

SUBJECT TEST FOR DURABILITY OF FLAT GLASS
Process Specifications

SUPERSEDED DATE 1/14/48

Initially for C7408C

PROCEDURE

1. Cut the flat glass to a size of 1-1/2" x 3".
2. Clean the flat glass together with a 250 cc. pyrex beaker. This is done by washing with chromic acid cleaning solution (conc. H_2SO_4 saturated with CrO_3), rinsing three times each with tap and distilled water, and at least once with boiled double distilled water just before filling for the test.
3. Place two pieces of the flat glass in the beaker in such a way that only their corners are in contact and that they will be about half covered by water. Fill with 100 cc. of double distilled water. This water is boiled just before using to remove absorbed gases.
4. Cap the beaker with clean cellophane or a similar inert material.
5. Place the capped container in an autoclave and bring the temperature to 125°C. (20 lbs. steam) as rapidly as possible. Hold at 125°C. for 1 hour, cool to room temperature in about 30 minutes.
6. Remove the container and titrate a portion (usually one half of the initial volume) of the water with .02 normal sulphuric acid. Calculate alkali as mg. NaOH/ml. of water titrated. Methyl purple is a satisfactory indicator.

NOTE: a. Any other glassware used for measuring, holding, or titrating any of the solutions of this test must be cleaned and rinsed with the solutions they are to hold just before being used.

b. Titration of the sample should be made no more than 1 hour after the completion of the weathering period.

7. The durability of the glass is expressed as mg. NaOH per ml. of water.



** DANGER

CHROMIC ACID HANDLING PRECAUTIONS: See S.N. 33-2-7B

SULFURIC ACID HANDLING PRECAUTIONS: See S.N. 33-2-7C

ENGINEERING SECTION
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