

Moisture Absorption (MA)

GFRP rebar samples | Short-term moisture absorption after full immersion in distilled water.

AVERAGE ABSORPTION
24 HOURS
0.09%

STANDARD DEVIATION
0.03%

COEFFICIENT OF
VARIANCE
30.5%

TEST SUMMARY

Reference Standard

ASTM D570 - Water Absorption of Plastics

Specimen Size

L bar: approx. 25.0 mm long segments cut at different locations.

Test Description

Determine short-term moisture absorption when immersed in distilled water at 50°C ±3°C for 24 hours.

Sample Group

5 tested specimens

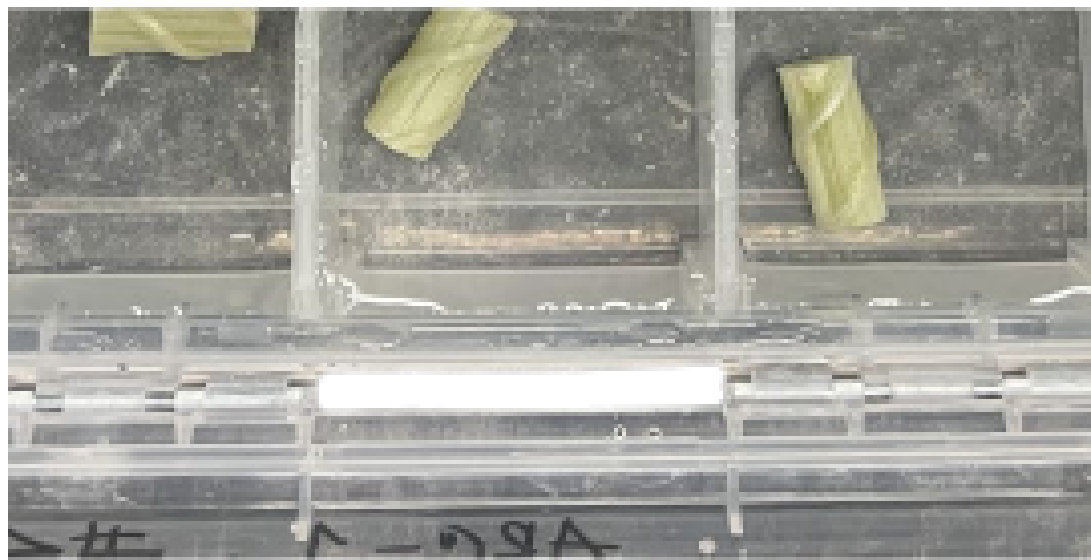
TEST VISUALS



Prior to treatment



Weight of specimens



Water immersed specimens

TEST METHOD

1. Measure initial specimen mass before immersion.

2. Fully immerse specimens in distilled water at 50°C ±3°C for 24 hours.

3. Remove specimens, wipe surface moisture, then measure final mass.

4. Calculate 24-hour moisture absorption from the recorded mass change.

5. Report average, standard deviation, and coefficient of variance for the sample group.

Average short-term moisture absorption after 24 hours: 0.09%

Detailed Results

Specimen dimensions, mass change, and 24-hour absorption results.

RESULTS SUMMARY

Result	Value
Average short-term absorption (24 hrs.)	0.09%
Standard deviation (Sn-1)	0.03%
Coefficient of variance	30.5%

TEST DATA

Sample	Length mm	Length in.	Diameter mm	Diameter in.	Initial Mass g	Final Mass g	Absorption %
1	25.7	1.0130	11.1	0.4380	5.9790	5.9824	0.06
2	25.9	1.0215	11.2	0.4415	6.0072	6.0137	0.11
3	25.7	1.0110	10.9	0.4305	5.9213	5.9251	0.06
4	24.9	0.9800	11.1	0.4385	5.8237	5.8306	0.12
5	24.9	0.9790	11.6	0.4575	5.8113	5.8169	0.10
Average							0.09
Sn-1							0.03
CV (%)							30.5

INTERPRETATION

The tested samples recorded low short-term moisture absorption after 24-hour immersion. The average result was 0.09%, with a standard deviation of 0.03% across the sample group.