Oil Separation

There are several standardized procedures for measuring the degree to which oil separates from the thickeners and additives in lubricating grease. Each test is designed for a different purpose; measuring the effects of centrifugal force (for grease in couplings and u-joints for example), measuring separation during storage (in 35 lb. kegs), and for testing separation for quality control and specification purposes.

The test most often used in product data sheets is the ASTM D6184 test. In this test, a sample of grease is placed in a conical sieve and heated to 100°C (212°F) for 30 hours. The amount of oil that separates is weighed and compared to the original weight of the sample to determine the percentage that has separated.

Significant oil separation may or may not be a desirable characteristic of the grease, depending on its application. For example, if a significant amount of oil separates, the percentage or level of thickener or additives left in the grease may change which may or may not be desirable. Or, separation of some oil from the grease may allow the base oil in the grease to flow into otherwise inaccessible surfaces.

The oil separation statistic is useful in that it provides information and a means of comparing the behavior of formulations and variability between batches.