

2st MEETING OF THE DOCTORAL PROGRAM IN CIVIL ENGINEERING EIDEIC II 2016



Israel Rodríguez Fernández May, 2016

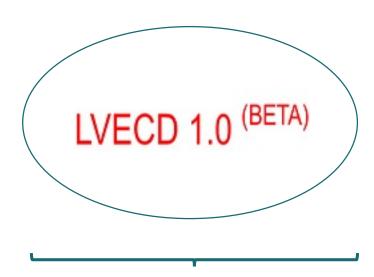
Supervisor: Daniel Castro Fresno



1 Introduction



Mixture designs with alternative materials



Software







Design of asphalt mixtures with alternative materials

Two kind of mixtures (PA and BBTM) with:

- □ Reclaimed Asphalt Pavement (RAP)
- ☐ Electric arc furnace slags
- Bitumen modifications







Design of asphalt mixtures with alternative materials

One kind of mixture (AC) with different combinations of:

- □ Reclaimed Asphalt Pavement (RAP)
- ☐ Electric arc furnace slags
- Basic oxygen furnace slags
- □ Foundry sand
- Two different bio-based rejuvenators



2 Project context

LVECD 1.0 (BETA)

Durability simulation of developed mixtures using software

Layered ViscoElastic pavement analysis for Critical Distress (LVECD)

- ☐ Finite Element calculations
- Advanced mechanistic models of damage prediction
- ☐ Specific laboratory test are needed



3 Main results

Courses

- EDUC basic training course (2016).
- Statistics for research in construction engineering I and II (2016).
- Technical English for civil engineers (In progress).
- Introduction to sustainable construction (In progress).

Congress

- ☐ European Road Infrastructure Congress. **ERIC 2016**. Leeds, 18th-20th October 2016.
 - Abstract accepted.
- □ World Conference on Pavement and Asset Management. **WCPAM 2017**. Milan, 12th-16th June 2017.
 - Abstract under review.



4 Compliance level of PDIC skills

Basic competences	Science and Technique	Technology	Training courses	Results	SWOT analysis	Workplan	Mobility	Funding	Ethics
CB11	✓	✓	✓						
CB12				×		\checkmark	×		
CB13				×					
CB14					\checkmark		×		
CB15				×					
CB16				×					\checkmark



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