MATÉRIAUX DE CONSTRUCTION

CONSTRUCTION MATERIALS

Lecturers: Eric VINCENS

| Lecturers : 16.0 | TC : 0.0 | PW : 4.0 | Autonomy : 0.0 | Study : 8.0 | Project : 0.0 | Language : FR

Objectives

It is a revolution which is being prepared in the building sector: that of the necessary use of more frugal construction techniques, that is to say more economical in embodied energy, less impacting for the environment and a less drain on the buildings. natural resources thanks to the ability of materials to be recycled or better reused.

Thus, alongside conventional techniques, such as steel construction or reinforced concrete, more confidential techniques such as wood or straw construction and vernacular techniques neglected in the 20th century, such

Keywords : aggregates, binders, concrete, steel, wood, earth, dry stone

Programme

We will successively address conventional materials such as aggregates, binders such as cements, plaster, lime, concretes (current, high or very high performance, fibers, self-placing, low carbon), steel or wood for construction. and unconventional construction materials or techniques such as straw-bale, earthen and dry stone.

The use of conventional materials will be placed in its industrial and normative context, emphasis will be placed on the action of the environment which tends to alter or modify their properties, both physically and mechanically.

Learning outcomes

- know how to identify and characterize materials for construction
- know the problems of durability of the materials in their environment

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méhodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

G. Dreux, *NOUVEAU GUIDE DU BÉTON ET DE SES CONSTITUANTS*, Eyrolles, , 1998
Acovitsioti-Hameau, Ada; Cagin, Louis *PIERRE SÈCHE : THÉORIE ET PRATIQUE D'UN SYSTÈME TRADITIONNEL DE CONSTRUCTION* , Eyrolles, 2017
Ulrich Röhlen, Christof Ziegert, Catherine LattucaId *CONSTRUIRE EN TERRE CRUECONSTRUCTION, RÉNOVATION, FINITIONS* , Le Moniteur Editions, 2013

Assessment

- Microtests: closed-book examination
- Final exam: closed-book examination
Grade : 2/3 final exam + 1/3 activities (microtests+lab)