

Anton Paar Rheology Seminar 2023

PROGRAM DAY 1

09:00	Welcome	
09:15	Introduction of the company Anton Paar	
09:20	<p>Rheology, theory: viscosity and flow behavior</p> <ul style="list-style-type: none"> -- introduction: rheology, viscoelastic behavior -- simple viscosity test methods: flow cups, capillary and falling ball viscometers, rotational tests using relative and absolute measuring geometries, concentric cylinders, cone-and-plate, parallel plates -- definition of terms: shear stress, shear rate, (shear) viscosity, viscosity law of Newton -- rotational tests: controlled shear rate (CSR), controlled shear stress (CSS), application diagrams with examples of industrial users -- ideally viscous (Newtonian) flow behavior -- shear-thinning (pseudoplastic) flow behavior, zero-shear viscosity of polymers 	
11:00	Coffee break	
11:15 for 2 groups	Group 1 Hands-on session	Group 2 Continued: rheology theory
12:30	Lunch time	
13:45 for 2 groups	Group 1 Continued: rheology theory	Group 2 Hands-on session
15:00	Coffee break	
15:30	<p>(continued: rheology, theory: viscosity and flow behavior)</p> <ul style="list-style-type: none"> -- shear thickening (dilatant) flow behavior -- yield point, diverse test conditions and analysis methods -- time-dependent flow behavior: structure break and recovery, thixotropic behavior, curing -- temperature-dependent flow behavior: heating, melting, cooling, crystallization, hardening, curing 	
16:45	Application discussion	
17:30	End	
19:00	Dinner	

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PROGRAM DAY 2

09:00	<p>Rheology, theory: elasticity and viscoelastic behavior</p> <ul style="list-style-type: none"> -- introduction: viscoelastic behavior -- definition of terms: (shear) strain or deformation, shear modulus, elasticity law (according to Hooke), strain rate (shear rate) -- ideally elastic deformation behavior -- oscillatory tests: introduction, definition of the terms: storage modulus and loss factor modulus, loss or damping factor, vector diagram, application diagrams with examples of industrial users -- amplitude sweep: linear viscoelastic (LVE) range , yield point and flow point 	
10:30	Coffee break	
10:45 for 2 groups	Group 1 Hands-on session	Group 2 Continued: rheology theory
12:00	Lunch time	
13:15 for 2 groups	Group 1 Continued: rheology theory	Group 2 Hands-on session
14:30	Coffee break	
14:45	<p>(continued: rheology, theory: elasticity and viscoelastic behavior)</p> <ul style="list-style-type: none"> -- frequency sweep: uncrosslinked polymers, curve crossover point, complex viscosity, zero-shear viscosity, Maxwell behavior; crosslinked polymers; dispersions and gels: long-term storage stability -- time-dependent viscoelastic behavior: structural break and recovery, thixotropic behavior; gel formation, curing -- temperature-dependent viscoelastic behavior (DMTA): heating, melting, glass transition; cooling, crystallization; sol / gel transition; gel formation, curing -- tests with solid torsion bars, tensile tests 	
15:45	Application discussion	
16:30	End of the seminar	

Venue

Van der Valk hotel Tilburg

Dokter Bloemenlaan 8
5022 KW Tilburg
The Netherlands

If you are delayed or ill on the day of the seminar please call:
+32 (0)9 280 83 20 or mail to marketing.benelux@anton-paar.com.
