

INFORMAL CODE INTERPRETATION

NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-661-5880

Cob Construction

Code: 2012 Residential Code

Date: July 3, 2012

Section: R301, Table N1102.1, Table N1102.1.2

Question:

Cob is a term which defines a mixture of clay and sand, with or without straw. This mixture is hand-formed into lumps (cobs), or bricks (adobe) which are either tamped or stacked to form a wall. Is it permissible to construct a single-family or two-family dwelling and associated accessory buildings using Cob-construction?

Answer:

Yes. Because adobe (brick) construction is not addressed in the NC Residential Code (NCRC) it can be constructed in compliance with the 2012 NC Building Code (NCBC), Section 2109.

The lump form (cob) of material is not addressed in the NCRC or the NCBC and is-considered an alternate material and method of construction, as per 2012 North Carolina Administrative Code and Policies - Section 105. Such buildings shall be designed by a NC registered design professional.

Because of the high mud content, Cob takes a long time to dry and has a very low insulating capacity. Cob wall construction (both cob and adobe) will require analysis to determine compliance with the thermal envelope energy provisions contained in Chapter 11. Depending on the properties of the material and wall thickness, cob walls shall-meet the non-mass wall criteria or the mass wall [as defined in chapter 2 of the NCRC] criteria found in Tables N-1102.1 and N-1102.1.2, as applicable.

If cob construction is being considered, it is advisable to meet and discuss the project with the local Authority Having Jurisdiction (AHJ). The Code Enforcement Officer of the AHJ has final determination of code compliance. Any submission shall be reviewed - as an Alternate Material, Design or Method of construction, as addressed in Section 105 of the 2012 NC State Administrative Code and Policies. For more information on this process visit the web site listed below:

[Process For Submission And Consideration Of Alternate Material Design Or Methods Of Construction And Equipment June 16 2010](#)

Keywords:

Cob, adobe, clay, mud, Type V, Alternate Material, house, mass wall