUID DTF-1

BMW DTF-1

FRESHLY POLISHED	1A	1B	2A	2B	2C	2D	2E	3A	3B	4A	4B	4C
	SLIGHT TARNISH		MODERATE TARNISH					DARK TARNISH		CORROSION		

TEST RESULTS

Brookfield -40°C



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● RAVENOL
Transfer Fluid DTF-1

● BMW
DTF-1