TO THE DATA! The Truth Shall Set your Friction Free!

Cost to Run per 10,000km - Road roading mixed conditions (based on wear rate data from main 5000km test with dry and wet contamination blocks)

(NOTE - "I.P" = wear rate results impacted by significant initial penetration issues which resulted in very high wear rates in block 1 of test. Wear rate results + cost to run calcs can be much lower

(NOTE - "I.P" = wear rate results impacted by significant initial penetration issues which resulted in very high wear rates in block 1 of test. Wear rate results + cost to run calcs can be much lower if initial penetration issue negated - ie via immersive application vs manufacturer application instructions. "D.A" = lubricant was re applied at double the rate vs standard test protocol intervals due to short treatment lifespan. In the case of immersive waxes, bags of wax used was not doubled, simply the number of re-waxes)

Dura Ace 11spd Components	Total Cost Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
Molten Speed Wax New Formula	$ 240.90	$ 44.90	0.40	$ 36.00	0.40	$ 132.00	0.07	$ 28.00
Silca Hot Melt	$ 275.90	$ 79.90	0.40	$ 36.00	0.40	$ 132.00	0.07	$ 28.00
Rex BD Wax 11+1 blend	$ 285.90	$ 89.90	0.40	$ 36.00	0.40	$ 132.00	0.07	$ 28.00
Rex BD Wax 4+1 blend	$ 474.10	$ 269.70	0.42	$ 37.80	0.42	$ 138.60	0.07	$ 28.00
Effetto Mariposa Flower Power wax	$ 498.83	$ 22.43	0.98	$ 88.20	0.98	$ 323.40	0.16	$ 64.80
Ceramic Speed UFO Drip New Formula	$ 626.43	$ 84.43	1.10	$ 99.00	1.10	$ 363.00	0.20	$ 80.00
Silca SS Drip	$ 810.92	$ 80.92	1.50	$ 135.00	1.50	$ 495.00	0.25	$ 100.00
Tru Tension Tungsten All Weather (I.P)	$ 902.00	$ 68.00	1.70	$ 153.00	1.70	$ 561.00	0.30	$ 120.00
Silca Synergetic	$ 925.46	$ 49.46	1.80	$ 162.00	1.80	$ 594.00	0.30	$ 120.00
Rex Black Diamond	$ 960.79	$ 17.99	1.94	$ 174.60	1.94	$ 640.20	0.32	$ 128.00
Smoove (I.P)	$ 1,134.20	$ 25.00	2.26	$ 203.40	2.26	$ 745.80	0.40	$ 160.00
Rex Domestique	$ 1,161.00	$ 35.00	2.32	$ 208.80	2.32	$ 765.60	0.38	$ 152.00
Tru Tension Tungsten Race (D.A)	$ 1,191.84	$ 399.84	1.60	$ 144.00	1.60	$ 528.00	0.30	$ 120.00
Revolubes	$ 1,213.00	$ 45.00	2.40	$ 216.00	2.40	$ 792.00	0.40	$ 84.00
Squirt - (I.P)	$ 1,236.75	$ 18.75	2.50	$ 225.00	2.50	$ 825.00	0.42	$ 168.00
Allied Grax (I.P)	$ 1,247.00	$ 29.00	2.50	$ 225.00	2.50	$ 825.00	0.40	$ 168.00
Nix Frix Shun	$ 1,278.85	$ 14.85	2.60	$ 234.00	2.60	$ 858.00	0.43	$ 172.00
Silca Synerg-E	$ 1,284.98	$ 24.98	2.60	$ 234.00	2.60	$ 858.00	0.42	$ 168.00
Boeshield T-9 Aerosol	$ 1,405.29	$ 37.49	2.80	$ 252.00	2.80	$ 924.00	0.48	$ 192.00
Rock N Roll Gold	$ 1,477.10	$ 67.10	2.90	$ 261.00	2.90	$ 957.00	0.48	$ 192.00
AB Graphene Wax	$ 1,655.90	$ 111.90	3.20	$ 288.00	3.20	$ 1,056.00	0.50	$ 200.00
Wend wax 2	$ 1,738.00	$ 112.00	3.30	$ 297.00	3.30	$ 1,089.00	0.60	$ 240.00
Cycle Star Gold	$ 1,766.00	$ 140.00	3.30	$ 297.00	3.30	$ 1,089.00	0.60	$ 240.00
Wolf Tooth WT-1	$ 2,012.50	$ 18.50	4.10	$ 369.00	4.10	$ 1,353.00	0.68	$ 272.00
White Lightning Epic Ride	$ 2,162.00	$ 118.00	4.40	$ 396.00	4.40	$ 1,452.00	0.74	$ 196.00
Muc Off Ludicrous AF	$ 2,391.00	$ 297.00	4.30	$ 387.00	4.30	$ 1,419.00	0.70	$ 288.00
Muc Off Hydro Dynamic	$ 2,519.75	$ 99.75	5.00	$ 450.00	5.00	$ 1,650.00	0.80	$ 320.00
Muc Off Nano Lube	$ 3,754.00	$ 200.00	7.30	$ 657.00	7.30	$ 2,409.00	1.20	$ 488.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

Cost to Run per 10,000km - Gravel / MTB / CX - Dry dusty conditions - based on wear rate data from dry contamination test block

(NOTE - "D.A" = lubricant was re applied at double the rate vs standard test protocol intervals due to short treatment lifespan. In the case of immersive waxes, bags of wax used was not doubled, simply the number of re-waxes)

GRX 810 Components - Dry gravel / Mtb / Cx	Total Cost Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
Effetto Mariposa Flower Power wax	$ 119.77	$ 33.64	0.6	$ 28.75	0.3	$ 37.38	0.1	$ 20.00
Mspeedwax New Formula	$ 149.85	$ 67.35	0.5	$ 25.00	0.3	$ 32.50	0.1	$ 25.00
Silca SS Drip	$ 180.47	$ 91.72	0.6	$ 31.25	0.3	$ 32.50	0.1	$ 25.00
Silca Synerg-E	$ 187.46	$ 37.46	1.0	$ 50.00	0.5	$ 65.00	0.2	$ 35.00
Silca Hot Melt	$ 202.35	$ 119.85	0.5	$ 25.00	0.3	$ 32.50	0.1	$ 25.00
Rex BD Wax 11+1 blend	$ 217.35	$ 134.85	0.5	$ 25.00	0.3	$ 32.50	0.1	$ 25.00
Ceramic Speed UFO Drip New Formula	$ 226.65	$ 115.40	0.8	$ 37.50	0.4	$ 48.75	0.1	$ 25.00
Rex Black Diamond	$ 228.48	$ 26.98	1.4	$ 68.75	0.7	$ 87.75	0.2	$ 45.00
Tru Tension Tungsten All Weather	$ 289.75	$ 96.00	1.3	$ 62.50	0.6	$ 81.25	0.3	$ 50.00
Smoove	$ 362.50	$ 35.00	2.1	$ 106.25	1.1	$ 146.25	0.4	$ 75.00
Silca Synergetic	$ 366.72	$ 32.97	2.3	$ 112.50	1.1	$ 146.25	0.4	$ 75.00
Allied Grax	$ 377.25	$ 43.50	2.3	$ 112.50	1.1	$ 146.50	0.4	$ 75.00
Molten Speed Wax	$ 390.08	$ 167.58	1.5	$ 75.00	0.8	$ 97.50	0.3	$ 50.00
Squirt	$ 443.25	$ 27.00	2.2	$ 137.50	1.4	$ 178.75	0.5	$ 100.00
Rex BD Wax 4+1 blend	$ 482.50	$ 404.55	0.5	$ 25.00	0.3	$ 32.50	0.1	$ 20.00
Nix Frix Shun	$ 541.05	$ 19.80	3.4	$ 168.75	1.8	$ 227.50	0.6	$ 125.00
Rock N Roll Gold	$ 627.69	$ 93.94	3.6	$ 181.25	1.8	$ 227.50	0.6	$ 125.00
Tru Tension Tungsten Race (D.A)	$ 642.28	$ 559.78	0.5	$ 25.00	0.3	$ 32.50	0.1	$ 25.00
Boeshield T-9 Aerosol	$ 651.23	$ 56.23	4.0	$ 200.00	2.0	$ 260.00	0.7	$ 135.00
Cycle Star Gold	$ 758.50	$ 196.00	4.0	$ 193.75	1.9	$ 243.75	0.6	$ 125.00
Wend wax 2	$ 792.75	$ 154.00	4.3	$ 212.50	2.1	$ 276.25	0.8	$ 150.00
Rex Domestique	$ 797.50	$ 52.50	5.0	$ 250.00	2.5	$ 325.00	0.9	$ 170.00
Revolubes	$ 812.50	$ 67.50	5.0	$ 250.00	2.5	$ 325.00	0.9	$ 170.00
Wolf Tooth WT-1	$ 995.24	$ 27.74	6.5	$ 325.00	3.3	$ 422.50	1.1	$ 220.00
White Lightning Epic Ride	$ 1,202.25	$ 166.00	7.1	$ 356.25	3.5	$ 455.00	1.1	$ 225.00
AB Graphene Wax	$ 1,269.16	$ 156.66	7.5	$ 375.00	3.8	$ 487.50	1.3	$ 250.00
Muc Off Ludicrous AF	$ 1,898.00	$ 445.50	9.9	$ 493.75	4.9	$ 633.75	1.6	$ 325.00
Muc Off Hydro Dynamic	$ 1,955.00	$ 140.00	12.4	$ 618.75	6.1	$ 796.25	2.0	$ 400.00
Muc Off Nano Lube	$ 2,282.50	$ 280.00	13.5	$ 675.00	6.8	$ 877.50	2.3	$ 450.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								

Cost to Run per 10,000km - Gravel / MTB / CX - Wet abrasive conditions - based on wear rate data from wet contamination test block

(NOTE - "D.A" = lubricant was re applied at double the rate vs standard test protocol intervals due to short treatment lifespan. In the case of immersive waxes, bags of wax used was not doubled, simply the number of re-waxes)

(*Extrapolated data - Used when lubricant on test reached chain wear rate limit (0.5%) before reaching this test block. In that case, data used here is double the wear rate attained during dry contamination block. Extrapolated data has much less accuracy than measured data. It is possible that a lubricant does not in fact perform twice as poorly in wet contamination as it did vs dry contaminaton block. It is possible it may perform much worse. If a lubricant did not even make it to wet contamination block, it is quite frankly in ZFC opinion, demonstrating very poor performance vs top known lubricants tested. Some of the top lubricants tested have reached wet contamination block with less that 10% of their wear allowance, whereas the worst tested have been over 150% of wear allowance by the same point and test has had to be stopped. It is obviously much better to choose a lubricant that proves itself to deliver very low wear rates, as abrading through metal components at pace just flat out takes high friction.

GRX 810 Components - Wet gravel / Mtb / Cx	Total Cost Per 10,000km	Lubricant Cost	Number of chains worn	Chains Cost	Number of Cassettes Worn	Cassettes Cost	Chainrings Worn	Chain rings cost
Rex BD Wax 11+1 blend	$ 231.30	$ 134.85	0.7	$ 27.60	0.4	$ 44.85	0.1	$ 24.00
Mspeedwax New Formula	$ 235.35	$ 67.35	1.2	$ 48.00	0.6	$ 78.00	0.21	$ 42.00
Silca Hot Melt	$ 275.85	$ 119.85	1.2	$ 48.00	0.6	$ 78.00	0.15	$ 30.00
Silca Synergetic	$ 634.46	$ 49.46	4.1	$ 162.00	2.1	$ 273.00	0.8	$ 150.00
Nix Frix Shun	$ 642.30	$ 19.80	4.5	$ 180.00	2.3	$ 292.50	0.8	$ 150.00
Effetto Mariposa Flower Power wax	$ 693.64	$ 33.64	4.8	$ 192.00	2.4	$ 312.00	0.8	$ 156.00
Tru Tension Tungsten All Weather	$ 724.50	$ 96.00	4.7	$ 186.00	2.3	$ 292.50	0.8	$ 150.00
Ceramic Speed UFO Drip New Formula	$ 769.40	$ 115.40	4.8	$ 192.00	2.4	$ 312.00	0.8	$ 150.00
Rex Black Diamond	$ 804.43	$ 26.98	6.4	$ 255.60	3.2	$ 415.35	0.53	$ 106.50
Silca SS Drip	$ 844.72	$ 91.72	5.6	$ 222.00	2.7	$ 351.00	0.9	$ 180.00
Rex BD Wax 4+1 blend	$ 859.05	$ 404.55	3.3	$ 132.00	1.7	$ 214.50	0.5	$ 108.00
Allied Grax	$ 915.00	$ 43.50	6.3	$ 252.00	3.2	$ 409.50	1.1	$ 210.00
Smoove	$ 993.50	$ 35.00	6.8	$ 270.00	3.5	$ 448.50	1.2	$ 240.00
Squirt	$ 1,029.00	$ 27.00	7.4	$ 294.00	3.6	$ 468.00	1.2	$ 240.00
Boeshield T-9 Aerosol	$ 1,052.23	$ 56.23	7.2	$ 288.00	3.6	$ 468.00	1.2	$ 240.00
Tru Tension Tungsten Race (D.A)	$ 1,338.28	$ 559.78	5.7	$ 228.00	2.9	$ 370.50	0.9	$ 180.00
Rock N Roll Gold	$ 1,456.94	$ 93.94	9.8	$ 390.00	5.0	$ 643.00	1.7	$ 330.00
Cycle Star Gold (Extrapolated Data)	$ 1,478.50	$ 196.00	9.5	$ 378.00	3.0	$ 604.50	1.5	$ 300.00
Wend wax 2	$ 1,529.50	$ 154.00	10.1	$ 402.00	5.0	$ 643.50	1.7	$ 330.00
Silca Synerg-E	$ 1,568.96	$ 37.46	11.1	$ 444.00	5.6	$ 721.50	1.8	$ 366.00
Rex Domestique	$ 1,843.50	$ 52.50	15.0	$ 600.00	7.5	$ 975.00	1.1	$ 276.00
Revolubes	$ 1,858.50	$ 67.50	15.0	$ 600.00	7.5	$ 975.00	2.4	$ 480.00
Wolf Tooth WT-1 (Extrapolated data)	$ 2,181.74	$ 27.74	15.6	$ 624.00	7.8	$ 1,014.00	2.58	$ 516.00
AB Graphene Wax (Extrapolated data)	$ 2,304.66	$ 156.66	15.6	$ 624.00	7.8	$ 1,014.00	2.6	$ 510.00
White Lightning Epic Ride (Extrapolated data)	$ 2,771.50	$ 166.00	18.8	$ 750.00	9.8	$ 1,225.50	3.2	$ 630.00
Muc Off Ludicrous AF (Extrapolated data)	$ 3,714.00	$ 445.50	23.7	$ 948.00	11.9	$ 1,540.50	3.9	$ 780.00
Muc Off Hydro Dynamic (extrapolated data)	$ 4,248.50	$ 140.00	29.7	$ 1,188.00	14.9	$ 1,930.50	5.0	$ 990.00
Muc Off Nano Lube (Extrapolated Data)	$ 4,420.00	$ 280.00	30.0	$ 1,200.00	15.0	$ 1,950.00	5.0	$ 990.00
Ab Graphene lube - TEST RESULTS LOCKED BY NDA								