Zero Friction Cycling

Friction / wear test - cumuative wear - Main test protocol

WAX / DRIP / DRIP - WET / GREASE

	Block 1 - No Contamination	Block 2 - Dry Cont.	Block 3 - No Cont.	Block 4 - Wet cont.	Block 5 - No Cont.	Block 6 - Extreme Cont.	Extrapolated chain lifespan - blocks 1-5	Extrapolated wear based on block 1 only	Extrapolated wear based on block 2 only	Extrapolated wear Based on Block 4 only	Extrapolated wear Based on Block 6 only
Mspeedwax New Formula	0.0%	1.1%	1.7%	10.8%	11.9%	31.6%	25,000	25,000	25,000	10,990	5,076
Silca Hot Melt	0.3%	2.0%	6.6%	14.6%	19.0%	27.4%	25,000	25,000	25,000	12,500	11,628
Molten Speed Wax Original Formula	0.0%	12.0%	12.0%	20.0%	20.0%	98.0%	25,000	25,000	8,333	12,500	1,282
Effetto Mariposa Flower power wax	2.3%	4.6%	4.6%	36.6%	48.0%	80.0%	10,416	25,000	21,739	3,125	3,125
Ceramic Spd UFO Drip New Formula	2.3%	5.7%	6.3%	38.6%	55.6%	92.2%	8,992	25,000	15,873	3,095	2,732
Silca Drip Batch 2	2.9%	7.5%	7.5%	44.4%	73.4%	133.0%	6,811	25,000	21,739	2,710	1,515
Tru Tension Tungsten Race - (*D.A)	5.4%	7.4%	9.7%	48.0%	78.0%		6,410	18,519	25,000	2,610	1,300
Session S-Wax	14.6%	20.3%	25.4%	58.0%	84.6%	121.1%					
Tru Tension Tungsten All Weather	14.0%	24.0%	36.0%	67.0%	85.0%	117.0%	5,882	7,143	10,000	3,226	3,125
Silca Synergetic	0.0%	18.3%	42.6%	70.0%	91.7%	147.0%	5,452	25,000	5,464	3,649	1,808
Rex Black Diamond	2.3%	13.4%	30.0%	73%	97.1%		5,154	25,000	9,009	2,347	1,174
Shimano Factory grease + NFS	10.9%	31.8%	46.1%	74.7%	147.2%		4,500	9,174			
Nix Frix Shun	12.6%	40.0%	54.3%	82.9%	155.0%		3,907	7,937	3,650	3,495	1,748
Smoove	19.1%	36.6%	38.6%	87.3%	118.0%		4,423	5,235	5,747	2,217	1,109
Rex Domestique	5.1%	33.7%	48.8%	93%			4,301	19,607	3,496	2,288	1,144
Allied GRAX	22.0%	40.3%	59.1%	101.0%			3,960	4,545	5,464	2,380	
Revolubes	4.0%	22.3%	39.7%	101.4%	120.0%		4,166	25,000	5,464	1,620	810
Silca Synerg-E	2.0%	9.7%	29.4%	102.9%			3,887	25,000	12,987	1,362	681
Squirt	19.1%	39.0%	61.0%	109.4%			3,670	5,235	4,545	2,045	1,023
Boeshield T9 - Aerosol	11.1%	43.4%	65.7%	113.1%			3,539	9,009	3,095	2,109	1,054
Rock N Roll Gold	8.9%	37.9%	57.9%	122.0%			3,460	11,235	3,448	1,538	769
Shimano Factory grease + RNR Gold	10.9%	39.0%	59.0%	124%			3,225	9,174			
AB Graphene Wax	22.0%	60.3%	85.1%	188.7%			3,150	4,545	1,658	965	482
Muc Off Ludicrous AF	8.9%	89.6%					2,320	8,900	1,282	641	320
Shimano Factory Grease	10.9%	31.7%					2,000	9,174	4,785		
Wolf tooth wt-1 on Factory grease	17.7%	54.8%	103.1%				3,894	25,000	12,987	1,370	684
Wolf tooth wt-1	16.9%	69.7%	123.7%				2,425	5,917	1,890	947	472
Cycle Star Gold	22.3%	53.1%	98.3%				3,052	4,484	3,236	1,600	800
White Lightning Epic Ride	22.9%	56.5%	160.7%				2,249	4,366	1,769	800	400
Muc Off Hydro Dynamic	27.6%	126.6%					1,580	3,623	1,011	505	253
Wend wax 2	35.7%	69.4%	98.0%				3,061	2,801	2,967	1,500	750
Muc Off Nano Lube	37.7%	145.4%					1,375	2,652	928	500	250
Average	9%	29.5%	42%	77.4%	80%	94.1%					
Top 5 Lubes Avg	7%	32.1%	46%	67.1%	92%	#DIV/0!					
Worst 5 Lubes Avg	5%	11.3%	#REF!	#REF!	96%						

Red = extrapolated data as test stopped before testing this block. Block 4 - 2x block 2 result. Block 6 = 2 x Block 4 result

Wear by block

WAX / DRIP / DRIP - WET / GREASE

Lube	Block 1 - No Contamination	Block 2 - Dry Cont.	Block 3 - No Cont.	Block 4 - Wet cont.	Block 5 - No Cont.	Block 6 - Extreme Cont.	Ultegra chains blocks 1 to 5	Ultegra cassettes block 1 to 5	Ultegra chain rings blocks 1-5	Ultegra chains extrapolated to 10,000km	Ultegra cassettes extrapolated to 10,000km
							Blocks 1 to 5 - main test			Blocks 1 to 5 - main test	
Molten Speed Wax Original Formula	**0.0%**	**12.0%**	0.0%	8.0%	0.0%	78.0%	0.20	0.1	0.03	0.4	0.2
Silca Hot Melt	0.3%	1.7%	4.6%	8.0%	4.0%	8.6%	0.20	0.1	0.03	0.4	0.2
Mspeedwax New Formula	0.0%	1.1%	0.6%	9.1%	1.1%	19.7%	0.2	0.1	0.03	0.4	0.2
Silca Synergetic	0.0%	18.6%	24.3%	27.4%	21.7%	55.3%	0.92	0.46	0.15	1.8	0.9
Shimano Factory Grease + NFS	10.9%	27.4%	14.3%	28.6%	72.5%	57.2%					
Nix Frix Shun	12.6%	27.4%	14.3%	28.6%	72.5%	57.2%	1.28	0.6	0.21	2.6	1.3
Tru Tension Tungsten All Weather	14.0%	10.0%	12.0%	31.0%	18.0%	32.0%	0.85	0.4	0.14	1.7	0.9
Effetto Mariposa Flower power wax	2.3%	2.3%	0.0%	32.0%	11.4%	32.0%	0.49	0.245	0.081	0.98	0.49
Ceramic Spd UFO Drip New Formula	2.3%	3.4%	0.6%	32.3%	17.0%	36.6%	0.56	0.3	0.09	1.11	0.56
Session S-wax	14.6%	5.7%	5.1%	32.6%	26.6%	36.5%					
Silca Drip Batch 2	2.9%	4.6%	0.0%	36.9%	29.4%	66.0%	0.73	0.4	0.12	1.5	0.7
Tru Tension Tungsten Race (D.A)	5.4%	2.0%	2.3%	38.3%	30.0%	76.6%	0.78	0.39	0.13	1.6	0.8
Allied GRAX	22.0%	18.3%	18.9%	42.0%			1.25	0.63	0.21	2.5	1.25
Rex Black Diamond	2.3%	11.1%	17.0%	42.6%	24.3%		0.97	0.465	0.16	1.94	0.97
Rex Domestique	5.1%	28.6%	15.1%	43.7%			1.16	0.58	0.19	2.32	1.16
Smoove	**19.1%**	**17.4%**	2.0%	45.1%	34.3%	90.2%	1.13	0.6	0.19	2.3	1.1
Boeshield T9- Aerosol	**11.1%**	**32.3%**	22.3%	47.4%			1.41	0.7	0.235	2.82	1.40
Squirt	**19.1%**	**22.0%**	18.0%	48.9%		97.2%	1.36	0.7	0.23	2.7	1.4
Revolubes	4.0%	18.3%	17.4%	61.7%			1.20	0.6	0.20	2.4	1.2
Cycle Star Gold	**22.3%**	**30.9%**	45.1%	61.8%		123.6%	1.64	0.8	0.27	3.28	1.64
Rock N Roll Gold	**8.9%**	**29.0%**	20.0%	65.0%	58.0%	116.0%	1.45	0.7	0.24	2.9	1.4
Shimano Factory Grease + RNR gold	10.9%	29.0%	20.0%	65.0%		130.0%					
Wend Wax 2	35.7%	33.6%	28.6%	67.2%		134.6%	1.63	0.8	0.27	3.27	1.63
White Lightning Epic Ride	**22.9%**	**33.7%**	104.3%	67.4%		134.8%	2.22	1.1	0.37	4.4	2.2
Silca Synerg-E	2.0%	7.7%	19.7%	73.4%			1.28	0.64	0.21	2.6	1.3
AB Graphene Wax	22.0%	38.3%	24.9%	103.6%		207.2%	1.59	0.79	0.26	3.2	1.6
Wolf tooth WT-1	16.9%	52.9%	54.0%	105.8%			2.06	1.0	0.34	4.1	2.0
Muc Off Ludicrous AF	8.9%	78%		156.0%			2.15	1.07	0.36	4.3	2.14
Muc Off Hydro Dynamic	**27.6%**	**98.9%**		197.8%		197.8%	2.5	1.3	0.42	5	2.5
Muc Off Nano	**37.7%**	**107.7%**		215.4%		430.8%	3.64	1.8	0.61	7.3	3.6
Shimano Factory Grease	10.9%	20.8%									
Wolf tooth WT-1 on Factory Grease	17.7%	37.1%	48.3%								
Average All lubes	**8.5%**	**15.4%**	**12.1%**	**36.7%**	**28.1%**	**61.4%**	(5000/row i)	row i/2	row i/6	row i x 2	row j x 2
Top 5 Lubes Avg	**0.5%**										
Worst 5 Lubes Avg	**29.2%**										
Top 5 Drip Lubes	**3.9%**										
Worst 5 Drip Lubes Avg	**25.9%**										