

LMDC

LISTE DES PUBLICATIONS ET AUTRES PRODUCTIONS 2007

I. PUBLICATIONS

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

- ACL 1 **Ait-Aider H., Hannachi N.E., Mouret M.**
Importance of W/C ratio on compressive strength of concrete in hot climate conditions
Building and Environment, Volume 42, Issue 6, June 2007, Pages 2461-2465
- ACL 2 **Al-Mahmoud F., Castel A., François R., Tourneur C.**
Effect of surface pre-conditioning on bond of carbon fiber reinforced polymer rods to concrete
Cement and Concrete Composite, Vol. 29, No 9, pp. 677-689, 2007
- ACL 3 **Assié S., Escadeillas G., Waller V.**
Estimates of Self-Compacting Concrete potential durability
Construction and Building Materials, Vol. 21, Issue10, October 2007, Pages 1909-1917
- ACL 4 **Aubert J.-E., Husson B., Sarramone N.**
Utilization of Municipal Solid Waste Incineration (MSWI) fly ash in blended cement. Part 2:
Mechanical strength of mortars and environmental impact,
Journal of Hazardous Materials, Vol 146/1-2 (2007) 12-19
- ACL 5 **Bejan A., Lorente S.**
Constructal tree-shaped flow structures
Applied Thermal Engineering, Volume 27, Issue 4, March 2007, Pages 755-761
- ACL 6 **Bejan A., Lorente S.,**
Constructal theory and its relevance to Green Energy
Int. J. Green Energy, Vol.4, pp.105-117, 2007
- ACL 7 **Bertron A., Duchesne J., Escadeillas G.**
Degradation of cement pastes by organic acids
Materials and Structures, Volume 40, April 2007, Pages 341-354
- ACL 8 **Buffo-Lacarrière L., Sellier A., Escadeillas G., Turatsinze A.**
Multiphase finite element modeling of concrete hydration
Cement and Concrete Research, Volume 37, Issue 2, February 2007, Pages 131-138
- ACL 9 **Cyr M., Coutand M., Clastres P.**
Technological and environmental behavior of sewage sludge ash (SSA) in cement-based materials
Cement and Concrete Research, vol. 37, no 8, pp 1278-1289, 2007
- ACL 10 **Cyr M., Daidié A.**
Optimization of a high pressure pore water extraction device
Review of Scientific Instruments, Volume 78, Issue 2, article 023906, 2007

- ACL 11 **Duprat F.**
Reliability of RC beams under chloride-ingress
Construction and Building Materials, Volume 21, Issue 8, August 2007, Pages 1605-1616
- ACL 12 **Escadeillas G., Aubert J.-E., Segerer M., Prince W.**
Some factors affecting delayed ettringite formation in heat-cured mortars
Cement and Concrete Research, Volume 37, Issue 10, October 2007, Pages 1445-1452
- ACL 13 **Escadeillas G., Bertron A., Dubosc A., Blanc P.**
Accelerated testing of biological stain growth on external concrete walls. Part 1: Development of the growth tests
Materials and structures, Volume 40, Number 10, December 2007
- ACL 14 **Gleyze P.-J.-P., Cyr M., Escadeillas G.**
Effects of metakaolin on autogenous shrinkage of cement pastes
Cement and Concrete Composites, Volume 29, Issue 2, February 2007, Pages 80-87
- ACL 15 **Kim S., Lorente S., Bejan A.**
Vascularized materials with heating from one side and coolant forced from the other side
Int. Journal of Heat and Mass Transfer, Vol. 50, Issues 17-18, Aug. 2007, Pages 3498-3506
- ACL 16 **Klysz G., Balayssac J.-P.**
Determination of volumetric water content of concrete using ground-penetrating radar
Cement and Concrete Research, Vol.37, Issue 8, August 2007, Pages 1164-1171
- ACL 17 **Laurens S., El Barrak M., Balayssac J.-P., Rhazi J.**
Aptitude of the near-field direct wave of ground-coupled penetrated radar for the characterisation of the concrete
Construction and Building Materials, Vol.21, Issue 12, December 2007, pages 2072-2077
- ACL 18 **Lorente S.**
Constructual view of electrokinetic transfer through porous media
Journal of Physics D: Applied Physics, Volume 40, 2007, Pages 2941-2947
- ACL 19 **Lorente S., Voinitchi D., Escaffit P., Bourbon X.**
The single-valued diffusion coefficient for ionic diffusion through porous media
Journal of Applied Physics, Volume 101, 024907, 2007
- ACL 20 **Nguyen T.-S., Lorente S., Carcassès M.**
The influence of temperature levels on chloride diffusion through mortar
Advances in Cement Research, Volume 19, Number 1, January 2007
- ACL 21 **Nugue F., Yssorche-Cubaynes M.-P., Ollivier J.-P.**
Innovative study of non-steady-state tritiated water diffusion test
Cement and Concrete Research, Volume 37, Issue 8, August 2007, Pages 1145-1151
- ACL 22 **Odonne F., Lezin C., Massonat G., Escadeillas G.**
The relationship between joint aperture, spacing distribution, vertical dimension and carbonate stratification: an example from the Kimmeridgian limestones of Pointe-du-Chay (France)
Journal of Structural Geology, Volume 29, Issue 5, May 2007, Pages 746-758
- ACL 23 **Perlot C., Bourbon X., Carcassès M., Ballivy G.**
The adaptation of an experimental protocol to the durability of cement engineered barriers for nuclear waste storage
Magazine of Concrete Research, Vol. 59 Issue: 5 pps 311-322 01/06/2007

- ACL 24 **Pons G., Mouret M., Alcantara M., Granju J.-L.**
Mechanical behaviour of SCC with hybrid fibre reinforcement,
Materials and Structures, Volume 40. pp 201-210
- ACL 25 **Rivard P., Bérubé M.A., Ollivier J.-P., Ballivy G.**
Decrease of pore solution alkalinity in concrete tested for alkali-silica reaction
Materials and Structures, Volume 40, N°9, Nov 2007, 909-921
- ACL 26 **Sbartai Z.-M., Laurens S., Rhazi J., Balayssac J.-P., Arliquie G.**
Using radar direct wave for concrete condition assessment: Correlation with electrical resistivity
Journal of Applied Geophysics, Volume 62, Issue 4, August 2007, Pages 361-374
- ACL 27 **Sirivivatnanon V., Castel A., François R.**
Discussion of the paper: Propagation of reinforcement corrosion in concrete and its effects on structural deterioration by Li & Zhang
Magazine of Concrete Research, Volume 57, N°5, 261-271, 2007
- ACL 28 **Toumi A., François R., Alvarado O.**
Experimental and numerical study of electrochemical chloride removal from brick and concrete specimens
Cement and Concrete Research, Volume 37, Issue 1, January 2007, Pages 54-62
- ACL 29 **Tran Q.-T., Toumi A., Turatsinze A.**
Modelling of debonding between old concrete and overlay: fatigue loading and delayed effects
Materials and Structures, Volume 40, N°10, Dec 2007, 1045-1059
- ACL 30 **Turatsinze A., Bonnet S., Granju J.-L.**
Potential of rubber aggregates to modify properties of cement based-mortars: Improvement in cracking shrinkage resistance
Construction and Building Materials, Volume 21, Issue 1, January 2007, Pages 176-181
- ACL 31 **Vidal T., Castel A., François R.**
Corrosion process and structural performance of a 17 years old reinforced concrete beam stored in chloride environment
Cement and Concrete Research, Vol. 37, pp 1551-1561, 2007
- ACL 32 **Voinitchi D., Julien S., Lorente S.**
The relation between electrokinetics and chloride transport through cement-based materials
Cement and Concrete Composites, Volume 30, 2007, pp, 157-166
- ACL 33 **Wang K.M., Lorente S., Bejan A.**
Vascularization with grids of channels: multiple scales, loops and body shapes
J. Physics D: Applied Physics, Volume 40, 2007, pp. 4740-4749.
- ACL 34 **Zhang H., Lorente S., Bejan A.**
Vascularization with trees that alternate with upside-down trees
Journal of Applied Physics, Vol. 101, 094904, 2007

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

- ACLN 1 **Ben Allal L., Ammari M., Haj Chaib M., Clastres P., Julien S.**
Valorisation de sédiments non traités dans les mortiers
Physical Chemical News, Vol.35 (2007), pp. 121-127

- ACLN 2 **Balayssac J.-P., Arliguie G., Klysz G., Fnine A., Naar S.**
 Evaluation non destructive des ouvrages en béton armé
Annales du Bâtiment et Travaux Publics, Vol. 4 Août 2007, pages 20 à 40
- ACLN 3 **Balayssac J.-P., Viriyametanont K., Sbartai Z.-M., Klysz G., Laurens S.**
 Contribution au développement du radar pour la caractérisation non destructive du béton
Annales du Bâtiment et Travaux Publics, Vol. 5, Octobre 2007, pages 61 à 65
- ACLN 4 **Castel A., Vidal T., François R.**
 Model of corroded reinforced concrete behavior based on the CEB-FIB model code
Structural Concrete Journal of the FIP, Vol.8, N°3, pp.139-146
- ACLN 5 **Codina M., Cau dit Coumes C., Verdier J., Le Bescop P.**
 Formulation et caractérisation de bétons bas pH
Revue Européenne de Génie Civil, Volume 11 n°4/2007
- ACLN 6 **Domède N., Pons G., Sellier A.**
 Requalification des ouvrages anciens, Les ponts en maçonnerie
Revue Européenne de Génie Civil, Vol. 11, 2007, pp. 1199-1218
- ACLN 7 **Nguyen X.-S., Sellier A., Duprat F., Pons G.**
 Une méthode de surface de réponse adaptative en fiabilité des structures basée sur la régression pondérée
Revue Européenne de mécanique Numérique, Vol. 16, n°1/2007, pages 53 à 77
- ACLN 8 **Sardini P., Bertron A., De La Asuncion-Parreira C., Kauppi-Siitari M., Prêt D., Escadeillas G., Sammartino S., Amiri O.**
 Distribution spatiale de la porosité des matériaux cimentaires. Une approche méthodologique pour leur caractérisation
Revue Européenne de Génie Civil, Vol. 11, n°6, 2007, pp. 739-749
- ACLN 9 **Tran Q.-T., Toumi A., Turatsinze A.**
 Modelling of debonding propagation in cementitious composite structures
Journal of Building Science and Technology, Vietnam
- ACLN 10 **Vu N.-A., Castel A., François R.**
 BenchMark des poutres de la Rance : modélisation par macro-éléments
Revue Européenne de Génie Civil, Vol. 11, n°1-2, 2007, pp. 141-161
- ACLN 11 **Wardeh G., Perrin B.**
 Comportement au gel-dégel des matériaux à base de terre cuite. Expériences et modélisation
Annales du Bâtiment et des Travaux Publics, N°2-3, Avril-Juin 2007

I.3 CONFERENCES INVITEES

- INV 1 **Arliguie G.**
 La déchloruration des bétons
Théma Cor' 2007, Hauteville/mer, oct-07
- INV 2 **Balayssac J.-P., Laurens S., Arliguie G., Klysz G.**
 Intégration de l'évaluation non destructive dans la surveillance des ouvrages de Génie Civil
CFM 07 18^{ème} Congrès Français de Mécanique, Grenoble, août-07

- INV 3 **Bertron A., Duchesne J.**
Attack of cementitious materials by organic acids in agricultural and agrofood effluents - A review
Int. RILEM Workshop On Performance Of Cement-Based Materials In Aggressive Aqueous Environments, Ghent (Belgium), sept-07
- INV 4 **Clastres P.**
Gestion environnementale des matériaux de construction
SOMAPRO, Tunisie, 9-11 Février 2007
- INV 5 **Clastres P., Escadeillas G.**
Pathologie et diagnostic des ouvrages en béton et en béton armé
SOMAPRO, Tunisie, 09-11 Février 2007
- INV 6 **Escadeillas G.**
Le béton : Constituants, Propriétés, Dégradations
Théma Cor' 2007, Hauteville/mer, oct-07
- INV 7 **Husson B., Aubert J.-E., Carles-Gibergues A.**
Valorisation de cendres volantes d'incinération dans les matériaux de construction : influence sur les propriétés d'usage et impact environnemental
8^{ème} Edition des journées scientifiques du (RF)²B, Montréal (Canada), juil-07
- INV 8 **Lorente S.**
Vascularized materials as designed porous media
IEEEES-3, Evora (Portugal), juil-07
- INV 9 **Lorente S.**
Vascularized smart materials with tree and grid flow architecture
ISTP-18, Daejon (Corée), août-07
- INV 10 **Lorente S., Bejan A.**
Vascularized materials: designed porous media for self-healing and self-cooling
2nd Int Conf on Porous Media and its applications in science and engineering, Kauai (USA), juin-07
- INV 11 **Nicot P., Détriché C.-H., Balayssac J.-P., Ruot B.**
Mortar-substrate interactions: decision factors for performances and adhesion of a mortar
CEReM General Meeting 13-14 mars 2007, Paris
- INV 12 **Ringot E.**
Nouvelle cosmétique du béton : technologie de protection et de colorisation des parements
Symposium "Nanotechnologies - Une nouvelle chance pour la protection et l'aménagement des façades et des sols, Lausanne (Suisse), juin-07
- INV 13 **Ringot E.**
Latest developments in the technology of surface protection for concrete
Seminar "Aesthetics and durability of buildings", Beijing (Chine), déc-07
- INV 14 **Vidal T.**
Les approches scientifiques du BAP
Journée technique sur les BAP - Les apports du Projet National de R&D, ESITC Metz, déc-07

I.4 COMMUNICATIONS AVEC ACTES DANS UN CONGRES INTERNATIONAL

- ACTI 1 **Al-Mahmoud F., Castel A., François R., Tourneur C.**
Strengthening of RC members with near surface louted
CRFP Composites, 5th Int. Conf. On Concrete under Severe Conditions Environment and Loading (Consec'07), Tours, 2007
- ACTI 2 **Buffo-Lacarrière L., Sellier A., Escadeillas G., Turatsinze A.**
Modeling of hydration of cement-based composed binders: phenomenological approach
12th Int. Cong. On the Chemistry of Cement (ICCC 2007), Montréal (Canada), 2007
- ACTI 3 **Buffo-Lacarrière L., Sellier A., Escadeillas G., Turatsinze A.**
Influence of ambient conditions on hydration and correlated consequences on structures at early age
5th Int. Conf. On Concrete under Severe Conditions Environment and Loading, Tours, 2007
- ACTI 4 **Cassagnabère F., Escadeillas G., Mouret M., Broilliard P.**
Low CO₂/energy binder for precast industry
12th Int. Cong. On the Chemistry of Cement (ICCC 2007), Montréal (Canada), 2007
- ACTI 5 **Cassagnabère F., Escadeillas G., Mouret M., Broilliard P.**
CEM II / Metakaolin as raw material for precasting industry
2007 FIB Symposium "Concrete Structures: Stimulators of Development", Cavtat (Dubrovnik), Croatia, May 2007
- ACTI 6 **Castel A., Vidal T., Zhang R., François R., Sirivivatnanon V.**
Corrosion initiation and propagation in the service life of reinforced concrete in chloride environment
International RILEM TCMAI 07 Workshop, Guimaraes (Portugal), 2007
- ACTI 7 **Castel A., Vidal T., Zhang R., François R., Sirivivatnanon V.**
Initiation and propagation phase in reinforced concrete corrosion due to long term exposure in saline environment
5th Int. Conf. On Concrete under Severe Conditions Environment and Loading, Tours, 2007
- ACTI 8 **Castel A., Vu N.-A., François R.**
Serviceability and ultimate capacity due to coupled effect of cross section and bond strength reduction – numerical modelling using finite element analysis
COST Action 534 Final workshop: New materials, systems, methods and concepts for durable prestressed concrete structures, Toulouse, 2007
- ACTI 9 **Codina M., Cau dit Coumes C., Le Bescop P., Verdier J., Ollivier J.-P.**
Design and characterization of low-heat and low-alkalinity cements
12th Int. Cong. On the Chemistry of Cement (ICCC 2007), Montréal (Canada), 2007
- ACTI 10 **Codina M., Maubec N., Cau-dit-Coumes C., Le Bescop P., Verdier J., Ollivier J.-P., Bourbon X.**
Hydration and durability of low-alkalinity cements
R&D on low-pH cement for a geological repository, 3rd workshop, Paris, 2007
- ACTI 11 **Cyr M., Carles-Gibergues A., Moisson M., Ringot E.**
Use of reactive aggregate powders to mitigate ASR expansion
12th Int. Cong. On the Chemistry of Cement (ICCC 2007), Montréal (Canada), 2007

- ACTI 12 **Cyr M., Idir R., Escadeillas G., Julien S., Menchon N.**
Stabilization of industrial by-products in mortars containing métakaolin
9th CANMET ACI, Int. Conf. On Fly ash, Varsovie (Pologne), 2007
- ACTI 13 **Ismail M., Gagné R., François R., Toumi A.**
Effect of self healing on airflow through cracked mortars
5th Int. Conf. On Concrete under Severe Conditions Environment and Loading, Tours, 2007
- ACTI 14 **Mahieux P.-Y., Aubert J.-E., Escadeillas G.**
Utilization of LD slag in the production of hydraulic road binders
EUROSLAG, 5th European slag conference, Luxembourg, September 19-21, 2007
- ACTI 15 **Nguyen X.-S., Duprat F., Sellier A., Pons G.**
An adaptive response surface based on doubled weighted regression
10th International Conference on Applications of Statistics and Probability in Civil Engineering, Tokyo (Japon), 2007
- ACTI 16 **Proust E., Vidal T., Pons G.**
Mechanical and physical behaviours of concrete under severe sustained loading
5th Int. Conf. On Concrete under Severe Conditions Environment and Loading, Tours, 2007
- ACTI 17 **Rhazi J., Dous O., Laurens S.**
A new application of the GPR technique to reinforced concrete bridge decks
4th MENDT (Middle East Non Destructive Testing) conference, Bahrain, 2007
- ACTI 18 **Tran Q.-T., Toumi A., Turatsinze A.**
Delayed effects on the durability of an overlay-substrate interface: experimental and numerical study
1st Int. conf. on Modern Design, Construction and Maintenance of Structures, Hanoi (Vietnam), 2007
- ACTI 19 **Turatsinze A., Tran Q.-T., Toumi A.**
Design against debonding
11th Int. Workshop of the RILEM TC-RLS, Bonded cement based material overlays for the repairs, the lining or the strengthening of slabs or pavements, Liege (Belgique), 2007
- ACTI 20 **Vu N.-A., Castel A., François R.**
Global behaviour prestressed beam after broken prestressing cables by corrosion
1st Int. conf. on Modern Design, Construction and Maintenance of Structures, Hanoi (Vietnam), 2007
- ACTI 21 **Wardeh G., Perrin B.**
Numerical modelling of the behaviour of consolidated porous media exposed to frost action: the case of fired clay materials
12th Symposium of Building Physics, 28-31 Mars 2007, Dresde (Allemagne)

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I.5 COMMUNICATIONS AVEC ACTES DANS UN CONGRES NATIONAL

- ACTN 1 **Amour, Clastres P., Bencheikh M.**
Quand la pathologie découvre l'incompatibilité entre matériaux
SOMAPRO, Tunisie, 9-11 Février 07

- ACTN 2 **Balayssac J.-P., Laurens S., Arliquie G.**
Stratégie d'évaluation non destructive pour la surveillance des ouvrages en béton
Congrès Diagno béton, Aix en Provence, mai-07
- ACTN 3 **Cacqueray (de) D., Duforestel T., Jomaa W., Perrin B., Pompeo C.**
Evaluation de l'impact des transferts de masse sur la performance thermique des composants d'enveloppe fortement isolés
VIII Colloque Interuniversitaire Franco-Québécois sur la thermique des systèmes, 28-30 Mai 2007, Montréal (Canada)
- ACTN 4 **Castel A., François R., Zhang R., Sirivivatnanon V.**
Phase d'initiation et de propagation de la corrosion et durée de vie du béton armé en milieu salin
AFGC - GC'2007, Paris, 21-22 mars 2007
- ACTN 5 **Guemmedi Z., Escadeillas G., Toumi B., Houari H.**
Use of limestone's filler to improve the quality of algerian concretes and cement paste
Annual Conference – Canadian Society for Civil Engineering, Vol. 2, pp. 977-986, 2007
- ACTN 6 **Laurens S., Sbartai Z.-M., Viriyametanont K.**
Reconnaissance physique et géométrique d'éléments en béton armé par radar : apport des réseaux de neurones artificiels
CFM 07, 18^{ème} Congrès Français de Mécanique, Grenoble, août-07
- ACTN 7 **Nicot P., Balayssac J.-P., Détriché C.-H., Devès O., Ruot B.**
Mortar-substrate interactions: decisive factors for performances and adhesion of a mortar
2nd Portuguese Congress on Mortars, Lisbonne (Portugal), 2007
- ACTN 8 **Sfar H., Ben Ouezdou M., Clastres P.**
Gestion environnementale du phosphogypse de Sfax
SOMAPRO, Tunisie, 9-11 Février 07
- ACTN 9 **Turatsinze A., Garros M.**
Une nouvelle génération de matériaux à base cimentaire par incorporation de granulats en caoutchouc issus du broyage de pneus usagés
Nouveaux produits, nouvelles applications issus des pneumatiques usagés, ADEME Editions, ISBN 978-2-86817-960-6; 16 pages

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

- COM 1 **Balayssac J.-P., Viriyametanont K., Sbartai Z.-M., Klysz G., Laurens S.**
Contribution au développement du radar pour la caractérisation non destructive du béton
25^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2007, 23-25 mai 2007, Bordeaux
- COM 2 **Buffo-Lacarrière L.**
Application structurale d'un modèle THCM au jeune âge
25^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2007 - Prix jeune chercheur, 23-25 mai 2007, Bordeaux
- COM 3 **Castel A., François R., Zhang R., Sirivivatnanon V.**
Phase d'initiation et de propagation de la corrosion et durée de vie du béton armé en milieu salin
Assurer la pérenité des ouvrages pour un développement durable
25^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2007, 23-25 mai 2007, Bordeaux

- COM 4 **Deby F., Carcassès M., Sellier A.**
 Approche performantielle probabilisée pour la durabilité des bétons en environnement marin
25^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2007, 23-25 mai 2007, Bordeaux
- COM 5 **Nguyen X.-S., Duprat F., Sellier A.,**
 Méthode du gradient projeté avec contrôle d'erreur : une méthode simple et efficace en fiabilité
 des structures
25^{èmes} Rencontres Universitaires de Génie Civil - AUGC 2007, 23-25 mai 2007, Bordeaux

I.7 OUVRAGES SCIENTIFIQUES OU CHAPITRES D'OUVRAGES

- OS 1 **Bejan A., Lorente S., Miguel A-F., Reis A-H.**
 Along with Constructal Theory (204 p)
Presses de l'Université de Lausanne, ISBN -10: 2-8399-0203-6 ISBN 13: 978-2-8399-0203-8
- OS 2 **Lorente S.**
 Constructal theory of social dynamics - Chap. 3: Tree flow networks in urban design, pp 51-70
Springer, New York, 2007, ISBN:978-0387476803

I.8 DIRECTION D'OUVRAGES (4)

- DO 1 **Arliquie G., Hornain H.**
 GranDuBé - Grandeurs associées à la durabilité des bétons
Presses de L'Ecole Nationale des Ponts et Chaussées, ISBN 978-2-85978-425-6