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NATIONAL RESEARCH COUNCIL OF CANADA

DIVISION OF BUILDING RESEARCH

No.
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TECHNICAL NOTE

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✓ RFL

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CHECKED BY WHB

APPROVED BY RFL

DATE January 1960

PREPARED FOR Research Committee, National House Builders Association

SUBJECT SECOND VISIT TO BUDGET RESEARCH HOUSE, PRESTON, ONTARIO

On 27 November 1958, a second visit was paid to the first Budget Research House near Preston, Ontario. At the time of this visit the house was still not occupied, (but was expected to be by the beginning of 1959). The observations made during the first visit in February 1958 and a description of the house are reported in Visit Report No. 38 of the Division of Building Research. The following is a summary of observations made at the second visit.

Humidity and Temperature Measurements

Observations of temperature and humidity were made in the crawl space, living area, attic space and outdoors. The results are calculated below.

	<u>Dry Bulb</u> °F	<u>Wet Bulb</u> °F	<u>Relative Humidity</u> %	<u>Humidity Ratio</u> (lb. water/lb. air)
Crawl space	44.0	38.5	60	0.0037
Living area	39.5	34.8	61	0.0032
Attic space	32.0	29.2	75	0.0028
Outside	28.2	25.9	74	0.0024

From the above table it would seem that the crawl space is contributing some moisture to the inside air. It should be noted, however, that at the time the readings were taken, the furnace was not in operation because the fuel had run out, presumably the previous winter, so that there had been no forced air movement in the crawl space for some time and any ventilation of the crawl space was by diffusion through the open registers.

Crawl Space

The perimeter insulation was dry to the touch and no evidence of dry rot was seen on the wood exposed in the crawl space. Considerable condensation could be seen trapped under the polyethylene vapour barrier on the floor. The polyethylene was still in good shape and showed little damage from the traffic over it during the inspections.

Windows

The windows - Pierson single-glazed units - were lightly frosted, and evidence of previous condensation was noted as the grooves in the sill were filled with ice and made it impossible to slide the windows.

Exterior Finish

The painted plywood siding was behaving satisfactorily with no buckling apparent and with very little evidence of checking. It is possible that the unsanded surface of the plywood may have contributed to the lack of extensive checking.

Interior Finish

Since the previous visit a crack had developed in the plastered living room ceiling at right angles to the joists in the centre of the room. This crack was subsequently patched and further movement had apparently stopped. The reason for the cracking was not determined.

Some hairline cracks had appeared in walls at the top corners of doorways since the previous visit. Three of these cracks had developed in partitions parallel to the joists and one in a partition at right angles to the joists. According to Mr. Hipel, builder of the house, such cracks were quite common even in houses built in the conventional way. These cracks were not very large and some could be seen only on close inspection.

Roof Covering

The asphalt shingles showed no change in appearance from the previous visit, and no evidence of leakage due to ice damming could be detected.