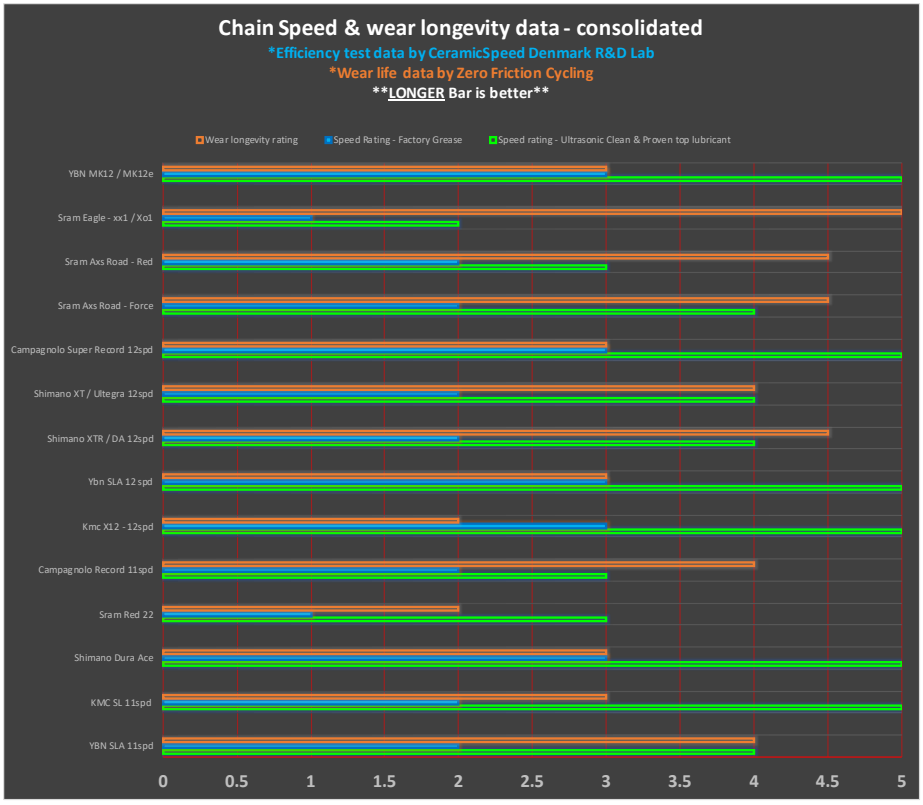
CHAIN EFFICIENCY & WEAR LIFE DATA - CONSOLIDATED

What is the best chain for you? Some chains are fast, but have have poor wear life. Some chains have brilliant wear life, but are not very fast. Some chains can have both great wear lifespan, as well as being fast. Depending on your speed / model, you may choose a different chain for training vs racing, or there may be a model that is perfect for both *(still, if you race, you should have a dedicated race chain vs racing on same chain hammered by training volume)*

Take note of the typically very large efficiency gain between running a proven top lubricant - refer lubricant test data page - vs factory grease
Factory grease DOES NOT remotely compete with the best known lubricants tested, regardless of what the chain brand marketing or other media - in video's sponsored by those brands - B12try to tell you. Step one for all new chains, remove factory grease and run a proven top lubricant.
***Note the performance gap between factory grease vs a top lubricant will quickly become much wider, as factory grease gathers more contamination more quickly vs proven top lubricants. Typically a key feature of the best lubricants is their ability to remain low friction, outside the lab, in their actual use case.*



Please note that for Sram Axs Road Force and Red chains only - wear life data shown above is estimated based on customer data over the years vs control test data. Control test for AXS road has not been able to be completed at time of releasing this graph. However lifespan from customer data is demonstrating extremely impressive wear lifespan. Axs Force and Red also use srams **HARDCHROME treatment which is behind the extreme longevity of their Eagle Xo1 and xx1 level chains. Please note that GX level chains **do not have HARDCHROME** and wear VASTLY faster vs x01 & xx1 level chains. Sram Axs **Road Rival** also **does not have HARDCHROME**, and so may see a similar very fast wear life vs Force and Red level chains (ZFC rates chances of this as VERY HIGH). For axs road highly recommend run Force / Red vs Rival, and for Eagle run xo1 / xx1 or ybn 12 vs sram GX level. A fast wearing chain will often take your other components out with it which will be $$$$. Do not run cheap on your hardest working part*

*****The chain efficiency data represented by the green bar - chains were tested using UFO wax. However if using any proven top lubricant the results of one chain vs another on same lubricant will remain relative to each other. The X axis is not watts losses, it is a rating of 0 to 5, with 5 being the fastest / longest lifespan, and 0 being the slowest / shortest lifespan. Displaying efficiency losses in watts is not desirable as there are variances between chains simply from different batches. It is not possible to claim absolutely that X chain on X lubricant is X watts. The chains displayed above have had multiple tests across multiple batches and from the average lossess recorded - based on a watts loss scale, the chain effeciencies have been able to be rated. Wear lifespan is similarly rated on the 0 to 5 scale based on wear life attained from ZFC control testing.***

Huge thanks to CeramicSpeed Denmark R&D lab for allowing public use of their chain speed data. CeramicSpeed use their extremely accurate testing to decide which models of chain to offer with their UFO prep. ZFC had been hoping to be able to openly publish their test data for a long time, however it obviously needed to get some clearance as there is a potential for brands with slower chain models to be less happy. Why upset any apple carts when the data was obtained purely for internal decision making re ensuring CeramicSpeed provide the fastest racing chains. However, it has been agreed that such data would be of high value for cyclists when matched with wear lifespan, allowing a simple graph to assist all cyclists make the chain selection for training and racing.

So again, great appreciation and thanks from Zero Friction Cycling as well as the global cycling community to CeramicSpeed enabling the above data consolidation to come to life. The chart will be updated as more tests are completed. Further data on chain wear lifespan across many chain models can be found on excel spreadsheets below, Zero Friciton Cycling spent a big block of resources on that testing project in collaboration with Cycling Tips re finding best chain article. ZFC hopes as always this helps you make informed decisions based on extremely robust and independent test data so you can stay low friction and low wear in your cycling.