INSULATION.

BY ROBERT T. RASMUSSEN.

The following table shows the relative nsulation value of the materials now in use, and are based on actual tests made at the Massachusetts Institute of Technolgy. The eminence of this institute should be a sufficient guarantee to their correctness. The figures given are not the actual nes as published by the Institute; they have been changed and modified by the vriter so as to be planner to unitiated ninds. The relative values are the same, lowever, and can be relied upon.

Assuming a dead air space to be perectly scaled (a partir, impossibility) and is rate of heat transmission to be 1.00 B. C. U., then the relative values are:

Pead air space	1.00
heet cork1" thi	ick 1.14
" "2" "	'95
" "3" "	'87
Carbonate Magnesia.1" 🖰	1.45
awdust	· 1.24
harcoal" "	1.22
Asbestosı" "	' 1.49
oal cinders" "	· 1.50
lair felt" "	· 1.51
fard pine" "	2.72
)ak	· 2.65
pruce "	3.40
"2" "	1.31
"3" "	1.02
rick wall4" "	4.17
These figures show that	t sheet cork is

These figures show that sheet cork is he best nonconducting material, hence he best insulator. Now as to the method f using these materials. One partition onstruction consists of two 1" tongued nd grooved spruce boards, with waterroof pape, between; i dead air space, ien two 1" spruce boards with paper gain, and so on, until three 1" dead air paces have been formed, making a partion 11" thick and consisting of eight

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se sprace boards with three dead air spaces. The efficiency of this partition would be 2.52 B. T. U .- that is, it would transmit 2 52 B T. U. pur degree difference per square foot per twenty-four hours, and would cost approximately 59 cents per

The cork partition to displace this would consist of two 1" tongued and grooved spruce boards, with 3" sheet between, and one layer of water-proof paper on each pipe, making it 5" thick all. This construction would transmit 2.13 B. T. U. per degree difference per square foot per twenty-four hours, and would cost approximately 43 cents, showing the greater value of cork. In addition, the weight of the spruce and dead air partition would be about 20 pounds per square foot, while the spruce and cork would weigh but 8 pounds per square foot.

By comparing the given values of these partitions with the values of the different material in the table, there should be no difficulty in arriving at the efficiency any portion would have constructed of any of the materials. The great saving of space by the tark partition should prove space by the cork parinton should prove valuable in itself. As will be noted, it is more than one-half.

Sheet cork is the ideal insulator. has no capillary attraction, is practically fire-proof and odorless, easily applied and very light in weight. It contains innumerable air cells that are closed by the bind-ing substance, thus securely entrapping the air and forming the only dead air space that can be depended upon. In conclusion, it has been found that an air conclusion, it has been found that an air space i" deep is as efficient as one 3" or more. The depth has nothing to do with the efficiency, but, as has been said before, it is next to impossible to hermetically seal any dead air space—it is safe to say absolutely impossible therefore, no dependence should be placed any dead air construction. — Architect and Builders' lournal. Iournal.

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Although work was begun on the foundation of the San Portland Cement Works at Owen Sound, Ont., only four weeks ago, the buildings are all erected and the workmen are now at the roofing. The warehouse, 250 feet in length, is to be started working in a few days. The siding which will run from the works to the G. T. R. tracks is being graded.

Some machinery, much of which was from Germany, has already arrived, and hundreds of tone are yet to follow. It is estimated that 100 cars will be required to bring in the equipment needed to complete the plant. When this plant is fully equipped and in running order it will be one of the most extensive industries of that part of the country.

The works of the new cement company at Durham, Ont., are being rapidly proceeded with. In this plant Messrs. A. F. Mac-Laren, M. P., Nelson Monteith, M. P. P., and A. H. King are interested.

The buildings are being constructed of the cement hollow block, which will be a visible and permanent evidence of this form of construction. The plant will occupy five acres of land. One building is already finished, and the foundations for the others are about completed. The machinery is now arriving for installation. The grinding machinery, built by the cele-brated Krupp Gun Works, of Essen Ger-many, will shortly be installed. It is ex-pected that the plant will be in operation on the first of next May.

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