

LMDC

LISTE DES PUBLICATIONS ET AUTRES PRODUCTIONS 2008

I. PUBLICATIONS

I.1 ARTICLES DANS DES REVUES INTERNATIONALES AVEC COMITE DE LECTURE

- ACL 1 **Auger J., Yssorche-Cubaynes M.-P., Lorente S., Demilecamps L., Cussigh F.**
Ionic access through porous media with distributed electrodes
J. Applied Physics, Vol 104, 084913, 2008
- ACL 2 **Bejan A., Lorente S.**
Vascularized multi-functional materials and structures
Advanced Material Research, Vol 47-50, pp 511-514, 2008
- ACL 3 **Bejan A., Lorente S., Lee J.**
Unifying constructal theory of tree roots, canopies and forests
Journal of Theoretical Biology, Volume 254, Issue 3, 7 October 2008, Pages 529-540
- ACL 4 **Breyse D., Klysz G., Dérobert X., Sirieix C., Lataste J.F.**
How to combine several non-destructive techniques for a better assessment of concrete structures
Cement and Concrete Research, Volume 38, Issue 6, June 2008, Pages 783-793
- ACL 5 **Camps G., Turatsinze A., Sellier A., Escadeillas G., Bourbon X.**
Steel-fibre-reinforcement and hydration coupled effects on concrete tensile behaviour
Engineering Fracture Mechanics, 75(2008), pages 5207-5216
- ACL 6 **Carles Gibergues A., Cyr M., Moisson M., Ringot E.**
A simple way to mitigate alkali-silica reaction
Materials & Structures, Volume 40, N°1, Pages 73-83, January 2008
- ACL 7 **Codina M., Cau-dit-Coumes C., Le Bescop P., Verdier J., Ollivier J.-P.**
Design and characterization of low-heat and low-alkalinity cements
Cement and Concrete Research, Volume 38, Issue 4, April 2008, Pages 437-448
- ACL 8 **Coutand M., Cyr M., Deydier E., Guilet R., Clastres P.**
Characteristics of industrial and laboratory meat and bone meal ashes and their potential applications
Journal of Hazardous Materials, Volume 150, Issue 3, 11 February 2008, Pages 522-532
- ACL 9 **Cyr M., Rivard P., Labrecque F., Daidié A.**
High pressure device for fluid extraction from porous materials - Application to cement-based materials
Journal of the American Ceramic Society, Volume 91, Issue 8, August 2008, Pages 2653-2658
- ACL 10 **Dérobert X., laquenta J., Klysz G., Balayssac J.-P.**
Use of capacitive and GPR techniques for the non-destructive evaluation of cover concrete
NDT & E International, Volume 41, Issue 1, January 2008, Pages 44-52

- ACL 11 **Grimal E., Sellier A., LePape Y., Bourdarot E.**
Creep, Shrinkage, and Anisotropic Damage in Alkali-Aggregate Reaction Swelling Mechanism - Part I: A Constitutive Model
ACI Materials Journal, Vol. 105, N° 3, May-June 2008, pp 227-235
- ACL 12 **Grimal E., Sellier A., LePape Y., Bourdarot E.**
Creep, Shrinkage, and Anisotropic Damage in Alkali-Aggregate Reaction Swelling Mechanism- Part II: Identification of Model Parameters and Application
ACI Materials Journal, Vol. 105, N° 3, May-June 2008, pp 236-242
- ACL 13 **Habert G., Choupay N., Montel J.M., Guillaume D., Escadeillas G.**
Effects of the secondary minerals of the natural pozzolans on their pozzolanic activity
Cement and Concrete Research, Volume 38, Issue 7, July 2008, Pages 963-975
- ACL 14 **Ismail M., Toumi A., François R., Gagné R.**
Effect of crack opening on local diffusion of chloride in cracked mortar samples
Cement and Concrete Research, Vol. 38/8-9 pp 1106-1111, 2008
- ACL 15 **Kim S., Lorente S., Bejan A., Miller W., Morse J.**
The emergence of vascular design in three dimensions
J. Applied Physics, Vol 103(12), 123511
- ACL 16 **Klysz G., Balaýssac J.-P., Ferrières X.**
Evaluation of dielectric properties of concrete by a numerical FDTD model of a GPR coupled antenna - Parametric study
NDT & E International, Volume 41, Issue 8, December 2008, Pages 621-631
- ACL 17 **Lee J., Kim S., Lorente S., Bejan A.**
Vascularization with trees matched canopy to canopy: Diagonal channels with multiple sizes
International Journal of Heat and Mass Transfer, Volume 51, Issues 7-8, April 2008, Pages 2029-2040
- ACL 18 **Mouret M., Escadeillas G., Bascoul A.**
Metrological significance of the column test in the assessment of the static segregation of self-compacting concrete in the fresh state
Materials and structures, Volume 41, Issue 4, May 2008, Pages 663-679
- ACL 19 **Multon S., Cyr M., Sellier A., Leklou N., Petit L.**
Coupled effects of aggregate size and alkali content on ASR expansion
Cement and Concrete Research, Vol. 38, Issue 3, March 2008, Pages 350-359
- ACL 20 **Sellier A., Bourdarot E., Multon S., Cyr M., Grimal E.**
Combination of structural monitoring and laboratory tests for the assessment of AAR-swelling - Application to a gate structure dam
ACI Materials Journal, Vol. 106, N° 3, May-June 2008, pp 281-290.
- ACL 21 **Tran Q.-T., Toumi A., Turatsinze A.**
Thin bonded cement-based overlays: numerical analysis of factors influencing their debonding under monotonic loading
Materials and structures, Volume 41, Issue 5, June 2008, Pages 863-877
- ACL 22 **Tran Q.-T., Toumi A., Turatsinze A.**
Thin bonded cement-based overlays: numerical analysis of factors influencing their debonding under fatigue loading
Materials and structures, Volume 41, Issue 5, June 2008, Pages 951-967

- ACL 23 **Turatsinze A., Garros M.**
On the modulus of elasticity and strain capacity of self compacting concrete incorporating rubber aggregates
Resources, Conservation & Recycling Journal, Vol. 52, N° 10, August 2008, pages 1209–1215
- ACL 24 **Viriyametanont K., Laurens S., Klysz G., Balayssac J.-P., Arliguie G.**
Radar survey of concrete elements: Effect of concrete properties on propagation velocity and time zero
NDT & E International, Volume 41, Issue 3, April 2008, Pages 198-207
- ACL 25 **Voinitchi D., Julien S., Lorente S.**
The relation between electrokinetics and chloride transport through cement-based materials,
Cement and Concrete Composites, Vol.30, Issue 3, March 2008, Pages 157-166
- ACL 26 **Wardeh G., Perrin B.**
Freezing–thawing phenomena in fired clay materials and consequences on their durability
Construction and Building Materials, Volume 22, Issue 5, May 2008, Pages 820-828
- ACL 27 **Wardeh G., Perrin B.**
Numerical modelling of the behaviour of consolidated porous media exposed to frost action
Construction and Building Materials, Volume 22, Issue 4, April 2008, Pages 600-608

I.2 ARTICLES DANS DES REVUES AVEC COMITE DE LECTURE NON REPERTORIEES

- ACLN 1 **Buffo-Lacarrière L.**
Application structurale d'un modèle THCM pour le béton au jeune âge.
European Journal of Environmental and Civil Engineering, Vol. 12, n°4, pp. 407-428
- ACLN 2 **Cassagnabère F., Mouret M., Escadeillas G., Broilliard P.**
Effet du métakaolin flash sur les propriétés d'un béton filé pour la confection d'éléments préfabriqués
Annales du Bâtiment et des Travaux Publics, n°3, 2008
- ACLN 3 **Coronelli D., Castel A., Vu N.-A., François R.**
Deterioration of Prestressed Structures: Modelling of Corrosion Phenomena and Structural Effects
Studies and Researches, Vol. 28, Issue 8, Pages 39-78, Dec 2008
- ACLN 4 **Elmir M., Mhedaoui R., Castel A., Hamouine A., François R.**
Vibratory Analysis of a Composite Beam (Reinforced Concrete) Subject to the Corrosion
International Review of Mechanical Engineering (IReMe), n°1, pp.91-96, Jan 2009
- ACLN 5 **Ho A.-C., Turatsinze A., Vu D.-C.**
The properties of rubberized concrete and its application for concrete large area
Bridge and Highway Magazine, n°10 2008, pp 17-27
- ACLN 6 **Nguyen X.-S., Duprat F., Sellier A., Pons G.**
Méthode du gradient projeté avec contrôle d'erreur : une méthode simple et efficace en fiabilité des structures
Revue Européenne de Mécanique Numérique, Volume 17, Pages 1039-1056

I.3 CONFERENCES INVITEES

- INV 1 **Balayssac J.-P., Laurens S., Arliquie G., Fortuné I.**
SENSO: a french project for the evaluation of concrete structures by combining non destructive methods
Sacomatis RILEM conference, Varenna, Italy, 1-2/9/2008
- INV 2 **Bertron A., Duchesne J.**
A review on the degradation of cementitious materials by organic acids in agricultural effluents
CIGR International Conference of Agricultural Engineering, VIth International Symposium on Cement Based Materials for a Sustainable Agriculture - CSA'2008, Brazil, Foz De Iguazu, August 31 to September 4, 2008
- INV 3 **Buffo-Laccarière L., Sellier A., Escadeillas G., Turatsinze A.**
Prévision numérique de la fissuration précoce des ouvrages en béton
9^{èmes} Journées scientifiques du (RF)²B, Ecole Polytechnique Fédérale de Lausanne, Lausanne (Suisse), 28-30 août 2008
- INV 4 **Escadeillas G., Cassagnabère F., Magniont C., Tafraoui A.**
Les matériaux argileux calcinés dans les matériaux à matrices cimentaires sont-ils aujourd'hui des matériaux d'avenir après avoir été des matériaux du passé ?
9^{èmes} Journées scientifiques du (RF)²B, Ecole Polytechnique Fédérale de Lausanne, Lausanne (Suisse), 28-30 août 2008
- INV 5 **Lorente S.**
Vascularized materials as designed porous media
Seminar Lawrence Livermore National Laboratory, USA, 10-11mars 2008
- INV 6 **Lorente S.**
Decontamination of nuclear waste areas: constructal placement of electrodes
NATO Advanced Research Workshop - Constructal Human Dynamics, Security and Sustainability, Evora (Portugal), 20-23 mai 2008
- INV 7 **Lorente S.**
Tree-shaped networks for distribution collection and cooling
Seminar Lawrence Livermore National Laboratory, USA, 10-11mars 2008
- INV 8 **Lorente S.**
Design with constructal theory: vascularized and distributed energy systems
6th Int conf on Heat Transfer, Fluid Mechanics and Thermodynamics , Pretoria, Afrique du Sud, 30 juin-2 juillet 2008
- INV 9 **Lorente S.**
Vascular and distributed energy systems
Int. Workshop Shape and Thermodynamics, Florence, Italie, 25-26 sept. 2008
- INV 10 **Lorente S., Auger J.**
Constructal transport through porous media
Seminar Lawrence Livermore National Laboratory, USA, 10-11mars 2008
- INV 11 **Lorente S., Bejan A.**
Vascular Structures for Cooling with Grids and Radial Channels
10th Electronics Packaging Technology Conference, Singapour, 9-12 December 2008

- INV 12 **Nicot P., Balayssac J.-P., Détriché C.-H., Ruot B., Devès O.**
Interface characterization between substrate and polymer-modified mortars, devices and results
CEReM General Meeting, 03-04 Avril 2008, Paris
- INV 13 **Ringot E.**
Esthétique et Durabilité : derniers développements de protection et de décoration des matériaux de construction
9^{èmes} Journées scientifiques du (RF)2B, Ecole Polytechnique Fédérale de Lausanne, Lausanne (Suisse), 28-30 août 2008
- INV 14 **Vidal T.**
Les approches scientifiques du BAP
Journée technique sur les BAP - Les apports du Projet National de R&D - Salon Professionnel du B.T.P. - Parc des Expositions – Toulouse, mars-08

I.4 COMMUNICATIONS AVEC ACTES DANS UN CONGRES INTERNATIONAL

- ACTI 1 **Amba J.-C., Balayssac J.-P., Détriché C.-H., Rimlinger, Curt**
Characterization of shrinkage gradients in a layer of cementitious material applied on a substrate
Concreep 8: 8th International Conference on Creep, Shrinkage and Durability of Concrete and Concrete Structures, 30 September - 2 October 2008, Ise-Shima, Japan
- ACTI 2 **Bejan A., Lorente S.**
Engineering design with constructal theory
7th annual ASEE Global Colloquium, Cape Town (Afrique du Sud), 19-23 October 2008
- ACTI 3 **Bejan A., Lorente S.**
Vascularized multi-functional materials and structures
Int. Conf. on multifunctional materials and structures, Hong Kong (Chine), 28-31 July 2008
- ACTI 4 **Camps G., Turatsinze A., Sellier A., Escadeillas G., Bourbon X.**
Modeling of mechanical behaviour of steel fibre-reinforced concrete in a chemical evolution context
3rd Int. Conf. on coupled T-H-M-C processes in geo-systems, Lille (France), June 2-6, 2008
- ACTI 5 **Deby F., Carcassès M., Sellier A.**
A new way for durability design of reinforced concrete in marine environment by probabilistic approach
1st Int Conf. on Construction Heritage in Coastal and Marine Environment, MEDACHS, Lisbonne, Portugal, 28-30 janvier 2008
- ACTI 6 **Deby F., Carcassès M., Sellier A.**
The probabilistic method: an efficient tool to take into account the parameters variability of modeling for durability design process
3rd International Conference on coupled T-H-M-C processes in geo-systems, Lille (France), June 2-6, 2008
- ACTI 7 **Domède N., Sellier A.**
Assessment method of masonry arch bridges
12th Int. Conf. Structural Faults & Repair – 2008, 10-12 juin 2008 Edimbourg
- ACTI 8 **Fernandez L., Bonneaud F., Lorente S.**
Environmental quality of materials: software tools of pertaining to architectural quality
PLEA 2008, 25th Conference on Passive and Low Energy Architecture, Dublin (Irlande), 22-24 October 2008

- ACTI 9 **Gonzalez F., Fajardo G., Arliguie G., Juarez C., Escadeillas G.**
 Realcalinizacion electroquimica de concreto reforzado parcialmente carbonatado utilizando electrolitos de K_2CO_3 y Na_2CO_3
VII NACE Mexican Section Corrosion Congress in XVII International Materials Research Congress, Cancun (Mexique), 17-21 Agosto 2008
- ACTI 10 **Grimal E., Sellier A., Multon S., Le Pape Y., Bourdarot E.**
 Concrete modeling for expertise of structures affected by alkali aggregate reaction
13th Int. Conf. on Alkali Aggregate Reaction, Trondheim (Norvège), juin-08
- ACTI 11 **Ho A.-C., Turatsinze A., Vu D.-C.**
 On the potential of rubber aggregates obtained by grinding end-of-life tyres to improve the strain capacity of concrete
Int. Conf. on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR2008), Cape Town (South Africa), 24 - 26 November 2008
- ACTI 12 **Kim S., Lorente S., Bejan A.**
 Design with constructal theory: vascularized composites for volumetric cooling
ASME, Boston, USA, 31octobre-6novembre 2008
- ACTI 13 **Kreit A., Al-Mahmoud F., Castel A., François R.**
 Corroded RC beam repaired with near-surface mounted CFRP rods
Int. Conf. on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR2008), Cape Town (South Africa), 24 - 26 November 2008
- ACTI 14 **Magniont C., Escadeillas G., Oms-Multon C., De Caro P.**
 Effects of incorporation of glycerol carbonate and flax into a pozzolanic matrix
Orgagec'08, Paris (France), 27-29 August 2008
- ACTI 15 **Magniont C., Escadeillas G., Oms-Multon C., De Caro P., Bertron A.**
 Development of an eco-friendly building material using agrosources
CIGR – Int. Conf. of Agricultural Engineering, Iguazu (Brésil), 31 August-4 September 08
- ACTI 16 **Multon S., Cyr M., Sellier A., Diederich P., Petit L.**
 Effect of aggregate size and alkali content on ASR expansion
13th Int. Conf. on Alkali Aggregate Reaction, Trondheim (Norvège), juin-08
- ACTI 17 **Nguyen T.-B., Husson B.**
 Toward an approach of the development of a compliance test
International Symposium on Sediments Management (I2SM), Lille, July 9-11th, 2008
- ACTI 18 **Nguyen T.-S., Lorente S., Carcassès M.**
 Chloride diffusion through CEM-I and CEM-V mortars: influence of the temperature
1st Int Conf. on construction Heritage in Coastal and Marine Environment, MEDACHS, Lisbonne (Portugal), 28-30 January 2008
- ACTI 19 **Perrin B., Wardeh G.**
 Strains of fired clays submitted to freezing and thawing cycles: Identification of liquid pressure developed in the pore volume.
CrysPoM, Mai 22-23, 2008, Institut Navier, France, Institut Navier, 22-23 mai 2008
- ACTI 20 **Sellier A., Bourdarot E., Multon S., Cyr M., Grimal E.**
 Assessment of the residual expansion for expertise of structures affected by AAR
13th Int. Conf. on Alkali Aggregate Reaction, Trondheim (Norvège), juin-08

- ACTI 21 **Wardeh G., Perrin B.**
Numerical modelling of the behaviour of consolidated porous media submitted to frost action
CrysPoM, Mai 22-23, 2008, Institut Navier, France, Institut Navier, 22-23 mai 2008

I.5 COMMUNICATIONS AVEC ACTES DANS UN CONGRES NATIONAL

- ACTN 1 **Ayed K., Vidal T., Pons G., Benaissa A.**
Influence du type d'additions minérales sur les déformations différées des BAP
Colloque National sur les Variations Dimensionnelles des Géomatériaux, Saint-Nazaire (France), 3 et 4 avril 2008
- ACTN 2 **Balayssac J.-P., Laurens S., Arliquie G.**
Evaluation de l'état des ouvrages en béton par combinaison de techniques non destructives
Journées COFREND, 20-23 mai 2008, Toulouse
- ACTN 3 **Deby F., Carcassès M., Sellier A.**
Dimensionnement probabiliste de la durabilité des bétons en environnement marin
JNFIAB, Nantes, 26-28 mars 2008
- ACTN 4 **Duprat F., Sellier A., Nguyen X.-S.**
L'algorithme du gradient projeté avec contrôle d'erreur pour la fiabilité structurale
Journées Nationales de Fiabilité des Matériaux et des Structures - JNFIAB'08, 26-28 mars 2008, Nantes
- ACTN 5 **Hyvert N., Sellier A., Duprat F., Rougeau P., Francisco P.**
Mieux appréhender la durabilité des bétons par l'approche probabiliste
Journées Nationales de la fiabilité, JNFIAB, Nantes, 26-28 mars 2008
- ACTN 6 **Leklou N., Aubert J.-E., Escadeillas G.**
Corrélation entre variations dimensionnelles d'éprouvettes de mortiers et de bétons atteintes de réaction sulfatique interne et évolution de la fissuration par observations microscopiques
Colloque National sur les Variations Dimensionnelles des Géomatériaux, Saint-Nazaire (France), 3 et 4 avril 2008
- ACTN 7 **Pauletti C., Ollivier J.-P., Verdier J., Dal Molin D.-C.-C., Kasmerczack C.-S.**
Utilização de modelo de carbonatação para simulação do fenomeno em condições aceleradas e comparação com dados de ensaios experimentais
XII Encontro Nacional de Tecnologia do Ambiente Construido, 2008, Fortaleza (Brésil)

I.6 COMMUNICATIONS ORALES SANS ACTES DANS UN CONGRES INTERNATIONAL OU NATIONAL

- COM 1 **Coutand M.**
Une voie de valorisation innovante pour les cendres de farines animales
26^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2008 - Prix jeune chercheur, Juin 2008, Nancy
- COM 2 **Deby F.**
Approche probabiliste de la durabilité des bétons en environnement marin
26^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2008 - Prix jeune chercheur, Juin 2008, Nancy

- COM 3 **François R., Castel A., Zhang R.**
Comportement mécanique en service et à rupture d'éléments en béton armé dégradés par corrosion naturelle pendant 25 ans
Assemblée générale APPLÉT, Juin 2008, PARIS
- COM 4 **Ho A.-C., Turatsinze A., Vu D.-C.**
Properties of rubberized concretes and application for concrete large area
Institute of Transport Science and Technology (ITST), Hanoi (Viet Nam), July 31, 2008
- COM 5 **Hyvert N., Sellier A., Duprat F., Rougeau P., Francisco P.**
Intérêt de l'approche probabiliste pour l'optimisation de la durabilité des produits en béton
26^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2008, Juin 2008, Nancy
- COM 6 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
Protect'it, Février 2008, Dublin (Ireland)
- COM 7 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
Byg Clean, Mars 2008, Curitiba (Brasil)
- COM 8 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
All Remove, Avril 2008, Copenhagen (Danmark)
- COM 9 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
Guard Industrie, Septembre 2008, Montreuil (France)
- COM 10 **Ringot E.**
"Workshop Protecting & colouring building materials Products and services", Octobre 2008, Athens (Greece)
- COM 11 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
Safra, Octobre 2008, Verone (Italia)
- COM 12 **Ringot E.**
"Aesthetics & Protection of Buildings Materials - Latest developments in the technology of surface protection for building materials"
ACE Tech Mumbai, Novembre 2008, Mumbai (India)

I.7 OUVRAGES SCIENTIFIQUES OU CHAPITRES D'OUVRAGES

- OS 1 **Baroghel-Bouny V., Capra B., Laurens S.**
La durabilité des Bétons - Chapitre 9 : La durabilité des armatures et du béton d'enrobage – pp 303-386
Presses de l'ENPC, ISBN 978-2-85978-434-8
- OS 2 **Corronelli D., Castel A., Vu N.-A., François R.**
Deterioration of prestressed structures: modelling of corrosion phenomena and structural effects
Editors: A. Migliacci, P. G. Gambarova, P. Ronca, Starrylink Editrice
- OS 3 **Escadeillas G., Hornain H.**
La durabilité des Bétons - Chapitre 12 : La durabilité des bétons vis-à-vis des environnements chimiquement agressifs – pp 613-706
Presses de l'ENPC, ISBN 978-2-85978-434-8
- OS 4 **Ollivier J.-P., Torrenti J.-M.**
La durabilité des Bétons - Chapitre 3 : La structure poreuse des bétons et les propriétés de transfert - pp51-134
Presses de l'ENPC, ISBN 978-2-85978-434-8
- OS 5 **Pons G., Torrenti J.-M.**
La durabilité des Bétons - Chapitre 5 : Le retrait et le fluage – pp 167-216
Presses de l'ENPC, ISBN 978-2-85978-434-8

I.8 DIRECTION D'OUVRAGES

- DO 1 **Bejan A., Lorente S.**
Design with Constructal Theory
Wiley ISBN 978-0-471-99816-7
- DO 2 **Ollivier J.-P., Vichot A.**
La durabilité des Bétons (Direction d'ouvrage)
Presses de l'ENPC, ISBN 978-2-85978-434-8