Plastics Forming Enterprises LLC

Empowering Sustainable Solutions

Laboratory Report #C102

Phase 2 – Polyolefins

PET Contamination Study

General Overview

Plastics Forming Enterprises (PFE) is conducting a multi-phase study to identify and quantify the effects of contaminants within the PET recycling stream. As a long-standing contributor to advancements in plastics recycling, PFE is addressing persistent challenges faced by PET reclaimers related to material contamination. Contaminants can degrade PET quality for end-market applications, damage reprocessing equipment, and reduce the effective yield of recyclable material.

One of the most common sources of contamination in PET recycling is polyolefin material. Polyolefins are widely used in beverage packaging components such as bottle caps and tamper-evident rings, which are typically manufactured from high-density polyethylene (HDPE) or polypropylene (PP). These caps and rings are designed to be separated from PET bottles during washing and density-based sorting operations. However, at the industrial scale, complete removal is not always possible; small polyolefin fragments can remain mixed with PET flake and enter the melt stream during reprocessing.

Because polyolefins and PET do not mix at the molecular level, even low levels of contamination can affect how the material behaves during melting and extrusion. Residual polyolefin can hinder the final product's quality by creating visible defects, reducing clarity, and introducing variability in processing. In more severe cases, contamination may contribute to filter plugging, unstable processing conditions, or reduced reclaim yield because of different material properties such as melting temperature. Understanding the contamination levels at which these effects become meaningful is critical for establishing realistic industry tolerances and improving recycling system performance.

This multi-phase study is designed to systematically evaluate known contaminants present in the PET recycling stream and analyze their impact on end-product performance. Through a data-driven approach, PFE aims to establish threshold levels at which contaminants significantly affect PET color properties, process efficiency, and reclaim yield. The resulting data will inform best-practice recommendations for brands, packaging designers, and material specifiers to support design-for-recyclability standards. In parallel, these findings will assist PET reclaimers in improving feedstock quality controls and optimizing process parameters necessary to maintain rPET quality and maximize throughput.

Phase 2 Overview

Phase 2 of this study aims to evaluate the impact of polyolefin contamination in the PET recycling stream, with a focus on visual quality and processing performance. The objective is to characterize how both common and emerging polyolefin contaminants influence key recycling metrics, including resin clarity, color uniformity, melt behavior, and overall compatibility with PET reprocessing.

A controlled test series was conducted using representative polyolefin contaminants commonly found in PET reclaim streams, including high-density polyethylene (HDPE), low-density polyethylene (LDPE), linear low-density polyethylene (LLDPE), polypropylene (PP), thermoplastic elastomers (TPE), and cap-and-ring materials. In addition to rigid cap and ring materials, several of these polyolefins represent flexible packaging components that commonly enter the PET stream through collection and sorting limitations. LDPE is frequently associated with films, labels, liners and rigid components that may remain attached to bottles or be co-collected in curbside systems. LLDPE is widely used in stretch and thin packaging films that can fragment during

handling and become mixed with rigid PET flakes. TPE materials are often present in soft-touch closures, liners, and sealing components designed for grip or leak resistance. These materials can bypass separation steps due to their small size, attachment to PET containers, or limitations in near-infrared (NIR) sorting and float-sink washing processes. PFE included these contaminates to ensure that the study reflects realistic industrial recycling conditions and improves understanding of how flexible and elastomeric materials influence PET optical quality and processing behavior. Each contaminant was blended into single-heat extruded PET at defined concentrations, measured in parts per million (ppm), to simulate realistic contamination scenarios based on industry specific allowances.

The material performance was evaluated using both optical and rheological measurements. Spectrophotometric analysis was performed on 3 mm amorphous plaques using transmission methods to quantify changes in lightness (L*), red/green (a*), yellow/blue (b*) color values and haze. These color properties are critical indicators of recycled PET quality because many end-market applications require high clarity and consistent visual appearance. Within this study, the data was processed using the Association of Plastic Recyclers (APR) guidelines for PET colors. These guidelines include specific deltas to the control plaques, which aim to maintain the quality of the PET stream; the specific guidelines can be found on the individual report pages. Even small shifts in color or haze can reduce the suitability of rPET for clear packaging and other high value uses, directly affecting the economic value of reclaimed material.

In addition to visual measurements, melt intrinsic viscosity (MIV) was monitored to assess the molecular integrity of the PET. MIV is an important predictor of mechanical strength, processability, and final product performance. Changes in MIV can signal degradation or incompatibility introduced by contaminants, which may affect extrusion stability and the ability to meet performance specifications for bottle-grade or fiber-grade rPET. Evaluating both color and MIV provides a comprehensive view of how polyolefin contamination influences the aesthetic and functional properties of recycled PET.

While the primary focus of this study is the PET recycling stream, the findings also provide insight into cross-stream contamination challenges affecting polyolefin recycling. Based on the results obtained at the evaluated concentrations, polyolefin contamination did present a significant risk to PET stream performance. PFE does not endorse the indiscriminate presence of polyolefin materials in the PET recycling stream, as uncontrolled contamination can still contribute to variability and long-term processing inefficiencies.

Next Steps

This polyolefin contamination investigation represents Phase 2 of PFE's broader multi-phase initiative focused on critical PET recycling contaminants. Phase 3 will examine additional non-PET materials of concern, including polyvinyl chloride (PVC), polystyrene (PS), polylactic acid (PLA), ethylene vinyl alcohol (EVOH), nylon, and adhesive systems. Organizations interested in participating in future study phases are encouraged to contact PFE directly.

Materials:

- Control – Virgin Indorama 1101 PET Pellets
- PO Contaminates
  - Test 1 – High Density Polyethylene
  - Test 2 – Low Density Polyethylene
  - Test 3 – Linear Low-Density Polyethylene
  - Test 4 – Polypropylene
  - Test 5 – Thermoplastic Elastomer
  - Test 6 – Caps and Rings

Equipment:

- Recycle System
  - Grinder
  - TEC Extruder
  - Desiccant Dryer
  - Arburg Injection Molder

- Test Equipment
  - Moisture Analyzer
  - Melt Indexer
  - Spectrophotometer

Individual Contaminate Summary

Contamination	MFR (g/10min)	MIV (dL/g)
None (Control)	NA	0.759
High Density Polyethylene (HDPE)	0.35	0.729
Low Density Polyethylene (LDPE)	1.2	0.733
Linear Low-Density Polyethylene (LLDPE)	1.5	0.723
Polypropylene (PP)	2.0	0.737
Thermoplastic Elastomer (TPE)	31.0	0.731
Caps and Rings	2.2 (HDPE) / 4.3 (PP)	0.727

Contamination	PPM	L* Average	a* Average	b* Average	Haze Average
None (Control)		90.21	-0.58	2.05	4.93
High Density Polyethylene (HDPE)	250	89.52	-0.54	3.07	12.54
	500	89.01	-0.47	3.67	18.85
	1000	87.84	-0.25	4.76	34.37
Low Density Polyethylene (LDPE)	250	89.23	-0.51	2.96	14.98
	500	88.47	-0.39	3.36	24.42
	1000	87.18	-0.20	4.14	39.59
Linear Low-Density Polyethylene (LLDPE)	250	89.37	-0.56	3.21	15.95
	500	88.71	-0.46	3.72	25.57
	1000	87.40	-0.29	4.91	43.86
Polypropylene (PP)	250	88.70	-0.48	3.23	14.57
	500	87.41	-0.39	3.98	22.95
	1000	85.14	-0.29	5.54	41.04
Thermoplastic Elastomer (TPE)	250	89.65	-0.54	2.53	9.48
	500	89.07	-0.48	2.95	15.40
	1000	88.07	-0.33	3.48	28.37
Caps and Rings	250	89.09	-0.50	3.24	10.32
	500	88.59	-0.45	3.72	13.10
	1000	86.60	-0.25	5.45	25.40

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Conclusions

- Increasing polyolefin contamination produces a strong, concentration-dependent decline in PET optical quality, with haze emerging as the primary limiting performance factor.
- Most contaminants exceed the APR's haze guidance limits at 250 ppm, and all materials generate unacceptable visual degradation at the 500 and 1,000 ppm levels.
- Flexible film-associated polyolefins, particularly LDPE and LLDPE, create the most severe haze and represent the highest contamination risk to clear PET.
- Optical degradation occurs before significant changes in the melt intrinsic viscosity, indicating that visual quality limits are reached prior to major molecular deterioration.
- Even low levels of polyolefin contamination can significantly reduce the suitability of recycled PET for high-clarity, high-value applications such as bottle to bottle.
- Effective sorting and washing processes are critical, as small polyolefin fragments can bypass separation steps and persist in the melt processing. Film and elastomeric materials require particular attention in recycling systems due to their tendency to fragment and evade density and optical sorting.
- Maintaining contamination levels well below 250 ppm is necessary to preserve rPET clarity and processing consistency.
- Strong feedstock quality control improves both product uniformity and overall reclaim yield.
- Improved removal of polyolefin contaminants enhances process stability and supports higher-value end-market uses for recycled PET.

Table of Contents

Material Preparation Overview

The identified resins were blended with second heat-extruded control then blended down, again with the second heat control, to the specified parts per million during injection. For materials that could not be sourced as a resin, PFE used purchased materials.

Granulation

References:
PET-P-03

Test Summary:
Granulate incoming articles to the required grind size.

Procedure:
Articles are manually fed into a grinder with screen holes ranging from 9.5 to 12 mm in diameter.

1st Heat PET Control Extrusion

References:
PET-P-06

Test Summary:
Add a heat history to the control material for later processing.

Procedure:
Crystallized, extrusion material is prepped in a dryer for four to six hours until a moisture level of below 50 is reached. PET material is extruded at a target melt temperature of 280°C using a suggested screen pack of 20/40/150/40/20. The extruder is purged, and the screen pack is changed between each test innovation. Pressure and melt temperature are recorded throughout the run.

Operating Conditions:

Zone 1 Temperature (°C)	Zone 2 Temperature (°C)	Zone 3 Temperature (°C)	Zone 4 Temperature (°C)	Zone 5 Temperature (°C)	Clamp Temperature (°C)	Die Temperature (°C)
271	271	271	277	277	282	282

2nd Heat APR PET Extrusion

References:
PET-P-06

Test Summary:
Add a heat history to the material, homogenize blends, and filter out contamination.

Procedure:
Crystallized, extrusion material is prepped in a dryer for four to six hours until a moisture level of below 50 is reached. PET material is extruded at a target melt temperature of 280°C using a suggested screen pack of 20/40/150/40/20. The extruder is purged, and the screen pack is changed between each test innovation. Pressure and melt temperature are recorded throughout the run.

Operating Conditions:

Zone 1 Temperature (°C)	Zone 2 Temperature (°C)	Zone 3 Temperature (°C)	Zone 4 Temperature (°C)	Zone 5 Temperature (°C)	Clamp Temperature (°C)	Die Temperature (°C)
271	271	271	277	277	282	282

3rd Heat PET Injection

References:
PET-P-08
ASTM D1003
Within PFE's scope of ISO 17025 accreditation, certificate number AT-3210.

Test Summary:
Injection mold 3mm plaques and measure the color values L*, a*, b*, and haze. The data is designed to be correlated to the production of reproduced bottles.

Procedure:
Injection material is prepped in a dryer until the moisture content is below 50 ppm. PET is injection molded at a target melt temperature of 275°C. The injection unit is purged between each test innovation. The color analyzing equipment is set up on transmittance and calibrated using pure white and black standards. The molded plaque is inserted into the testing location, and the equipment runs the color test.

Operating Conditions:

Zone 1 Temperature (°C)	Zone 2 Temperature (°C)	Zone 3 Temperature (°C)	Nozzle Temperature (°C)
265	266	266	275

High Density Polyethylene (HDPE) Contamination Resin, Pellet, and Plaque Pictures

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

High Density Polyethylene (HDPE) Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	89.54	-0.55	3.07	89.52 (-0.69)	-0.54 (0.04)	3.07 (1.02)	12.17	12.54 (7.61)
	89.47	-0.56	3.18				12.98	
	89.55	-0.54	3.06				12.21	
	89.51	-0.54	3.06				12.84	
	89.54	-0.51	2.96				12.48	
500	88.97	-0.44	3.68	89.01 (-1.20)	-0.47 (0.11)	3.67 (1.62)	19.35	18.85 (13.93)
	89.01	-0.47	3.66				18.88	
	89.00	-0.47	3.71				18.84	
	89.08	-0.48	3.61				18.23	
	88.99	-0.48	3.71				18.97	
1,000	87.82	-0.26	4.81	87.84 (-2.37)	-0.25 (0.33)	4.76 (2.71)	34.16	34.37 (29.45)
	87.95	-0.25	4.64				34.51	
	87.86	-0.24	4.70				34.15	
	87.71	-0.27	4.97				34.49	
	87.86	-0.23	4.68				34.56	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Low Density Polyethylene (LDPE) Contamination Resin, Pellet, and Plaques

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

Low Density Polyethylene (LDPE) Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	89.22	-0.50	2.95	89.23 (-0.98)	-0.51 (0.07)	2.96 (0.91)	15.46	14.98 (10.06)
	89.31	-0.50	2.87				14.87	
	89.21	-0.51	2.98				14.58	
	89.23	-0.51	3.00				14.74	
	89.18	-0.51	3.02				15.26	
500	88.46	-0.38	3.35	88.47 (-1.74)	-0.39 (0.19)	3.36 (1.31)	24.99	24.42 (19.49)
	88.35	-0.37	3.42				26.03	
	88.65	-0.42	3.26				22.18	
	88.45	-0.39	3.40				24.51	
	88.46	-0.38	3.35				24.39	
1,000	87.17	-0.20	4.14	87.18 (-3.04)	-0.20 (0.38)	4.14 (2.09)	39.73	39.59 (34.67)
	87.17	-0.18	4.12				39.18	
	87.19	-0.21	4.11				39.54	
	87.14	-0.20	4.15				40.13	
	87.21	-0.21	4.18				39.39	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Linear Low-Density Polyethylene (LLDPE) Contamination Resin, Pellet, and Plaques

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

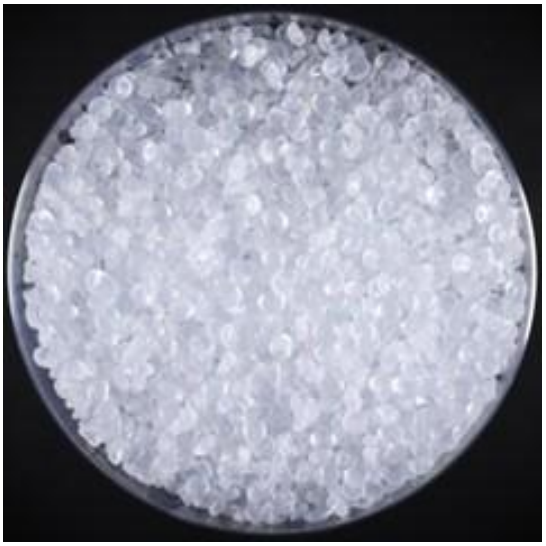
The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

Linear Low-Density Polyethylene (LLDPE) Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	89.35	-0.55	3.18	89.37 (-0.84)	-0.56 (0.02)	3.21 (1.16)	17.39	15.95 (11.03)
	89.33	-0.54	3.14				17.12	
	89.38	-0.58	3.25				14.62	
	89.35	-0.54	3.15				15.75	
	89.44	-0.59	3.35				14.89	
500	88.71	-0.46	3.68	88.71 (-1.51)	-0.46 (0.12)	3.72 (1.67)	25.90	25.57 (20.64)
	88.70	-0.45	3.71				25.80	
	88.69	-0.46	3.74				26.01	
	88.79	-0.47	3.67				24.03	
	88.64	-0.45	3.81				26.11	
1,000	87.30	-0.29	4.96	87.40 (-2.82)	-0.29 (0.29)	4.91 (2.86)	46.21	43.86 (38.94)
	87.47	-0.29	4.85				43.97	
	87.42	-0.29	4.96				42.91	
	87.45	-0.28	4.83				41.53	
	87.35	-0.29	4.96				44.70	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Polypropylene (PP) Contamination Flake, Pellet, and Plaques

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

Polypropylene (PP) Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	88.61	-0.48	3.31	88.70 (-1.52)	-0.48 (0.10)	3.23 (1.18)	15.18	14.57 (9.65)
	88.76	-0.49	3.20				14.36	
	88.64	-0.47	3.25				14.25	
	88.71	-0.47	3.21				14.57	
	88.77	-0.47	3.17				14.50	
500	87.45	-0.40	3.93	87.41 (-2.80)	-0.39 (0.19)	3.98 (1.93)	23.74	22.95 (18.02)
	87.37	-0.38	4.01				22.74	
	87.48	-0.39	3.94				22.93	
	87.39	-0.38	4.00				22.56	
	87.38	-0.38	4.00				22.76	
1,000	85.15	-0.30	5.52	85.14 (-5.07)	-0.29 (0.29)	5.54 (3.49)	41.54	41.04 (36.11)
	85.03	-0.27	5.58				40.38	
	85.23	-0.30	5.59				42.31	
	85.09	-0.31	5.65				42.23	
	85.21	-0.29	5.35				38.74	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Thermoplastic Elastomer (TPE) Contamination Flake, Pellet, and Plaques

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

Thermoplastic Elastomer (TPE) Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	89.62	-0.56	2.63	89.65 (-0.56)	-0.54 (0.04)	2.53 (0.48)	10.09	9.48 (4.56)
	89.67	-0.54	2.53				9.04	
	89.63	-0.54	2.54				9.33	
	89.69	-0.53	2.47				9.48	
	89.66	-0.52	2.48				9.48	
500	89.01	-0.53	3.35	89.07 (-1.14)	-0.48 (0.10)	2.95 (0.90)	15.08	15.40 (10.47)
	89.14	-0.48	2.83				16.04	
	89.07	-0.46	2.85				15.77	
	89.05	-0.47	2.84				15.50	
	89.09	-0.47	2.88				14.59	
1,000	88.08	-0.32	3.46	88.07 (-2.14)	-0.33 (0.25)	3.48 (1.43)	28.69	28.37 (23.37)
	88.05	-0.34	3.50				28.66	
	88.09	-0.33	3.47				28.05	
	88.04	-0.33	3.51				28.05	
	88.11	-0.33	3.45				28.41	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Caps and Rings Contamination Flake, Pellet, and Plaques

Incoming Material	Extruded Pellet
	

Injection Molded Plaque		
250	500	1,000
		

The plaque thicknesses are, from top to bottom, 3 mm, 2 mm and 1 mm.

Caps and Rings Contamination Plaque Colors

Variable	L* Values	a* Values	b* Values	L* Average	a* Average	b* Average	Haze	Haze Average
Control	90.20	-0.58	2.07	90.21	-0.58	2.05	4.97	4.93
	90.20	-0.59	2.09				4.94	
	90.22	-0.58	2.04				4.99	
	90.23	-0.58	2.03				4.88	
	90.22	-0.57	2.02				4.85	
250	89.07	-0.51	3.31	89.09 (-1.12)	-0.50 (0.08)	3.24 (1.19)	10.48	10.30 (5.39)
	89.06	-0.50	3.29				10.55	
	89.09	-0.50	3.28				10.50	
	89.14	-0.49	3.15				9.87	
	89.10	-0.48	3.18				10.20	
500	89.08	-0.49	3.25	88.59 (-1.63)	-0.45 (0.13)	3.72 (1.67)	10.39	13.10 (8.18)
	88.38	-0.44	3.95				14.60	
	89.04	-0.52	3.33				10.59	
	88.25	-0.41	4.00				14.99	
	88.19	-0.40	4.07				14.95	
1,000	86.57	-0.26	5.47	86.60 (-3.62)	-0.25 (0.33)	5.45 (3.40)	25.24	25.40 (20.48)
	86.71	-0.25	5.37				25.31	
	86.56	-0.26	5.49				25.39	
	86.60	-0.24	5.42				25.43	
	86.55	-0.25	5.48				25.64	

APR PET Guidelines: The L* value cannot be less than 82, the a* and b* values cannot be more than delta 1.5 from the control, and the haze cannot differ by more than 10%. The control haze value cannot exceed 9.5%, and b* must be below four.

Report Statements

Conformance Statements

Plastics Forming Enterprise (PFE) is an ISO 17025-accredited laboratory whose management system conforms to all standard requirements; all testing within the scope is identified. Results stated in the report are only relevant to the items tested and the test performed. All testing was completed at PFE's New Hampshire laboratory unless otherwise noted. All sampling was done using random selection, by experienced technicians unless otherwise noted.

ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17025
TESTING LABORATORY
Certificate Number: AT-3210

As required, test specimens are conditioned at 23 ± 2°C and 50 ± 10% relative humidity for at least 40 hours by the ASTM D618 procedure A. Additional information and results are available upon request. PFE will retain available hard copies of records related to this project for at least one year from its completion and available digital copies of documents for a minimum of three years.

Conclusions Statements

Experienced staff members do any interpretations of data with a good knowledge of the materials used during testing. All interpretations or conclusions about data can be found in the conclusions section of the report, unless noted. Opinions, interpretations, or statements of conformity included are based on results for which accreditation is held. Opinions, interpretations, or statements of conformity outside the scope of accreditation but based on those results for which a disclaimer identifies accreditation.

Report Authorizations

Report Written by	Report Approved by	Report Approved on
KL	ML	2/16/2026

Date of Amendment	What was Amended?	Reason for Amendment	Amendment Performed by	Amendment Approved by

PFE ADDRESS

6B Continental Boulevard
Merrimack, NH 03054

President:
Kristina Hansen
(khansen@plasticsforming.com)

Technical Director:
Matthew Levesque
(matt.levesque@plasticsforming.com)

Quality Assurance:
Kathryn Loranger
(kgoodale@plasticsforming.com)

Accounting Email:
(admin@plasticsforming.com)

Contact Phone Number:
603-668-7551

www.plasticsforming.com

Document Number: RT021
Version Number: 1.0