

ISO 4548-4:1997-12 (E)

Methods of test for full-flow lubricating oil filters for internal combustion engines - Part 4: Initial particle retention efficiency, life and cumulative efficiency (gravimetric method)

| Contents | Page |
|---|-------------|
| Section 1: General | 1 |
| 1.1 Scope | 1 |
| 1.2 Normative references | 1 |
| 1.3 Definitions | 2 |
| 1.4 Graphical symbols | 2 |
| Section 2: Initial particle retention efficiency | 3 |
| 2.1 Operational characteristics to be assessed | 3 |
| 2.2 Test rig | 3 |
| 2.3 Test liquids | 4 |
| 2.4 Test contaminant | 5 |
| 2.5 Test procedure | 6 |
| 2.6 Test results and calculations | 8 |
| 2.7 Report of test results for initial particle retention efficiency | 9 |
| Section 3: Life and cumulative efficiency | 11 |
| 3.1 Operational characteristics to be assessed | 11 |
| 3.2 Test rig | 11 |
| 3.3 Periodic checks on equipment | 12 |
| 3.4 Test liquids | 12 |
| 3.5 Test contaminant | 13 |
| 3.6 Test procedure | 13 |
| 3.7 Test results and calculations | 17 |
| 3.8 Report of test results for life and cumulative efficiency | 18 |
| Annexes | |
| A Test parameters for initial particle retention efficiency test | 19 |
| B Method for determining insolubles in test liquid samples for initial particle retention efficiency | 20 |
| C Test parameters for life and cumulative efficiency test | 24 |
| D Method for determining insolubles in test liquid samples for cumulative efficiency | 25 |
| E Details of equipment used in the mixing of test dust and liquid slurry | 28 |
| F Bibliography | 30 |