

安鋒實業股份有限公司

台中市南屯區工業區 24 路 29 號 TEL：886-4-23501155(代表) FAX：886-4-23507373
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美國 BOMAR 人工指甲膠體附著力測試

引言：

此專案研究了十五種 UV 膠配方在客戶提供的商業人工指甲上的附著力。測試將聚氨基甲酸酯丙烯酸酯低聚物與具有不同聚醇主鏈的聚氨基甲酸酯丙烯酸酯低聚物配對。六種配方含有不同的聚醚型聚氨基甲酸酯低聚物，而四種配方比較了聚醚型聚氨基甲酸酯低聚物與聚酯型聚氨基甲酸酯低聚物的混合物。最後五種配方在低分子量硬質低聚物存在下，使用了生物基低聚物與實驗性低聚物進行篩選。由於**甲基丙烯酸酯低聚物的存在，所有配方的表面固化效果都不好**。整體而言，大部分情況下表現出良好的附著力。

程序：

- 「灰色」樣品的配方是比較聚酯型聚氨基甲酸酯丙烯酸酯與丙烯酸酯低聚物。聚酯型聚氨基甲酸酯低聚物以其增強的附著性能聞名。**唯一的缺點是它們在長時間高濕條件下可能發生水解。灰色配方見表 1。**
- 「綠色」樣品的配方是比較聚醚型聚氨基甲酸酯丙烯酸酯與**強聚酯主鏈**聚氨基甲酸酯丙烯酸酯。聚醚型聚氨基甲酸酯低聚物以其柔韌性與化學抗性著稱。它們唯一的弱點出現在低溫條件下。某些聚醚型聚氨基甲酸酯低聚物在低溫儲存期間可能固化。更多資訊見 PDS 與 SDS。**綠色配方見表 2。**
- 「紫色」樣品的配方是比較三種**新型生物基低聚物**與來自研發部門的兩種實驗性樹脂。每一種都與低分子量硬質聚氨基甲酸酯丙烯酸酯混合。這些新型產品具有良好的物理特性，可促進柔韌性與卓越性能。**紫色配方見表 3。**

灰色樣品成分：

成分	1	2	3	4	5	6
BR-742MS	30.61	30.61	30.61			
BR-742M				30.61	30.61	30.61
BR-7432GB			31.07			
BR-744BT		31.07			31.07	
BR-744SD	31.07			31.07		31.07
TPGDA	29.59	29.59	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05	0.05	0.05
總重量百分比	100.00	100.00	100.00	100.00	100.00	100.00

表 1

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綠色樣品成分：

成分	7	8	9	10
BR-5413MB	30.61			
BR-543M		30.61		
BR543TF			30.61	
BRC-843SD1				30.61
BRC-843S	31.07	31.07	31.07	31.07
TPGDA	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05
總重量百分比	100.0	100.0	100.0	100.0

表 2

紫色樣品成分：

成分	11	12	13	14	15
BR-1042MB	30.61				
BR-1043MB		30.61			
BR-1044MB			30.61		
XCAC-33-76				30.61	
XCAC-33-28					30.61
BR-970BT	31.07	31.07	31.07	31.07	31.07
TPGDA	29.59	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05	0.05
總重量百分比	100.0	100.0	100.0	100.0	100.00

表 3

方法：

1. 基材 – 人工指甲，標示為「**Bluwe – Tip de gel**」，由巴西 BLW Industrial LTDA 生產。
2. 固化條件 – 塗層使用 **405 nm LED 燈在 56 mJ/cm²下固化 10 秒，或在 580 mJ/cm²下固化。**
3. 黏度 – 使用 Brookfield 錐板式黏度計於 25°C 下測量。
4. 附著力測試 – 指甲基材先塗層，然後彼此重疊放置。接著在 LED 燈下固化，並允許後固化 24 小時後進行附著力測試。
5. 表面固化測試 – **以手輕觸表面**以判斷是否發黏。

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以下照片拍攝用以強調方法與程序：



圖 1－未塗層指甲



圖 2－重疊附著劑

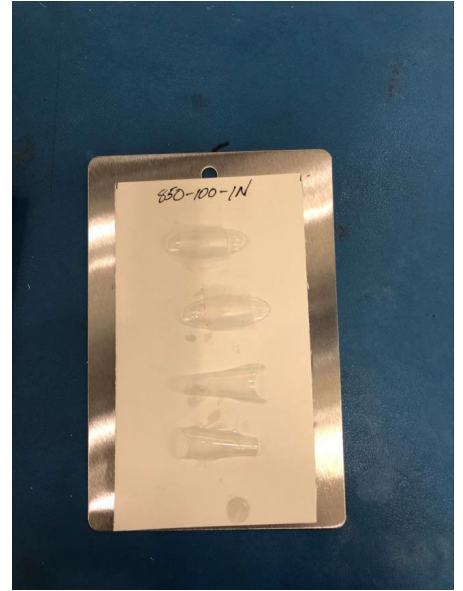


圖 3－已塗層指甲

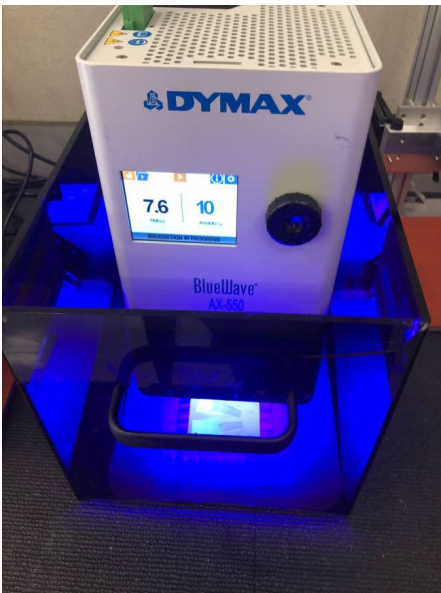


圖 4－固化裝置



圖 5－LED 固化中



圖 6－測試樣品板

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結果：

灰色樣品結果：

成分	1	2	3	4	5	6
BR-742MS	30.61	30.61	30.61			
BR-742M				30.61	30.61	30.61
BR-7432GB			31.07			
BR-744BT		31.07			31.07	
BR-744SD	31.07			31.07		31.07
TPGDA	29.59	29.59	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05	0.05	0.05
總重量百分比	100.00	100.00	100.00	100.00	100.00	100.00
黏度@ 25°C (cps)	9,582	6,336	3,703	10,537	5,175	3,807
拉拔附著力	優良	脆性	優良	優良	優良	優良
扭轉附著力	優良	失敗	SF*	優良	SF*	失敗
表面	黏性	黏性	黏性	黏性	黏性	黏性

表 4

(SF* = 表示附著力極佳，但基材本身失效或斷裂)

綠色樣品結果：

成分	7	8	9	10
BR-5413MB	30.61			
BR-543M		30.61		
BR543TF			30.61	
BRC-843SD1				30.61
BRC-843S	31.07	31.07	31.07	31.07
TPGDA	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05
總重量百分比	100.0	100.0	100.0	100.0
黏度@ 25°C (cps)	5,653	8,168	9,121	12,308
拉拔附著力	優良	優良	優良	優良
扭轉附著力	優良	優良	優良	優良
表面	黏性	黏性	黏性	黏性

表 5

(SF* = 表示附著力極佳，但基材本身失效或斷裂)

大陸手機：1350-9624401(技術)，1382-5211745(業務)

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紫色樣品結果：

成分	11	12	13	14	15
BR-1042MB	30.61				
BR-1043MB		30.61			
BR-1044MB			30.61		
XCAC-33-76				30.61	
XCAC-33-28					30.61
BR-970BT	31.07	31.07	31.07	31.07	31.07
TPGDA	29.59	29.59	29.59	29.59	29.59
HPMA	5.10	5.10	5.10	5.10	5.10
TPO-L	2.55	2.55	2.55	2.55	2.55
Irgacure 184	1.02	1.02	1.02	1.02	1.02
MeHQ	0.05	0.05	0.05	0.05	0.05
總重量百分比	100.0	100.0	100.0	100.0	100.00
黏度 @ 25°C (cps)	1,069	1,291	2,344	1,208	1,111
拉拔附著力	優良	優良	優良	優良	優良
扭轉附著力	SF*	優良	優良	優良	失敗
表面	黏性	黏性	黏性	黏性	黏性

表 6

(SF* = 表示附著力極佳，但基材本身失效或斷裂)

結論：

1. 配方 3、5、7 與 11 在拉拔附著力與扭轉附著力上表現皆良好。
2. 所有樣品的表面固化效果都不佳，原因是含有甲基丙烯酸酯低聚物。此問題可透過改用丙烯酸酯版本的低聚物輕易解決。
3. 值得注意的是，配方中使用的單體已知具有較差的附著力，目的是突顯低聚物的附著性能。若使用不同的單體，可能進一步改善附著力。
4. 生物基低聚物與研發實驗用低聚物目前尚無丙烯酸酯版本可用。
5. 本專案中最有趣的結果來自於配方的黏度。透過選擇正確的低聚物混合比例，可以設定目標黏度。黏度數據見附錄。

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附錄：

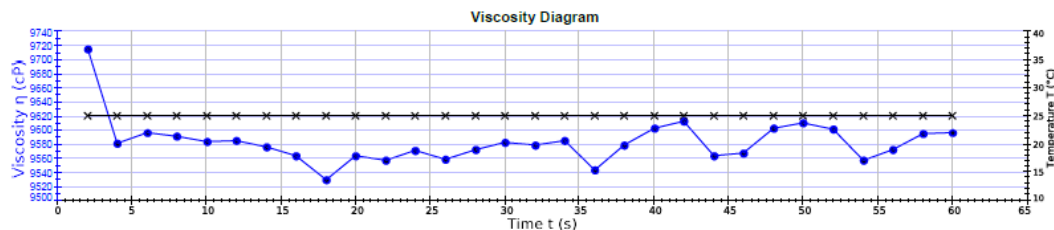
QA Viscosity Report

Measuring DataSet Identifications

[16166] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13610]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16166
Execution Date: 12/20/2024 1:38:51 PM
UID: 13610
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Executing Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-1N

Main Diagram



[16166] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13610]

Basic Analysis

[16166] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13610]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	9529.6352	9714.6052	9582.9745		
Temperature (°C)	25.0000	25.0000	25.0000		

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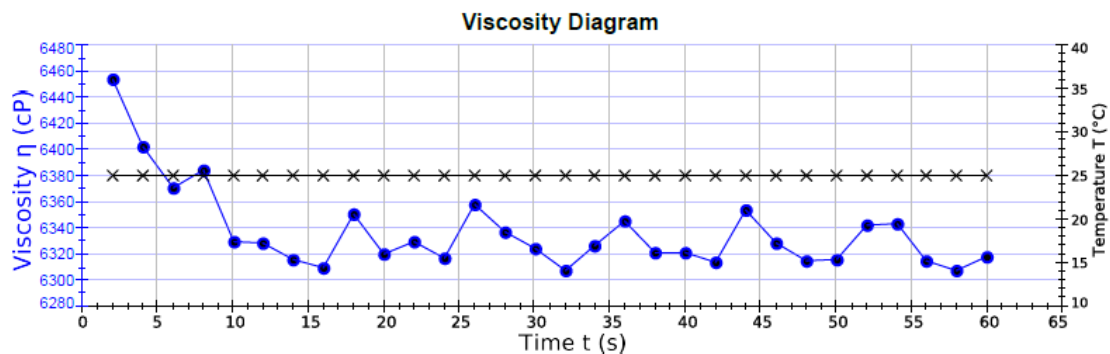
QA Viscosity Report

Measuring DataSet Identifications

[16167] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13611]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16167
Execution Date: 12/20/2024 1:47:04 PM
UID: 13611
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-2N

Main Diagram



[16167] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13611]

Basic Analysis

[16167] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13611]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	6306.9126	6453.9487	6336.5794		
Temperature (°C)	25.0000	25.0000	25.0000		

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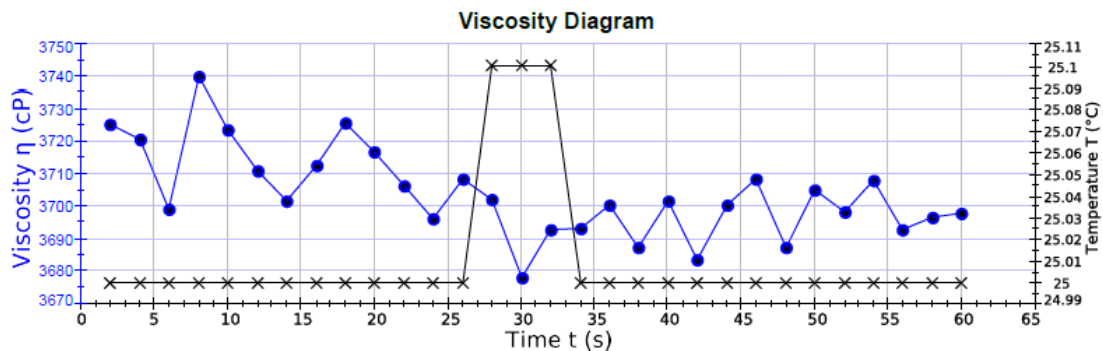
QA Viscosity Report

Measuring DataSet Identifications

[16169] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13613]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16169
Execution Date: 12/20/2024 1:55:43 PM
UID: 13613
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-3N

Main Diagram



[16169] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13613]

Basic Analysis

[16169] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13613]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	3678.0810	3739.9720	3703.8864		
Temperature (°C)	25.0000	25.1000	25.0100		

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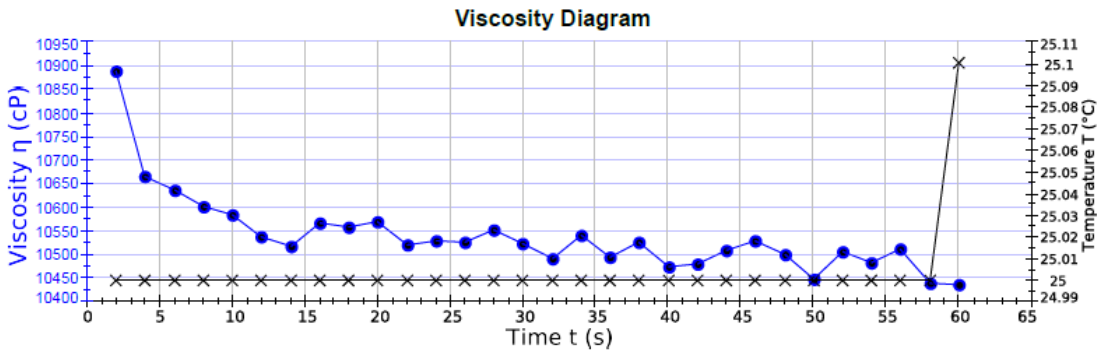
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Measuring DataSet Identifications

[16170] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13614]
Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16170
Execution Date: 12/20/2024 2:01:01 PM
UID: 13614
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-4N

Main Diagram



[16170] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13614]

Basic Analysis

[16170] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13614]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	10434.2229	10887.6567	10537.3984		
Temperature (°C)	25.0000	25.1000	25.0033		

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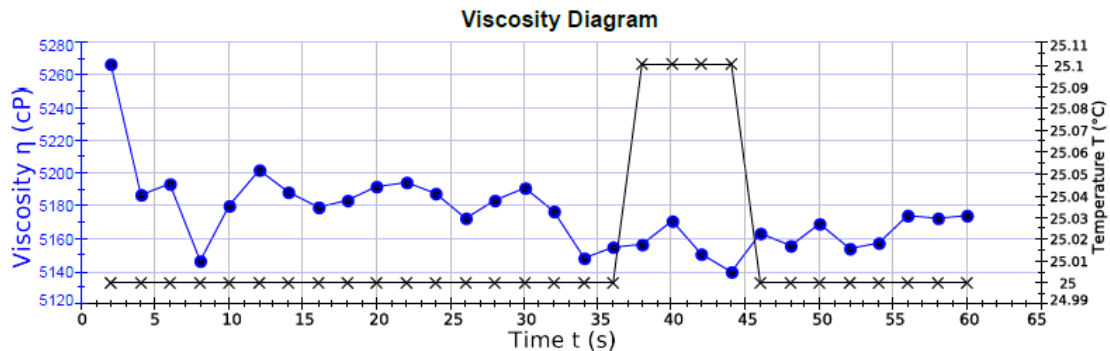
QA Viscosity Report

Measuring DataSet Identifications

[16171] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13615]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16171
Execution Date: 12/20/2024 2:05:52 PM
UID: 13615
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-5N

Main Diagram



[16171] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13615]

Basic Analysis

[16171] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13615]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	5139.5612	5266.9065	5175.2262		
Temperature (°C)	25.0000	25.1000	25.0133		

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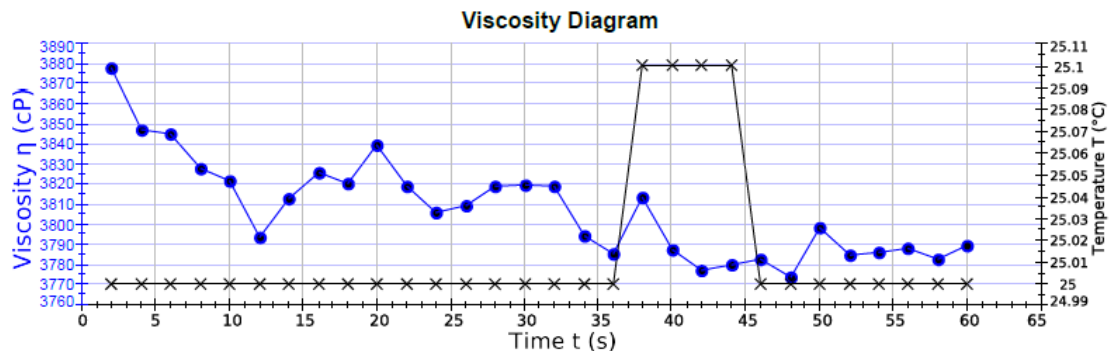
QA Viscosity Report

Measuring DataSet Identifications

[16172] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13616]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16172
Execution Date: 12/20/2024 2:11:03 PM
UID: 13616
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-6N

Main Diagram



[16172] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13616]

Basic Analysis

[16172] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13616]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	3773.3933	3877.0799	3807.1646		
Temperature (°C)	25.0000	25.1000	25.0133		

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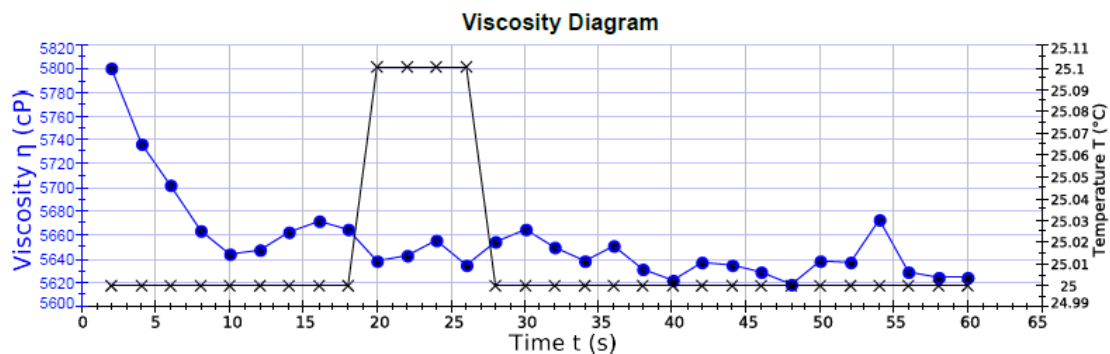
QA Viscosity Report

Measuring DataSet Identifications

[16173] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13617]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16173
Execution Date: 12/20/2024 2:18:14 PM
UID: 13617
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-7N

Main Diagram



[16173] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13617]

Basic Analysis

[16173] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13617]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	5618.3536	5800.0300	5653.6272		
Temperature (°C)	25.0000	25.1000	25.0133		

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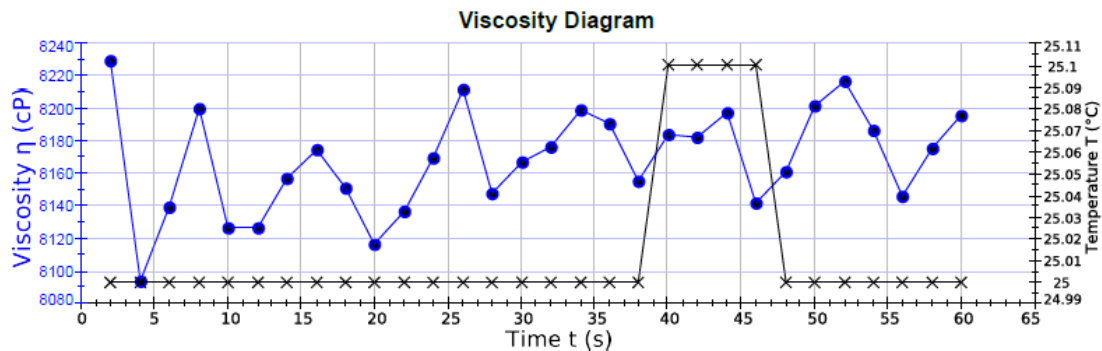
QA Viscosity Report

Measuring DataSet Identifications

[16174] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13618]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16174
Execution Date: 12/20/2024 2:23:50 PM
UID: 13618
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-8N

Main Diagram



[16174] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13618]

Basic Analysis

[16174] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13618]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	8093.2334	8229.2216	8168.2360		
Temperature (°C)	25.0000	25.1000	25.0133		

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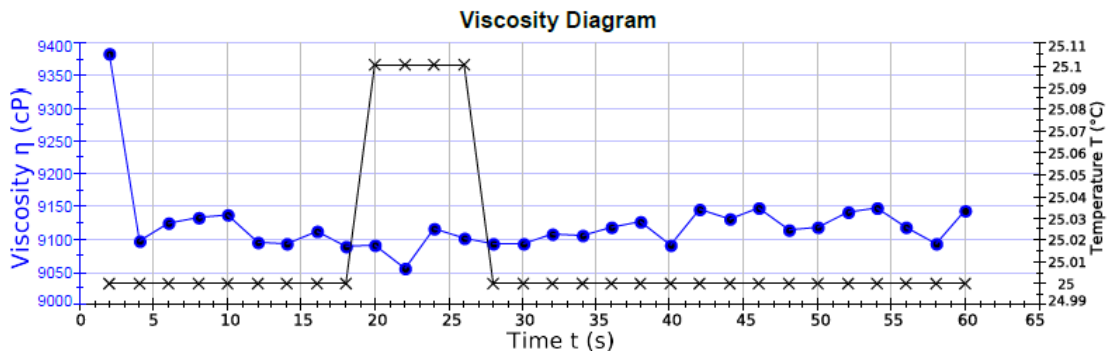
QA Viscosity Report

Measuring DataSet Identifications

[16175] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13619]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16175
Execution Date: 12/20/2024 2:29:17 PM
UID: 13619
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Executing Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-8N

Main Diagram



[16175] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13619]

Basic Analysis

[16175] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13619]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	9055.3923	9383.2037	9121.7562		
Temperature (°C)	25.0000	25.1000	25.0133		

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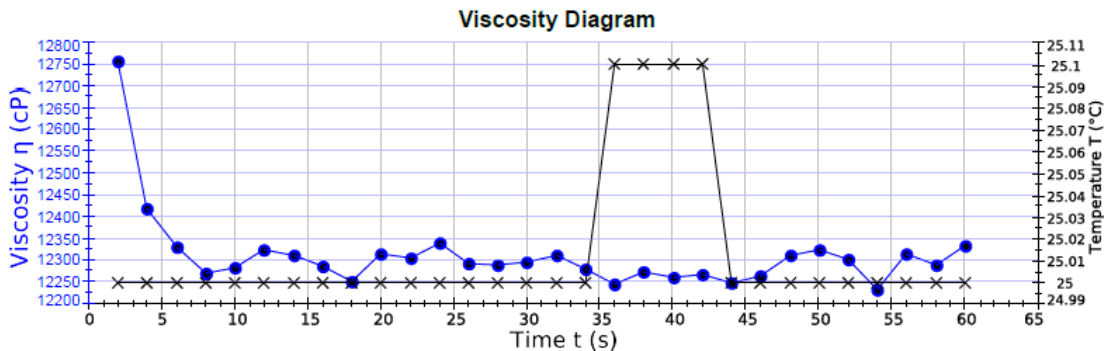
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QA Viscosity Report

Measuring DataSet Identifications

[16176] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13620]
Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16176
Execution Date: 12/20/2024 2:34:57 PM
UID: 13620
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-10N

Main Diagram



[16176] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13620]

Basic Analysis

[16176] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13620]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	12229.8851	12754.2309	12308.7149		
Temperature (°C)	25.0000	25.1000	25.0133		

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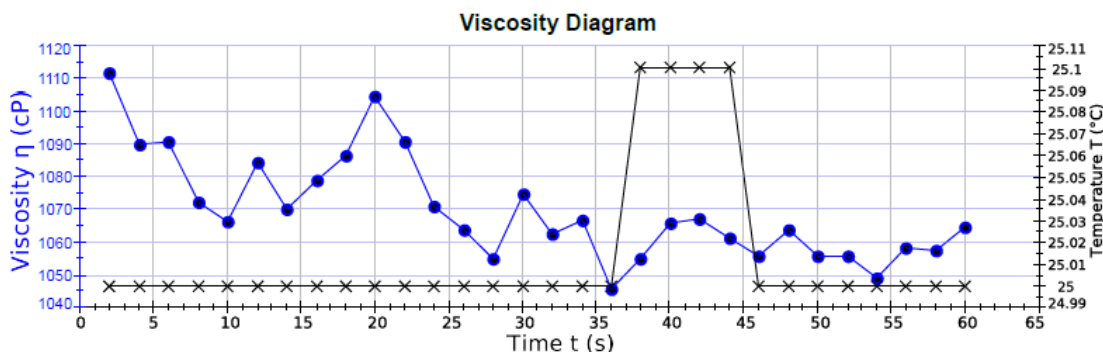
QA Viscosity Report

Measuring DataSet Identifications

[16177] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13621]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16177
Execution Date: 12/20/2024 2:40:19 PM
UID: 13621
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-11N

Main Diagram



[16177] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13621]

Basic Analysis

[16177] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13621]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	1045.3173	1111.7641	1069.6117		
Temperature (°C)	25.0000	25.1000	25.0133		

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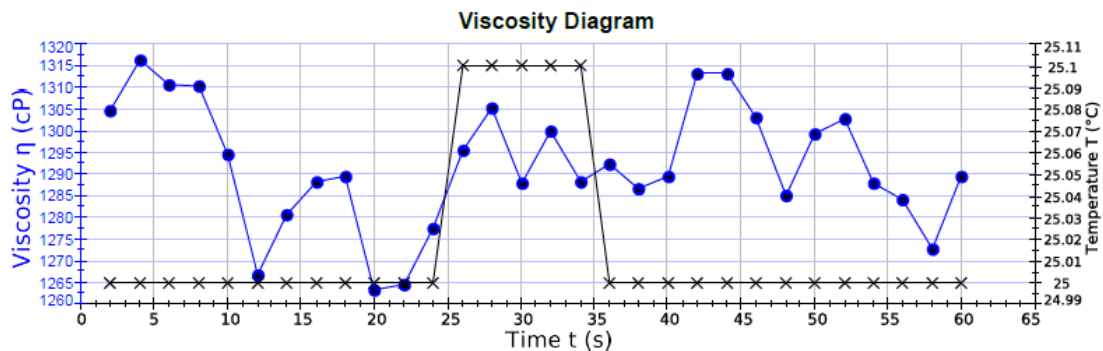
QA Viscosity Report

Measuring DataSet Identifications

[16178] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13622]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16178
Execution Date: 12/20/2024 2:46:18 PM
UID: 13622
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-12N

Main Diagram



[16178] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13622]

Basic Analysis

[16178] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13622]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	1263.1579	1316.0620	1291.9613		
Temperature (°C)	25.0000	25.1000	25.0167		

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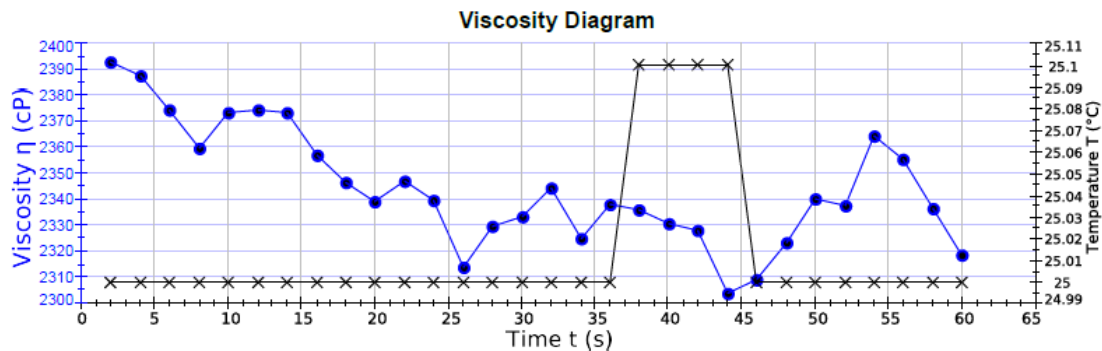
QA Viscosity Report

Measuring DataSet Identifications

[16179] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13623]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16179
Execution Date: 12/20/2024 2:51:36 PM
UID: 13623
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-13N

Main Diagram



[16179] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13623]

Basic Analysis

[16179] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13623]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	2303.6482	2392.6026	2344.2137		
Temperature (°C)	25.0000	25.1000	25.0133		

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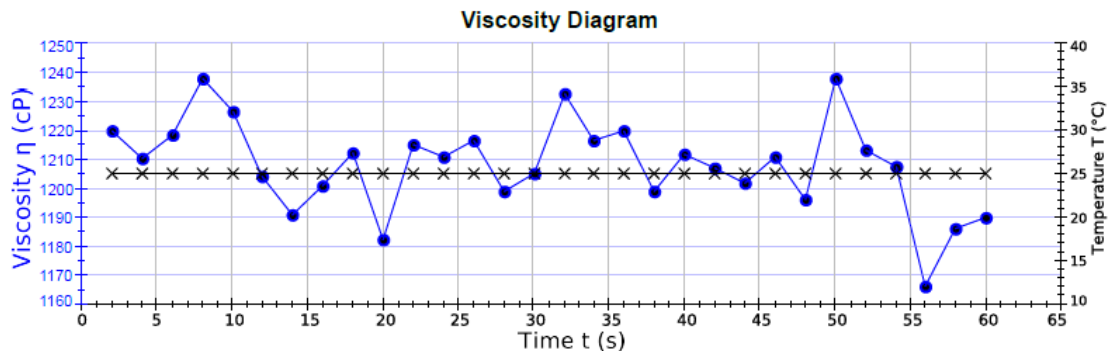
QA Viscosity Report

Measuring DataSet Identifications

[16180] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13624]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16180
Execution Date: 12/20/2024 2:56:14 PM
UID: 13624
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-14N

Main Diagram



[16180] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13624]

Basic Analysis

[16180] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13624]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	1166.2169	1237.9410	1208.1212		
Temperature (°C)	25.0000	25.0000	25.0000		

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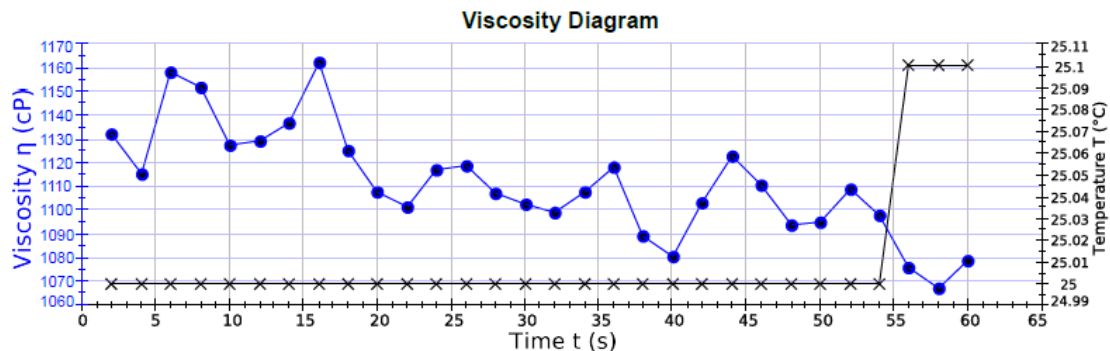
QA Viscosity Report

Measuring DataSet Identifications

[16181] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13625]

Measurement Program: CSS - Bomar 25°.rpf
Number of blocks: 3
Measurement points count: 30
Execution ID(custom): 16181
Execution Date: 12/20/2024 3:00:23 PM
UID: 13625
Data source: DB
Measuring system: C50-2
Rheometer: R/S-CPS+ Rheometer (304073)
RheometerFirmware: 9.03TH 05/13/2008 00:00:00
Thermostat: P_TS
Company: Dymax Corp.
Excecuting Operator: QA Dept.;
Substance Description: Nail Polish Testing
Substance Name: 850-100-15N

Main Diagram



[16181] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13625]

Basic Analysis

[16181] 12/20/2024, from DB, created by CSS - Bomar 25°.rpf, 30 MP in 3 Blocks [UID-13625]

Parameter	Minimum	Maximum	Average	eta[Pa·s] at min	eta[Pa·s] at max
Block[1]					
Viscosity (cP)	1067.0665	1162.1389	1111.1611		
Temperature (°C)	25.0000	25.1000	25.0100		