

# ISO/TR 20659-2:2024-03 (E)

## Rheological test methods - Fundamentals and interlaboratory comparisons - Part 2: Determination of the time-dependent structural change (thixotropy)

---

Contents	Page
Foreword.....	iv
<b>1 Scope.....</b>	<b>1</b>
<b>2 Normative references.....</b>	<b>1</b>
<b>3 Terms and definitions.....</b>	<b>1</b>
<b>4 Measuring technique for the determination of thixotropy.....</b>	<b>1</b>
4.1 Conditions for the measuring technique.....	1
4.2 Flow curves, with evaluation of the hysteresis area (rotational test).....	3
4.2.1 Specification of the measuring profile.....	3
4.2.2 Evaluation.....	5
4.3 Step test with recovery, as a rotational test with controlled shear rate.....	7
4.3.1 Specification of the measuring programme.....	7
4.3.2 Evaluation.....	8
4.4 Step test with recovery, as a rotational test with alternating controlled shear stress and shear rate.....	9
4.4.1 Specification of the measuring programme.....	9
4.4.2 Evaluation.....	10
4.5 Step test with recovery, as a combined oscillatory and rotational test with controlled shear strain and shear rate, respectively.....	10
4.5.1 Specification of the measuring programme.....	10
4.5.2 Evaluation.....	11
<b>5 Comparative testing programme.....</b>	<b>14</b>
5.1 Aim of the comparative testing programme.....	14
5.2 Performance of the tests.....	14
5.2.1 Preliminary test.....	14
5.2.2 Comparative testing programme.....	15
5.3 Evaluation.....	15
<b>6 Result.....</b>	<b>16</b>
6.1 General.....	16
6.2 Measurement of the Newtonian reference sample.....	17
6.2.1 Flow curve.....	17
6.3 Step test with specification of the shear rate in measuring segments 1 and 3.....	17
6.4 Step test with controlled shear stress in measuring segments 1 and 3.....	18
6.5 Step test as oscillatory test in measuring segments 1 and 3.....	18
<b>7 Analysis.....</b>	<b>18</b>
<b>Annex A (informative) Details of the comparative testing programme.....</b>	<b>20</b>
<b>Annex B (informative) Explanatory notes.....</b>	<b>34</b>
<b>Bibliography.....</b>	<b>36</b>