The ASTM F2179 Candle Safety Standard for candle glass has been updated to better clarify how the standard is to be used. The update is now available from ASTM. The instructions on how to purchase the needed materials are detailed on the pages that follow.



ASTM is driven by the expertise and commitment of its 30,000 members, who hail from more than 140 countries. They use good science, good engineering and good judgment to improve performance in manufacturing and materials, products and processes, systems and services. Businesses, governments and individuals collaborate openly and transparently in technical committees, ensuring ASTM standards combine market relevance with the highest technical quality. ASTM standards are used and accepted worldwide and cover areas such as metals, paints, plastics, textiles, petroleum, construction, the environment, consumer products, medical services, devices and electronics, advanced materials and more.

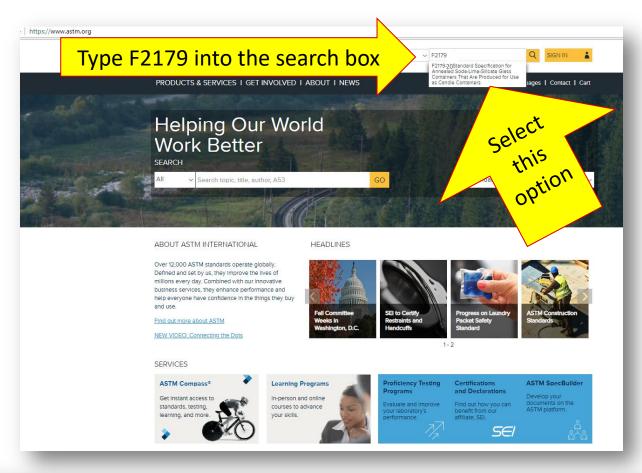
The ASTM Standard for candle glass is not a testing method to be used well after the glass is made; it is a controlled process to be used and fully documented by glass manufacturers during every production run of the glass they wish to qualify as safe for candles. Compliance to the standard for a batch of candles cannot be established by testing a few samples from a glass run done in the past. Instead the candle maker must be certain that the glass manufacturer has followed the ASTM process in making the glass and maintained the detailed documentation of no failures while performing that process for every glass batch.

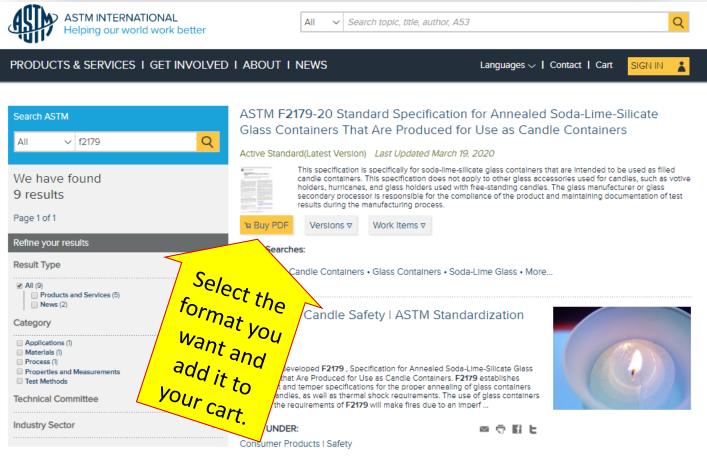
The documentation that establishes compliance is created by following the sampling method in C-224 (including the Military Sampling Process – see page 4 below) to pull glass samples during the glass manufacturing batch run (controlled sampling across molds and the annealing run). Those samples are then examined using a polariscope per C-148 and tested for thermal shock resilience per C-149. To be suitable for use as a candle vessel, there cannot be any failures of any samples in either test.

<u>Every batch</u> of glass must be tested per this F-2179 process, not just the first batch. If any glass in a run fails, then everything that went through annealing in the Lehr during that batch (using the same Lehr settings) fails. The annealing process must be checked and corrected until a batch is produced with zero failures.

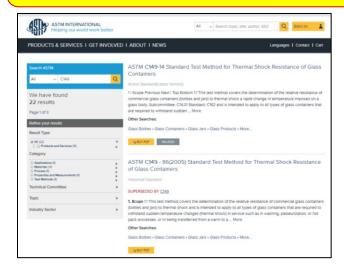
Candle manufacturers/retailers who have a few pieces of glass tested either in advance or from a subsequent glass shipment are not satisfying the ASTM requirement for candle glass compliance (although this may be reassuring as a double check of the glass supplier's discipline). Only compliance to the procedure by the glass manufacturer during actual production runs of glassware does that. Tracing finished glass back to the particular batch/mold and obtaining the specific documents for that batch is not possible with large glass producers. Consequently, the candle maker must obtain assurance from the glass maker that they always follow the ASTM Standard when producing a particular style of glassware.

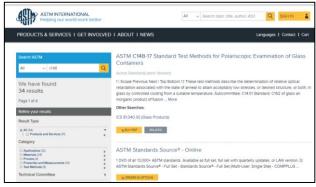
To buy the standards, go to www.astm.org



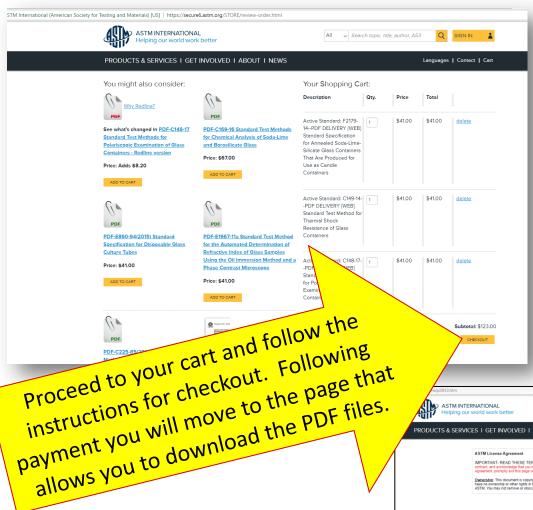


Go back to the search bar and search C148, C149 and C224 and select each for purchase.









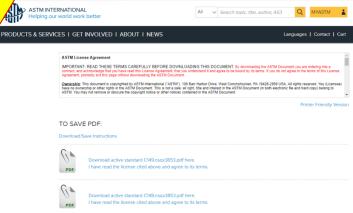
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You will also need the Military Standard Sampling Procedure for Inspection, including the table below.

The entire procedure can be downloaded at no cost at: https://variation.com/wp-content/uploads/standards/mil-std-105e.pdf

MIL STD 105D																										
TABLE I Sample size code letters				TABLE 11-A Single sampling plans for normal inspection (Master table)																						
	General inspection levels				Acceptable Quality Levels (normal inspection)															1						
Lot or batch size	1	Level Normally Used II	111	Sample size code letter	Sample size					-+-		0.10 Ac Re		0.25 Ac Re		+	+	1.0 Ac Re	1.5 Ac Re	2.5 Ac Re	4.0 Ac R	+	+	0 Re	15 Ac Re	25 Ac Re
2 to 8 9 to 15 16 to 25	A A B	A B C	B C D	A B C	2 3 5														1	0 1	0 1	1 0	1 1	2	1 2 2 3	
26 to 50 51 to 90 91 to 150	C C D	D E F	E F G	D E F	8 13 20										ļ	0	1	0 1	0 1	1 2	1 2	1 2 2 3 3	2 2 3 3 4 5		3 4 5 6 7 8	1 -
151 to 280 281 to 500 501 to 1200	E F G	G H J	H J K	G H J	32 50 80							 	0 1	0 1	0 *		2	1 2 2 3	1 2 2 3 3 4	3 4	5	6 7	00000	11	14 15	14 15 21 22
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Ac Acceptance number.

Re Rejection number.

Use first sampling plan below arrow. If sample size equals, or exceeds, lot or batch size, do 100 percent inspection.

Use first sampling plan above arrow.