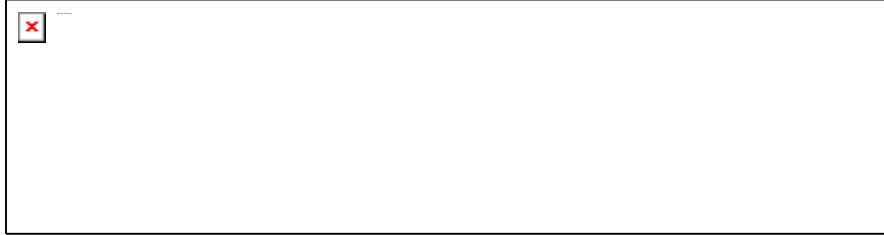


compressive strength (2)



Client ICS/Penetr International Ltd., 45 Research Way, Suite 203, East Setauket, NY 11733

Project Information of Client

Subject Laboratory Testing of the effects of Penetr Treatment on the compressive Strength of Concrete

- **Report No 93-4559 Date 11 /22 /93**

At the request of the Client, laboratory tests were performed to determine the effects of Penetr treatment on the compressive strength of concrete.

I. CONCRETE MIX DESIGN

The concrete mix design used for this purpose consisted of the following ingredients:

COMPONENTS (*)	LBS./CU. YARD
Cement, Type I	395
New Cem, lbs	169
Sand, lbs.	1450
Coarse Aggregate, lbs.	1860
Water, gal.	3509
Water, lbs.	299
W/C Ratio, lbs/lb.	0.53
Slump, inches	4.0
% Air	1.7

(*) New Cem is a slag cement sold by Blue Circle Co.
Sand and coarse aggregates were SSD basis.

II. PROCEDURES

By using this mix design, a total of 12 6 x 12 inch concrete cylinders were prepared. After the initial set was achieved, the surface of six of the concrete cylinders were coated with the Penetr which was sprinkled and brushed onto cylinders top surface and worked into

the concrete by wood floating.

The Penetron mix used was:

2 parts Penetron

0.8 parts water

It should be noted that after removal from the molds, the opposite end of the cylinders was also treated with Penetron by brush application. The rate of application of Penetron for each surface was approximately 2.5 lbs. per square yard area.

Both the treated and untreated (control) cylinders were placed into the controlled conditions (73 *IF* and 100% humidity). At the end of 7, 14 and 28 days, the cylinders were tested for compressive strength. The test results were as follows.

III. COMPRESSIVE STRENGTH

A. Penetron Treated

CYLINDER NO.	AGE, DAYS	PSI
1	7	3640
2	7	3670
3	14	4480
4	14	4510
5	28	5150
6	28	5120

B. Untreated (Control)

CYLINDER NO.	AGE, DAYS	PSI
1	7	3570
2	7	3600
3	14	4420
4	14	4390
5	28	4950
6	28	4970

IV. CONCLUSIONS

According to these tests results, treating concrete surface with Penetron resulted in a slight increase in the compressive strength of the concrete.

