

LMDC

LISTE DES PUBLICATIONS ET AUTRES PRODUCTIONS 2006

I. PUBLICATIONS

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

- ACL 1 **Assié S., Escadeillas G., Marchese G., Waller V.**
Durability properties of low-resistance self-compacting concrete,
Magazine of Concrete Research, February 2006, 58, n°1, 1-7
- ACL 2 **Aubert J.-E., Husson B., Sarramone N.**
Utilization of municipal solid waste incineration (MSWI) fly ash in blended cement.
Part 1: Processing and characterization of MSWI fly ash
Journal of Hazardous Materials, Vol. 136/3 624-631 (2006)
- ACL 3 **Bégué P., Lorente S.**
Migration versus Diffusion through Porous Media: Time-Dependent Scale Analysis
Revue J. Porous Media, Volume 9, issue 7, pp 637-650
- ACL 4 **Bejan A., Lorente S.**
Design with constructal theory
Int. J. Engineering Education, Vol. 22(1), pp. 140-147, 2006
- ACL 5 **Bejan A., Lorente S.**
Constructal theory of generation of flow configuration in nature and engineering
J. Applied Physics, Applied Physics Reviews, Vol. 100(4), 041301 1-27, 2006
- ACL 6 **Bejan A., Lorente S., Wang K.M.**
Networks of channels for self-healing composite materials
J. Applied Physics, Vol. 100, pp. 033528 1-6, 2006
- ACL 7 **Castel A., Vidal T., François R.**
Effective tension active cross-section of reinforced concrete beams after cracking,
Materials and Structures, Vol. 39, n°1, pp. 103-113, 2006
- ACL 8 **Castel A., Vidal T., Viriyametanont K., François R.**
Effect of reinforcing bar orientation and location on bond with self-compacting concrete
ACI Structural Journal, Vol. 103, n°4, pp. 559-567, 2006
- ACL 9 **Cyr M., Lawrence P., Ringot E.**
Efficiency of mineral admixtures in mortars - Quantification of the physical and chemical effects of
fine admixtures in relation with compressive strength
Cement and Concrete Research, 36 (2) (2006) 264-277
- ACL 10 **Cyr M., Ludmann C.**
Low risk meat and bone meal (MBM) bottom ash in mortars as sand replacement
Cement and Concrete Research, 36 (3) (2006) 469-480

- ACL 11 **Da Silva A.K., Lorente S., Bejan A.**
Constructal multi-scale structures for maximal heat transfer density
Energy, Vol. 31(5), pp. 620-635, 2006
- ACL 12 **Duprat F., Sellier A.**
Probabilistic approach to corrosion risk due to carbonation via an adaptive response surface method
Probabilistic Engineering Mechanics, 21, 2006, p. 207-216
- ACL 13 **Fajardo G., Escadeillas G., Arliguie G.**
Electrochemical chloride extraction (ECE) from steel reinforced concrete specimens contaminated by " artificial " seawater
Corrosion Science, Volume 48, Issue 1, January 2006, Pages 110-125
- ACL 14 **François R., Castel A., Vidal T.**
A finite element for corroded Reinforced Concrete
Materials and Structures, Vol. 39, n°5, pp.569-582, 2006
- ACL 15 **François R., Castel A., Vidal T., Vu N.-A.**
Long term corrosion behaviour of reinforced concrete structures in chloride environment
The European Physical Journal, Journal de Physique IV, Vol 136, pp. 285-289, (2006)
- ACL 16 **Ismail M., Gagné R., François R., Toumi A.**
Measurement and modeling of gas transfer in cracked mortars
Materials & Structures, Vol. 39, n°1, pp. 43-52, 2006
- ACL 17 **Kim S., Lorente S., Bejan A.**
Vascularized materials: tree-shaped flow architectures matched canopy to canopy
J. Applied Physics, Vol. 100(6), 063525 1-8, 2006
- ACL 18 **Klysz G., Ferrieres X., Balayssac J.-P., Laurens S.**
Simulation of direct wave propagation by numerical FDTD for a GPR coupled antenna
NDT&E international (Non-Destructive Testing and Evaluation), Vol.39, issue 4, June 2006, pp. 338-347
- ACL 19 **Lorente S., Bejan A.**
Heterogeneous porous media as multiscale structures for maximum flow access
Journal of Applied Physics, Vol. 100(11), 114909, 2006
- ACL 20 **Lorente S., Ollivier J.-P.**
Scale analysis of electrodiffusion through porous media
J. Porous Media, Vol. 9(4), 2006
- ACL 21 **Nguyen T.-S., Lorente S., Carcassès M.**
Influence of the temperature on the chloride transport through cementitious materials,
The European Physical Journal, Journal de Physique IV, Vol 136, pp.63-70, (2006)
- ACL 22 **Orellan J.-C., Escadeillas G., Arliguie G.**
Electrochemical chloride extraction (ECE): Influence of C3A of the cement treatment efficiency
Cement and Concrete Research, 36 (2006) 1939-1946
- ACL 23 **Perlot C., Verdier J., Carcassès M.**
Influence of cement type on transport properties and chemical degradation: application to nuclear waste storage
Materials & Structures, Vol. 39, n°5, p. 511-522, 2006

- ACL 24 **Rocha L.A.O., Lorente S., Bejan A.**
Conduction tree Networks with Loops for Cooling a Heat generating
Int. J. Heat Mass Transfer, Vol. 49, pp. 2626-2635, 2006
- ACL 25 **Sbartai Z.-M., Laurens S., Balayssac J.-P., Arliquie G., Ballivy G.**
Ability of the direct wave of radar ground-coupled antenna for NDT of concrete structure
NDT & E International, Volume 39, Issue 5, July 2006, pp 400-407
- ACL 26 **Sbartai Z.-M., Laurens S., Balayssac J.-P., Ballivy G., Arliquie G.**
Effect of concrete moisture on radar signal amplitude
ACI Materials Journal, Vol.103, n°6, Nov. 2006, pp418-426
- ACL 27 **Soylev A., François R.**
Effects of bar placement conditions on steel-concrete bond
Materials & Structures, Vol. 39, n°2, pp. 187-195, 2006
- ACL 28 **Tran Q.-T., Toumi A., Granju J.-L.**
Experimental and numerical investigation of the debonding interface between an old concrete and an overlay
Materials & Structures, 39, 379-389, 2006
- ACL 29 **Turatsinze A., Bonnet S., Granju J.-L.**
Positive synergy between steel-fibres and rubber aggregates: effect on the resistance of cement-based mortars to shrinkage cracking
Cement and Concrete Research, Vol 36, N°9, pp : 1692-1697, 2006
- ACL 30 **Wang K.M., Lorente S., Bejan A.**
Vascularized networks with two optimized channel sizes
Journal of Physics D, Vol. 39, pp. 3086-3096, 2006
- ACL 31 **Wardeh G., Perrin B.**
Analysis of strains of baked clays based materials during freezing cycles
Journal of Building Physics, Vol. 29, 201-217, N°3/ January 2006
- ACL 32 **Wardeh G., Perrin B.**
Identification of liquid pressure in pores of baked clay tiles during freezing-thawing cycles
Journal of Building Physics, Vol 29, 269-279 N°4 / April 2006
- ACL 33 **Wardeh G., Perrin B.,**
Relative permeabilities of cement-based materials: influence of the tortuosity function
Journal of Building Physics, Vol 30, pages 39-57, N° 5/ July 2006
- ACL 34 **Wechsato W., Lorente S., Bejan A.**
Tree-shaped flow structures with local junction losses
Int. J. Heat Mass Transfer, Vol.49, pp. 2957-2964, 2006

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

- ACLN 1 **Balayssac J.-P., Arliquie G., Klysz G., Frine A., Lataste J.-F., Dérobert X.**
Evaluation non destructive du béton d'enrobage. Approche multi-technique
Revue Européenne de Génie Civil, Vol. 10, n° 8, pp. 913-932, 2006

- ACLN 2 **Buffo-Lacarrière L., Sellier A., Bourbon X.**
Concrete mechanical behaviour and calcium leaching weak coupling
Revue Européenne de Génie Civil, Vol. 10, n° 9, pp. 1147-1175, 2006
- ACLN 3 **Cornac S., Oms-Multon C., Escadeillas G., De Caro P.**
Influence d'éco-produits réducteurs de retrait sur les caractéristiques des mortiers
Annales du Bâtiment et Travaux Publics, n°5, pp.27-30, 2006
- ACLN 4 **Coutand M., Cyr M., Clastres P.**
Use of sewage sludge ash (SSA) as mineral admixture in cement-based materials
Construction Materials, Vol. 159, n°CM4, pp.153-162, 2006
- ACLN 5 **Cyr M., Aubert J.-E., Husson B., Clastres P.**
Management of mineral wastes in cement based materials
Revue Européenne de Génie Civil, Vol 10/3 323-339 (2006)
- ACLN 6 **Klysz G.**
Radar technique potential for evaluating water content of cover concrete
Revue Européenne de Génie Civil, Vol.10, n°2, 2006, pp. 209-224
- ACLN 7 **Klysz G., Lataste J-F., Frine A., Dérobert X., Piwakowski B., BuyleBodin F.**
Auscultation non destructive du chevêtre du pont de la marque (59) : combinaison de techniques
Revue Européenne de Génie Civil, Vol.10, n°1, 2006, pp. 7-24
- ACLN 8 **Mebrouki A., Cyr M., Bouhamou N., Belas Belaribi N.**
Valorisation de matériaux locaux - Etude du comportement mécanique de mortiers incorporant une pouzzolane naturelle algérienne
Annales du Bâtiment et des Travaux Publics, (3) (juin 2006) 29-36
- ACLN 9 **Oucief H., Turatsinze A., Fanutza K., Habita M.F.**
Hybrid fiber reinforced self-compacting concrete from formulation to mechanical behaviour
Afrique SCIENCE, Vol.2, N°2, pp : 163-175, 2006
- ACLN 10 **Perlot C., Ballivy G., Carcassès M., Bourbon X.**
The environmental permeameter - An original water permeability measurement replicating dynamical degradation
Revue Européenne de Génie Civil, Volume 10 - n° 9/2006
- ACLN 11 **Sellier A., Duprat F., Petre-Lazar I., Grimal E., Le Pape Y., Bourdarot E.**
Sensibilité aux paramètres aléatoires d'un modèle pour le calcul des structures en béton atteintes par la réaction alcali-silice
Revue Européenne de Génie Civil, 10, 2006, p. 549-563
- ACLN 12 **Tran Q.-T., Toumi A., Turatsinze A., Tran B.-V.**
Post-crack behaviour of structures using fibre reinforced mortar: experimental and numerical investigations
Journal of Building Science and Technology, Vietnam, N°1, 2006, pp. 19-23
- ACLN 13 **Turatsinze A.**
Incorporation de granulats en caoutchouc dans le béton
Techniques de l'Ingénieur, Juillet 2006 N° IN54 1- 9.
- ACLN 14 **Wardeh G., Perrin B., Laurent G., Poydemenge F.**
Freeze-thaw cycling resistance of clay roofing tiles
Ziegelindustrie International, Mars N°3 2006, pp 21-30

I.3 CONFERENCES INVITEES

- INV 1 **Escadeillas G.**
Les éco-matériaux dans la construction : Enjeux et perspectives
7^{ème} Edition des journées scientifiques du (RF)²B, Juin 2006, Toulouse
- INV 2 **Lorente S.**
Constructal transport through porous media
2nd Int. Symp. on Thermo-Fluid Science and Engineering, 18-19 Juillet 2006, Varna (Bulgarie)
- INV 3 **Lorente S.**
Constructal theory of tree-shaped flow systems, Géométries multi-échelle, théorie constructale et exergie
Séminaire de la Société Française de Thermique, Mars 2006, Nancy
- INV 4 **Lorente S.**
Tree flow networks for distribution and collection
Constructal Theory of Social Dynamics, Int. Seminar, 3-5 Avril 2006, Durham, NC (USA)
- INV 5 **Lorente S.**
Tree-shaped flow architectures
First Int. Symp. on Constructal Theory and Applications, Octobre 2006, Shanghai (Chine)
- INV 6 **Perrin B.**
A comparison between an experiment and modelling of moisture forced condensation.
Int. Council for Research and Innovation in Buildings, Commission W40, September 5-6 2006, Syracuse University, New-York State (USA)
- INV 7 **Perrin B.**
La problématique du gel dans les terres cuites
Journée Technique "Gel" du Centre Technique des Tuiles et Briques, 27 Janvier 2006, Clamart
- INV 8 **Pons G., Vidal T.**
Propriétés mécaniques des Bétons Auto-Plaçants
Journées scientifiques du Projet National B@P, 21-22 novembre 2006, IREX-FNTP, Paris
- INV 9 **Ringot E.**
Cosmétique des parements en béton : formulation colorimétrique des lasures de protection
7^{ème} Edition des journées scientifiques du (RF)²B, Juin 2006, Toulouse
- INV 10 **Ringot E.**
Gebäudedeckungen aus Beton, Bestimmungen, Probleme, Schutz
Conférence "Sichtbeton und nano-Technologie : Die neue Chance für Schutz und Gestaltung", 28 Juni 2006, Wildegg (Suisse)
- INV 11 **Ringot E.**
Kosmetische
Conf. "Sichtbeton und nano-Technologie : Die neue Chance für Schutz und Gestaltung", 28 Juni 2006, Wildegg (Suisse)
- INV 12 **Turatsinze A., Tran Q.-T., Toumi A.**
Debonding (Technical Session " Bonded Concrete Overlays - Recommendations and Applications")
ACI Fall Convention, November 5-9 2006, Denver Colorado (USA)

- INV 13 **Wardeh G.**
Le gel des tuiles: Expériences et modélisation
Comité Technique et Scientifique du CTTB, 04/01/2006, Clamart
- INV 14 **Wardeh G.**
La physique du gel en milieux poreux
Journée technique du CTTB Rencontre avec les industriels de la Terre Cuite, 27-janv-06
- INV 15 **Wardeh G., Perrin B.**
Numerical modelling of behaviour of porous media subjected to freezing-thawing cycle, importance of boundary conditions
Int. Council for Research and Innovation in Buildings, 5-6 Sept 2006, Syracuse University, New York (USA)

I.4 COMMUNICATIONS AVEC ACTES DANS UN CONGRES INTERNATIONAL

- ACTI 1 **Al-Mahmoud F., Castel A., François R., Tourneur C.**
Anchorage and tension stiffening effect between near surface mounted Carbon Fiber-Reinforced Polymer rods and concrete
2nd Int. Symp. Advances in Concrete through Science and Engineering, Québec (Canada), 2006
- ACTI 2 **Bégué P., Lorente S., Bourbon X.**
Chloride diffusion coefficient through porous materials: a disturbing parameter
Advances in Concrete through Science and Engineering, 2nd Int. RILEM Symposium, Québec (Canada), 2006
- ACTI 3 **Bejan A., Lorente S.**
Constructal tree-shaped flow structures
ASME ATI Conference: Energy, production, distribution, conservation, Milan (Italie), mai-06
- ACTI 4 **Bertron A., Duchesne J., Escadeillas G.**
Durability of various binders exposed to organic acids in manure
CANMET ACI Int. Conf. on Recent Advances in Concrete Technology, Montréal, (Canada), mai-06
- ACTI 5 **Codina M., Cau-Dit-Coumes C., Verdier J., Le Bescop P., Ollivier J.-P.**
Formulating a low alkalinity, High resistance and low heat concrete for radioactive waste repositories
Advances in Cement and Concrete, EPFL, Davos (Suisse), juil-06
- ACTI 6 **Duprat F., Sellier A., Nguyen X.-S., Pons G.**
Durability of concrete structures deteriorated by carbonation: FEM modelling coupled to probabilistic approach
Advances in Geomaterials and Structures AGS'06, Hammamet (Tunisie), 2006
- ACTI 7 **François R., Castel A., Vidal T.**
Modeling of the behavior of corroded reinforced concrete members
CANMET/ACI 7th International Conference on Durability of Concrete, ACI SP 212-5, V.M. Malhotra Editor, ACI SP-234-24, pp. 399-416, Montréal, (Canada), mai-06
- ACTI 8 **François R., Castel A., Vidal T., Vu N.-A.**
Long-term corrosion of reinforced concrete elements in chloride environment
International Workshop "NUCPERF 2006, Corrosion and Long Term Performance of Concrete in NPP and Waste Facilities" (EFC Event 284), Cadarache (France), mars-06

- ACTI 9 **Garros M., Turatsinze A.**
Effect of rubber aggregates on mechanical properties of Self Compacting Concrete
International Rubber Conference (IRC), Lyon (France), mai-06
- ACTI 10 **Garros M., Turatsinze A., Granju J.-L.**
Effect of Rubber Aggregates from grinding of end-of-life tires on the strain capacity of cement-based materials
8th CANMET/ACI Int. Conf. on Recent Advances in Concrete Technology, Montréal, (Canada), mai-06
- ACTI 11 **Khitab A., Lorente S., Ollivier J.-P.**
Chloride attack through concrete: time effects
7th CANMET-ACI Int. Conference on Durability of Concrete, Montréal, (Canada), mai-06
- ACTI 12 **Kim S., Wang K.-M., Lorente S., Bejan A.**
Vascularized materials: grids of channels and trees matched canopy to canopy
ASME Congress, Chicago (USA), nov-06
- ACTI 13 **Laurens S., Sbartai Z.-M., Kacimi S., Balayssac J.-P., Arliquie G.**
Prediction of concrete electrical resistivity using artificial neural networks
NDE Conference on Civil Engineering 2006 – ASNT, Saint-Louis (USA), août-06
- ACTI 14 **Lorente S., Bejan A.**
Heterogeneous porous media as multiscale structures for maximum flow access
13th Int. Heat Transfer Conference, Sydney (Australie), 13-août-06
- ACTI 15 **Nguyen T.-S., Carcassès M., Lorente S.**
Influence of the temperature on the chloride transport through cementitious materials
International Workshop "NUCPERF 2006, Corrosion and Long Term Performance of Concrete in NPP and Waste Facilities" (EFC Event 284), Cadarache (France), mars-06
- ACTI 16 **Poupard O., L'Hostis V., Catinaud S., Laurens S., Petre-Lazar I., Raharinaivo A.**
Characterizing Reinforced Concrete Beams Exposed During 40 Years in Natural Marine Environment - Presentation of the French Project "Benchmark Des Poutres De La Rance"
7th CANMET/ACI Int. Conference on Durability of Concrete, Montréal, (Canada), mai-06
- ACTI 17 **Robbe M., Scibba E., Bejan A., Lorente S.**
Numerical analysis of a tree-shaped cooling structure for a 2-D slab: a validation of a constructually optimal configuration
8th ASME Conf. on Engineering Systems Design and Analysis, Turin (Italie), 04-juil-06
- ACTI 18 **Saint-Pierre F., Sbartai Z.-M., Rivard P., Ballivy G.**
Characterization of the alkali-silica reaction by ultrasonic waves attenuation and resonant frequency
7th CANMET/ACI Int. Conference on Durability of Concrete, Montréal, (Canada), mai-06
- ACTI 19 **Tran Q.-T., Toumi A., Turatsinze A.**
Durability of an overlay-old concrete interface: on the role of a metal fibre reinforcement
BMC 8, edited by A.M. Brandt, V.C. Li and I.H. Marshall, Warsaw, (Pologne), 23-oct-06
- ACTI 20 **Tran Q.-T., Toumi A., Turatsinze A.**
Cement based overlays: modelling of the repair-substrate interface debonding
Int. Conf. on Nonlinear Analysis & Engineering Mechanics Today, 11 Décembre 2006, Hochiminh City (Vietnam)

- ACTI 21 **Voinitchi D., Julien S., Lorente S.**
Electrokinetic chloride extraction and effect of the electrical current on the chloride interactions with the cementitious solid phase
5th Int. Conference on Study and Control in the perspective of sustainable development of urban distribution grids (URB-COR), 18-mai-06
- ACTI 22 **Wechsato W., Lorente S., Bejan A., Ordonez J-C., Kosaraju S-C.**
Optimization of elemental flow passages of fluid flow networks
13th Int. Heat Transfer Conference, Sydney (Australie), 13-août-06

I.5 COMMUNICATIONS AVEC ACTES DANS UN CONGRES NATIONAL

- ACTN 1 **Bouanini M., Bascoul A., Mouret M., Sellier A.**
Hydrodynamic simulation of non newtonian fluid in an agitated vessel
COMSOL users conference 2006, Paris, nov-06 (In J. M. Petit and O. Squalli (eds), pp.41-44
- ACTN 2 **De La Asuncion C., Bertron A., Prêt D., Escadeillas G., Siitari-Kauppu M., Sannartino S., Amiri O., Sardini P.**
Distribution spatiale de la porosité des matériaux cimentaires et propriétés de transfert : approches méthodologiques pour leur caractérisation
Colloque national Transfert 2006, Propriétés de transfert des géomatériaux, Lille, févr-06
- ACTN 3 **Duprat F., Sellier A., Nguyen X.-S.**
Incidence de l'incertitude de l'état hydrique du béton sur la carbonatation : approche probabiliste
Colloque national Transfert 2006, Propriétés de transfert des géomatériaux, Lille, févr-06
- ACTN 4 **Gleyze P.-J.-P., Cyr M., Escadeillas G.**
Effects of metakaolin on autogenous shrinkage of cement pastes
IBRACON, Rio de Janeiro (Brésil), oct-06
- ACTN 5 **Kaid N., Khelafi H., Cyr M., Goufi N., Abidelah A.**
Durabilité d'un béton à base de la pouzzolane naturelle d'Algérie conservé dans deux milieux agressifs - Evaluation de l'effet pouzzolanique
First Euro Mediterranean in Advances on Geomaterials and Structures, May 3-5 2006, Hammamet (Tunisia)
- ACTN 6 **Nugue F., Yssorche-Cubaynes M.-P., Ollivier J.-P.**
Nouvelle exploitation de l'essai de diffusion
Colloque national Transfert 2006, Propriétés de transfert des géomatériaux, Lille, févr-06
- ACTN 7 **Perlot C., Verdier J., Carcassès M.**
Impact of aggregate nature on transfer properties of decalcified mortars
Colloque national Transfert 2006, Propriétés de transfert des géomatériaux, Lille, févr-06

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

- COM 1 **Codina M., Cau dit Caumes C., Verdier J., Le Bescop P.**
Formulation et caractérisation de bétons bas pH
24^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2006, Juin 2006, La Grande Motte (France)

- COM 2 **Cornac S., Oms-Multon C., Escadeillas G., De Caro P.**
Influence d'" éco-produits " réducteurs de retrait sur les caractéristiques des mortiers
24^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2006, Juin 2006, La Grande Motte (France)
- COM 3 **Hyvert N., Perlot C., Rougeau P., Sellier A., Duprat F.**
Approche probabiliste de la durabilité : intérêt pour l'optimisation des produits préfabriqués
24^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2006, Juin 2006, La Grande Motte (France)
- COM 4 **Wardeh G., Perrin B.**
Modélisation numérique du comportement d'un milieu poreux consolidé exposé au gel
24^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2006, Juin 2006, La Grande Motte (France)

I.7 OUVRAGES SCIENTIFIQUES OU CHAPITRES D'OUVRAGES

- OS 1 **Bejan A., Lorente S., Miguel A-F., Reis A-H.**
Advanced Engineering Thermodynamics, 3rd ed., Section 13.4: Construction theory of distribution of city sizes, pp 774-778
Wiley, 2006, ISBN: 978-0471677635
- OS 2 **Bejan A., Lorente S., Miguel A-F., Reis A-H.**
Advanced Engineering Thermodynamics, 3rd ed., Section 13.5: Construction theory of distribution of river sizes, pp 779-781
Wiley, 2006, ISBN: 978-0471677635