

# ASSOCIAÇÃO PORTUGUESA DAS EMPRESAS DE BETÃO PRONTO



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## RELATÓRIO DE ENSAIO

Processo: P14/01271

Ensaio: 3505

Relatório: P14/003089

Data: 18-03-2015

### CONCRETE

#### Depth of penetration of water under pressure

Marca: --

Designação: C30/37 S3 XC4 (P) D22 CI 0,1 HID

Requerente: OAU2WORK+, Lda

Obra: --

Identificação: Dois cubos 15x15

Pedido: Guia de Remessa de 03/11/2014

Data de Entrada: 03-11-2014

### NANO4LIFE-IBERICA

Pedro Rodrigues

Rua Silvio Brinco

Edifício Nova Centralidade, S/N

4465-226 Matosinhos

DIRECTOR DE SERVIÇOS LABORATORIAIS

TÉCNICO DE BETÃO

João André

Paulo José

Test Specimen		Date of the test		Maximum depth of penetration (mm)
Identification	Description	Start	End	
1-N4STONE	Specimen cubic. Nominal sizes: 150 mm	03-11-2014	06-11-2014	33
2-PADRÃO	Specimen cubic. Nominal sizes: 150 mm	03-11-2014	06-11-2014	85

Direction of application of water pressure with respect to the casting direction: perpendicular.

Test carried out according to standard EN 12390-8: 2009.

Specimen delivered by the customer.

The test results relate only to the items tested.

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**CERTIFICATE EXPLANATION:** A.P.E.B. - Associação Portuguesa das Empresas de Betão Pronto (TRANS.: Portuguese Association for Concrete Producers) is one of most reputed institution in Portugal that certifies concrete production and all materials necessary to do it. They are members of E.R.M.C.O.-European Ready Mixed Concrete Organization and other European organizations.

The lab test that we order consists in creating two standard concrete cubic samples with the dimension of 150mmx-150mmx150mm

One of them identified by "Provete 1-NANO4-STONE" on the certificate report, was coated in one surface with 15g of NANO4-STONE and the second identified by "Provete 2-PADRAO" without coated.

After this, both cubic samples where submitted to a continuous hydrostatic pressure of 5 bar during 72 hours.

The result was awesome. NANO-4STONE improved by 2.5 times more the resistance to water pressure in this particular concrete composition " C30/37 " (Class of concrete resistance at 28 days in MPA) " S3" ( Class of workability/fluidity with a "SLUMP" cone test) " XC4"( Environmental class- that obligates a minimum amount of cement or thin materials)

This particular reference of concrete " C30/37S3XC4 " .