

STANDARD INFORMATION

Standard: UL 343

Standard ID: Pumps for Oil-Burning Appliances [UL 343:2008 Ed.9+R:13Mar2024]

Previous Standard ID: Pumps for Oil-Burning Appliances [UL 343:2008 Ed.9+R:21Sep2022]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **March 13, 2026**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes: Addition of Biodiesel (B100) requirements. Specific details of new/revise requirements are found in table.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
Supplement SA	Info	PUMPS FOR OIL-BURNING APPLIANCES INTENDED FOR USE WITH BIODIESEL BLENDS B6-B20/<u>B100</u>
		General
SA1		This supplement shall be used to evaluate pumps for oil-burning appliances intended for use with biodiesel blends B6-B20 and <u>B100</u> as defined in ASTM D396 and ASTM D6751. All requirements of UL 343 apply unless modified or deleted by this supplement. This supplement also adds additional requirements for B6-B20/ <u>B100</u> blends.
SA7.4.1	Info	Static seals
		Static seals shall be subjected to the Volume Change and Extraction Test in accordance with the Standard for Gaskets and Seals, UL 157, except for the following modifications:
SA7.4.1.3		a) The test duration shall be 1000 hours; b) The applicable test fluids shall be FB25a <u>for blend levels from B6-B20 and B100a for blend levels from B6-B100</u> as described in Supplement SB; and c) For all materials, the average volume change shall not exceed 40% swell (increase in volume) or 1% shrinkage (decrease in volume). In addition, the weight loss shall not exceed 10%. For coated fabrics, alternate limits can be used with the average volume change not exceeding 60% swell or 5% shrinkage, and the weight loss shall not exceed 20%. There shall be no visual evidence of cracking or other degradation as a result of the exposure for any material including coated fabrics.
		Static seals shall be subjected to the Compression Set Test in accordance with the Standard for Gaskets and Seals, UL 157, except for the following modifications:
SA7.4.1.4		a) The test duration shall be 1000 hours. b) The samples shall be immersed, at room temperature, in the test fluids [see (c)] while compressed for the entire test duration. No oven conditioning is required. c) The applicable test fluids shall be FB25a <u>for blend levels from B6-B20 and B100a for blend levels from B6-B100</u> as described in Supplement SB. d) The recovery period shall consist of removing the sample from the compression device and immersing it in the applicable test fluid for 30 minutes at room temperature. The sample shall not be allowed to dry out due to exposure to air. The 30-minute immersion should use the same fluid as the test fluid for each sample.



CLAUSE	VERDICT	COMMENT
		<p>e) For all materials, the average compressions set is calculated and shall not exceed 35 percent. For coated fabrics, alternate limits can be used with the average compression set not exceeding 70%.</p> <p>Exception: This requirement does not apply to composite gasket materials as defined in accordance with the Standard for Gaskets and Seals, UL 157.</p>
SA4.7.2	Info	<p>Dynamic seals</p> <p>Dynamic seals shall be subjected to the Volume Change and Extraction Test in accordance with the Standard for Gaskets and Seals, UL 157, except for the following modifications:</p>
SA4.7.2.3		<p>a) The test duration shall be 1000 hours;</p> <p>b) The applicable test fluids shall be FB25a <u>for blend levels from B6-B20 and B100a for blend levels from B6-B100</u> as described in Supplement SB; and</p> <p>c) For all materials, the average volume change for a gasket or seal material shall not exceed 40% swell (increase in volume) or 1% shrinkage (decrease in volume). In addition, the weight loss shall not exceed 10%. For coated fabrics, alternate limits can be used with the average volume change not exceeding 60% swell or 5% shrinkage, and the weight loss shall not exceed 20%. There shall be no visual evidence of cracking or other degradation as a result of the exposure for any material including coated fabrics.</p>
SA4.7.2.4		<p>Dynamic seals shall be subjected to the Tensile Strength and Elongation Test in accordance with the Standard for Gaskets and Seals, UL 157, except for the following modifications:</p> <p>a) The test duration shall be 1000 hours;</p> <p>b) The applicable test fluids shall be FB25a <u>for blend levels from B6-B20 and B100a for blend levels from B6-B100</u> as described in Supplement SB; and</p> <p>c) For all materials, the average tensile strength and the average elongation of materials shall not be less than 60 percent of the as-received values. For coated fabrics, alternate limits can be used with the average tensile strength and the average elongation not less than 30% of the as-received values.</p>
Supplement SB	Info	<p>TEST FLUIDS</p> <p>Representative Aggressive Combustible Test Fuel Mixture</p> <p>The test fluid designations represent the following:</p>
SB1		<p>FB25a – An aggressive test fluid containing 25 percent biodiesel with aggressive elements:</p> <p>F = Reference Fuel F (No. 2 Grade S500) in accordance with the Standard Specification for Standard Test Method for Rubber Property – Effects of Liquids, ASTM D471.</p>



CLAUSE	VERDICT	COMMENT
		<p>B = Biodiesel (100 percent Soy feedstock) in accordance with the Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, ASTM D6751.</p> <p>a = Aggressive components to be mixed with B to form B100 as an aggressive Biodiesel Stock.</p> <p><u>B100a – An aggressive test fluid containing 100 percent biodiesel with aggressive elements:</u></p> <p><u>B = Biodiesel (100 percent Soy feedstock) in accordance with the Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, ASTM D6751.</u></p> <p><u>a = Aggressive components to be mixed with B to form B100 as an aggressive Biodiesel Stock.</u></p> <p>The aggressive biodiesel containing <0.5 percent volume combined water and decanoic acid shall be based on the approximate formula below (*) to achieve a final 1.00 ± 0.02 acid number of the mixture when measured in accordance with the Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration, ASTM 664.</p> <p>0.2 percent volume acid water [2.60 g decanoic acid crystals/1000 g of deionized water]</p> <p>The resulting solution, after mixing the above elements, shall have an acid number of 1.0 ± 0.02. After the measurement is determined, an acid number not within the specification of 1.0 ± 0.02 shall be adjusted with additional biodiesel fuel or decanoic acid added until the acid number is 1.0 ± 0.02.</p> <p>This fluid shall be used to condition samples when a test indicates this fluid is to be used. The test fluid shall be prepared just prior to use to minimize changes resulting from exposure to air and moisture and from interactions with storage and transfer containers.</p> <p>Products intended to be rated for use with diesel fuel or diesel/biodiesel fuel blends with nominal biodiesel concentrations up to 20 percent (B0-B20) shall be evaluated using the FB25a test fluid as the only applicable test fluid. <u>Products intended to be rated for biodiesel/biodiesel blends with nominal biodiesel concentrations greater than 20 percent (B21-B100) shall be evaluated using the B100a test fuel as the applicable test fluid.</u></p>