


Optimal recycling of reclaimed asphalt pavement

01/11/2016 - 31/12/2020

Recyclage optimal des agrégats de béton bitumineux dans les chaussées à faible trafic
Optimales Recycling von Ausbauasphalt auf verkehrsschwachen Straßen

FINAL ANNUAL MEETING 02/12/2020

Coordinator : C. Chazallon

INSA Strasbourg / ICube (UMR 7357, CNRS, Université de Strasbourg)

- The ORRAP project is supported by the INTERREG Upper Rhine program from the ERDF (European Regional Development Fund) to the tune of 622 553€ and by the Swiss Confederation, Canton Basel-Landschaft Canton Aargau.
- ORRAP started in November 2016 with a total budget of 1.48 M€.
- It lasts : 50 months

Support :	
Partners :	
Associated partners :	

• Objectives

- New RAP recycling strategy
 - To achieve an optimum formulation of the granular mixtures made of RAP which can be used in a **base layer with their own self-binding properties**, taking into account the **mechanical**, **thermal** and **hydraulic** properties of the mixture.
 - RAP from recycling centers (homogeneous or non-homogeneous (mixtures), containing PAHs or not)

- Assessment of economic and environmental impact
 - The implementation of this technique in our regions will be studied both from an **economic** and **environmental** point of view.
 - A **risk analysis** will be carried out.

- Provision of useful **recommendations** for practitioners with a technical guide.

• Methods

**WP2- Study of the self-binding properties of RAP (design of a granular mixture)
(~ 30 months)**

CEREMA , EMPA, FHNW, HsKA, INSA

**WP3- Economic and environmental studies : estimation of the deployment of
this technique at the level of the Upper Rhine region (~ 11 months)**

HsKA, CEREMA, FHNW, INSA

WP4- Full scale tests section and Final guide (best practice) (~ 12 months)

CEREMA, EMPA, FHNW, HsKa, INSA and CD67, Kanton BL

• Scientific production

		Papers/communications many partners	Papers/communications one partner
International	Journal paper	2 published, 1 to be submitted	
	Conference papers	6	
National (French/German)	Journal paper		2
	Conference papers	2	2
Dissemination	Communications		2
	Ph D.	1	
	Deliverables or annexes	12	



• Scientific production

- ICBBM EcoGrafi, Clermont Ferrand, France, 2017
- 36th University Meetings of Civil Engineering in France, Saint Etienne, June 2018
- Club PEER Cotita Est, October 2018, in: Metz, France.
- Kolloquim Strassenbau in der Praxis, Stuttgart, 2019
- ISDCG Glasgow UK, 2019
- **ASCE T&D IAHP**C, Chicago USA, 2019
- **EATA**, Grenada, 2019, oral presentation
- Cerema's Road Technical Days in 2019 and 2020.
- **ISAP 2019** 5th International Symposium on Asphalt Pavement and Environment (APE) - conference, presentation and Paper
- January 2020 : Presentation to the délégation du grand duché du Luxembourg.
- **RMPD** Workshop, Cartagena, Colombia, 19. – 20. February 2020
- **ISBM** 2020 : 1 paper selected for oral presentation

- Paper in the and paper in the International Journal of Road Materials and Pavements Desing 06/2019 / International journal of Transportation and Geotechnics 01/2020 / Straße und Autobahn 10/2018 / Energie- und Materialflüsse im Straßenbau

- **Presentations**

TIME	SUBJECT	SPEAKER
1:30 -1:45	Introduction	Cyrille CHAZALLON (15')
1:45 -2:45 + 5'P.+10'Questi ons.	WP2 : Study of the self-binding properties of RAP (design of a granular mixture)	<u>Cyrille CHAZALLON (5')</u> Arnaud FEESER (15'), Hartmut HERB(15'), Laura GAILLARD (15'), Christiane RAAB (15')

- **Presentations**

<p>03.00- 03:40 + 10'Questions</p>	<p>WP3 : Economic and environmental studies : estimation of the deployment of this technique (Upper Rhine region)</p>	<p><u>Christian HOLLDORB (25')</u>, Amina BRZUSKA, Anders NÄTTORP (15')</p>
<p>BREAK 15'</p>		

• Presentations

04:05- à 4:35 + 10'Questions	WP4: Test sections	<u>Hugues ODEON (15')</u> , <u>Christiane Raab (15')</u>
04:45 - 05:10	Technical guide for contractors, owners, stakeholders, companies.	<u>Arnaud FEESER (20')</u> , <u>Christian HOLLDORB (5')</u>
05:10 – 05:20	Discussion / Closing (Cyrille Chazallon : 10')	

Have a nice meeting !