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**DRAFT  
FINAL  
REPORT**

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**36 MONTH  
DELIVERABLE**

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September 2014

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## APPENDICES WP2

## APPENDIX 2.1: Sources on building pathology

Professional actors:

co un - try	name	activity	web site	Lang ua- ges	Engl ish secti on	comments
BE	SECO	construction control	<a href="http://www.seco.be/">http://www.seco.be/</a>	fr- nl- en	-	operates in several EU-27 countries
DE	TÜV Rheinland	construction control	<a href="http://www.tuv.com">http://www.tuv.com</a>	de	Yes	operates in several EU-27 countries
DK	Byggeskadefonden (Building Defects Fund)	Body which aims to: -disseminate knowledge and experience in order to reduce construction defects -carry out statutory 1-year and 5-year inspections of listed buildings -provide support to repair building damages	<a href="http://www.bsf.dk/">http://www.bsf.dk/</a>	dk	Yes	
DK	Byggeskadefonden vedr. Bygningsfornyelse (The Building Damage Fund for Urban Renewal)	Independent foundation established by the Danish government in 1990 which aims: -to support the repair of building damages -to inspect the urban renewed buildings 1 and 5 years after the completion of the renewal -to communicate findings and knowledge concerning the prevention of future building damages to the building sector -to participate in other activities that can improve and promote quality and efficiency in construction	<a href="http://www.bvb.dk/">http://www.bvb.dk/</a>	dk	Yes	
FI	INSPECTA	construction control	<a href="http://www.inspecta.com/en/">http://www.inspecta.com/en/</a>	en	-	operates in seven nordic EU-27 countries
FR	Agence Qualité Construction (AQC)	Association of construction professional organisations which aims to prevent buildings defects and to improve quality in construction	<a href="http://www.qualiteconstruction.com/accueil.html">http://www.qualiteconstruction.com/accueil.html</a>	fr	No	
FR	SMABTP	insurance	<a href="http://www.smabtp.fr/assurancesbtp/groupe/smabtp">http://www.smabtp.fr/assurancesbtp/groupe/smabtp</a>	fr	No	web pages on pathology linked to traditional works

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FR	APAVE	construction control	<a href="http://www.apave.com/">http://www.apave.com/</a>	fr	yes	operates in several EU-27 countries
FR	BATIPLUS	construction control	<a href="http://www.batiplus.net/">http://www.batiplus.net/</a>	fr	no	
FR	BTP CONSULTANTS	construction control	<a href="http://www.btp-consultants.fr/">http://www.btp-consultants.fr/</a>	fr	no	
FR	BUREAU ALPES CONTROLES	construction control	<a href="http://www.alpes-controles.fr/">http://www.alpes-controles.fr/</a>	fr	no	
FR	DEKRA INSPECTION	construction control	<a href="http://www.dekra.fr/">http://www.dekra.fr/</a>	fr	no	operates in several EU-27 countries
FR	PREVENTEC	construction control	<a href="http://www.preventec.fr/">http://www.preventec.fr/</a>	fr	no	
FR	SOCOTEC	construction control	<a href="http://www.socotec.fr/">http://www.socotec.fr/</a>	fr	no	operates in several EU-27 countries
FR	VERITAS	construction control	<a href="http://www.bureauveritas.fr">http://www.bureauveritas.fr</a>	fr	no	operates in several EU-27 countries
HU	EMI-TUV	construction control	<a href="http://www.emi-tuv.hu">http://www.emi-tuv.hu</a>	hu	yes	
IT	RINA Industry	construction control	<a href="http://www.rina.org">http://www.rina.org</a>	it	yes	
LU	LUXCONTROL	construction control	<a href="http://www.luxcontrol.com/">http://www.luxcontrol.com/</a>	fr	no	
PL	URZAD DOZORU TECHNICZNEGO	construction control	<a href="http://www.udt.gov.pl">http://www.udt.gov.pl</a>	pl	no	
PT	Instituto de Soldadura e Qualidade	construction control	<a href="http://www.isq.pt/">http://www.isq.pt/</a>	pt	yes	
UK	BLP-Building defects insurance	insurance	<a href="http://www.blpinsurance.com/">http://www.blpinsurance.com/</a>	en	-	some web pages on pathology linked to eco-technologies
UK	National House-Building Council (NHBC)	insurance	<a href="http://www.nhbc.co.uk">www.nhbc.co.uk</a>	en	-	Inspection and claims data from c80% of

							new homes built in the UK
UK	Lloyd's Register Group - Built Environment	construction control	<a href="http://www.lr.org/sectors/built_env/">http://www.lr.org/sectors/built_env/</a>	en	-		

Pathology records:

country	actor / type	Activity	web site	language	english section
-	-	Discussion on pros, contras and conditions of databanks on building defects	<a href="http://www.irbnet.de/daten/iconda/CIB11723.pdf">www.irbnet.de/daten/iconda/CIB11723.pdf</a>	en	-
CH	Swiss Re / Reinsurer	Sigma (studies and annual review on natural catastrophes and man-made disasters)	<a href="http://www.swissre.com/sigma/">http://www.swissre.com/sigma/</a>	en-de-fr-es	-
DE	Munich Re / Reinsurer	Schadenspiegel (reports and analyses on interesting losses)	<a href="http://www.munichre.com/en/reinsurance/magazine/publications/default.aspx">http://www.munichre.com/en/reinsurance/magazine/publications/default.aspx</a>	en-de-fr	-
DK	Danish Building Research Institute (Sbi)	National database created in 2010 to record building pathology after several serious collapses of primarily sport centres and farm buildings (barns etc.). Data are structured according to type of building, construction element, building material, type of failure etc., and of course location and date.	<a href="http://www.sbi.dk/byggeteknik/konstruktioner/sikkerhed-og-last/svigdatabase">http://www.sbi.dk/byggeteknik/konstruktioner/sikkerhed-og-last/svigdatabase</a>	dk	no
DK	Byggeriets Evaluerings Center / association for the promotion of quality in construction	Created in 2002, the Danish Benchmark Centre prepares a report for a company with key performance indicators based on past performance data. At first hand such indicators were a prerequisite for contractors (and later consulting firms) who wanted to participate in building projects for the government but nowadays many companies have asked for a report as a way to brand the company in general.	<a href="http://www.bgyggeevaluering.dk/">http://www.bgyggeevaluering.dk/</a>	dk	no
FR	Agence Qualité Construction	Pathologie et statistiques (Sycodés) (pathology and statistics) The database collects building defects reported by insurance construction experts within the frame of the French national insurance context. Defects are assessed from a technical point of view.	<a href="http://www.qualiteconstruction.com/observation/sycode.html">http://www.qualiteconstruction.com/observation/sycode.html</a>	fr	no

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		Statistics on defects and costs of repair are established.			
FR	Agence Qualité Construction	Enquêtes de pathologie (investigations on pathology ) Such an investigation on defects related to "eco-technologies" is planned for February 2012 (French context of the Grenelle de l'environnement).	<a href="http://www.qualiteconstruction.com/observation/enquetes-pathologie.html">http://www.qualiteconstruction.com/observation/enquetes-pathologie.html</a>	fr	no
FR	Agence Qualité Construction	Tableau de bord Sycodes 2011 (2011 Sycodes synthesis)	<a href="http://www.qualiteconstruction.com/fiche-publication/collection/observatoire-de-la-qualite-de-la-construction/publication/tableau-de-bord-syodes-2011.html">http://www.qualiteconstruction.com/fiche-publication/collection/observatoire-de-la-qualite-de-la-construction/publication/tableau-de-bord-syodes-2011.html</a>	fr	no
FR	Agence Qualité Construction	Publication semestrielle de la C2P (biannual publicaiton of C2P) C2P is a commission of experts who assess risks of innovative products/processes. The says of C2P are absed on observations and Sycodes records.	<a href="http://www.qualiteconstruction.com/c2p/publication-semestrielle-en-cours.html">http://www.qualiteconstruction.com/c2p/publication-semestrielle-en-cours.html</a>	fr	no
NL	The Dutch PSIBouw programme (Process and System Innovation in Construction)	Some public clients in the Dutch construction sector make use of a benchmarking instrument of 'past performance' of building contractors, during the tender process. The better he performed in the past, the more points for his bid he gets. This is made possible for clients who have a registration system of their pool of contractors with records of their performances.	<a href="http://www.psibouw.nl/details/kennis?m=files&amp;doc_id=227">ww.psibouw.nl/details/kennis?m=files&amp;doc_id=227</a>	en	-
NL	CURNET ( <a href="http://www.curnet.nl">www.curnet.nl</a> ) / research institute	The 'construction safety platform' allows recording incidents with respect to construction safety (like the blowing away of facade plates from buildings, the (near) falling of balconies, etc.) Anonymous records on construction defects or near-failure can be made at the 'ABC meldpunt' (ABC notification point, <a href="http://www.abcmeldpunt">www.abcmeldpunt</a> ). ABC reports (in Dutch) are made plubicly available on the web platform.	<a href="http://www.curnet.nl/index.asp?page=pagina.asp&amp;id=pcv">http://www.curnet.nl/index.asp?page=pagina.asp&amp;id=pcv</a>	nl	no

NL	Woningborg	Technische ABC-lijst Woningborg' ('Technical ABC-list Woningborg'), this list is regularly updated. The most recent version we possess is from 2008, but a digital version seem to be available at <a href="http://www.technische-abc.nl">www.technische-abc.nl</a> . Woningborg is market leader in the Netherlands for issuing guarantee certificates for new dwellings, comparable with NHBC in the UK. They also perform risk assessment of building plans, and site control during construction.	<a href="http://www.technische-abc.nl">www.technische-abc.nl</a> <u>(password needed)</u>  <a href="http://www.woningborggroep.nl">www.woningborggroep.nl</a>	nl	-
NL	Vereniging Eigen Huis (VEH), The Dutch Home Owners Association /	Data records based upon completion inspections of newly built houses ('opleveringskeuring').	<a href="http://www.eigenhuis.nl">http://www.eigenhuis.nl</a> /	nl	no
UK	The Standing Committee on Structural Safety (SCOSS)	Confidential Reporting on Structural Safety is the scheme established by SCOSS in 2005 to improve structural safety and reduce failures by using confidential reports to highlight lessons that have been learnt, to generate feedback and to influence change. A report should give: '- a description of the event or concern '- if there was a failure than the cause of the failure if known '- lessons that could be learnt.	<a href="http://www.structural-safety.org/how-to-report/">http://www.structural-safety.org/how-to-report/</a>	en	-

## Prevention and good practice:

country	actor / type	media	title	web site	language	english section
BE	CSTC-BBRI-WTCB / technical body	downloadable	Notes d'information technique (technical information) Les dossiers du CSTC (CSTC file)	<a href="http://www.cstc.be/homepage/index.cfm?cat=publications">http://www.cstc.be/homepage/index.cfm?cat=publications</a>  <a href="http://www.wtcb.be/homepage/index.cfm?cat=publications">http://www.wtcb.be/homepage/index.cfm?cat=publications</a>	fr-nl	no
DK	BYG-ERFA / publisher	web pages / experience sheets	BYG-ERFA (constructional experiences)	<a href="http://www.byg-erfa.dk">www.byg-erfa.dk</a>	dk	no
ES	INTEMAC ( instituto técnico de materiales y construcciones) / technical body	Fichas de ejecución de obras de hormigón	Fichas de ejecución de obras de hormigón	<a href="http://www.intemac.es/pdf/Catalogo_publicaciones.pdf">http://www.intemac.es/pdf/Catalogo_publicaciones.pdf</a>	es	no

FR	ETI-Construction / publisher	CDs	Pathologies des bâtiments (building pathology)	<a href="http://www.eti-construction.fr/cat/actualites/pathologie-des-batiments/">http://www.eti-construction.fr/cat/actualites/pathologie-des-batiments/</a>	fr	no
FR	Excellence SMA / insurance (SMABTP)	Web pages /booklets	Fiches pathologie du bâtiment (short format document on building pathology)	<a href="http://www.smabtp.fr/assurancesbtp/prevention/presentationbtp">www.smabtp.fr/assurancesbtp/prevention/presentationbtp</a>	fr	no
NL	Stichting Bouwresearch (SBR ) _ Foundation of Building Research / research institute			<a href="http://www.sbr.nl">http://www.sbr.nl</a>	nl	no
NL	ISSO Kenniskaarten ('ISSO Knowledge Cards')		ISSO Kenniskaarten ('ISSO Knowledge Cards')	<a href="http://www.isso.nl/">http://www.isso.nl/</a>	nl	no
NL	Sdu Uitgevers		Handboek Bouwgebreken en Herstelkosten SDU ('Handbook of Building defects and repair costs')	<a href="http://www.sdu.nl">http://www.sdu.nl</a>	nl	yes
UK	Mike Parrett's guide to Building Pathology / expert	CDs	Mike Parrett's guide to Building Pathology	<a href="http://www.buildingpathology.net/default.asp">http://www.buildingpathology.net/default.asp</a>	en	-
UK	BRE / technical body	Defect Action Sheets: the complete set	BRE Defect Action Sheets	<a href="http://www.brebookshop.com/details.jsp?id=46477">http://www.brebookshop.com/details.jsp?id=46477</a>	en	-

Professional journals:

cou ntry	Publisher	title	web site	lang uage
FR	Groupe Moniteur	Le Moniteur du BTP	<a href="http://www.lemoniteur.fr/">http://www.lemoniteur.fr/</a>	fr
FR	Agence Qualité Construction	« Qualité Construction », bimestriel dédié à la prévention des désordres	<a href="http://www.qualiteconstruction.com/revue-qualite-construction/presentation.html">http://www.qualiteconstruction.com/revue-qualite-construction/presentation.html</a>	fr
FR	Agence Qualité Construction	L'information professionnelle du maître d'œuvre	<a href="http://www.qualiteconstruction.com/publications/collection/collection/maitres-doeuvre.html">http://www.qualiteconstruction.com/publications/collection/collection/maitres-doeuvre.html</a>	fr
NL	Reed Business Information b.v.	The professional journal "BouwWereld" provides up-to-date, detailed technical information from and for the building industry. The information covers the entire building process from the formulation of the	<a href="http://bouwwereld.nl/">http://bouwwereld.nl/</a>	nl

		standards to completion of the work. There are regularly articles on building defects/building pathology.		
UK	RICS	Building Surveying	<a href="http://www.rics.org/buildingsurveyingjournal">http://www.rics.org/buildingsurveyingjournal</a>	en
UK	BSRIA	Delta T	<a href="https://www.bsria.co.uk/books/hop/delta-t/">https://www.bsria.co.uk/books/hop/delta-t/</a>	en
	Elsevier	Building and Environment	<a href="http://www.journals.elsevier.com/building-and-environment/">http://www.journals.elsevier.com/building-and-environment/</a>	en
	Elsevier	Construction and Building Materials	<a href="http://www.journals.elsevier.com/construction-and-building-materials/">http://www.journals.elsevier.com/construction-and-building-materials/</a>	en
	Elsevier	Energy and Buildings	<a href="http://www.journals.elsevier.com/energy-and-buildings/">http://www.journals.elsevier.com/energy-and-buildings/</a>	en
	Sage Journals	Indoor and Built Environment	<a href="http://ibe.sagepub.com/">http://ibe.sagepub.com/</a>	en
	Palgrave Macmillan Journals	Journal of Building Appraisal (Closes with Jan 2011 issue)	<a href="http://www.palgrave-journals.com/jba/index.html">http://www.palgrave-journals.com/jba/index.html</a>	en
	Sage Journals	(Journal of Building Physics)	<a href="http://jen.sagepub.com/">http://jen.sagepub.com/</a>	en
	ASCE	Journal of Performance of Constructed Facilities, ASCE	<a href="http://ascelibrary.org/cfo/">http://ascelibrary.org/cfo/</a>	en
	Emerald	Structural Survey	<a href="http://www.emeraldinsight.com/journals.htm?issn=0263-080X">http://www.emeraldinsight.com/journals.htm?issn=0263-080X</a>	En
	Taylor & Francis	Building Research & Innovation	<a href="http://www.tandf.co.uk/journals/rbri">http://www.tandf.co.uk/journals/rbri</a>	en

Reports, books, proceedings:

Year of publication	Author	Title	Publisher	Nbr pages	language	downloadable at or CD
Various	Various BRE authors	BRE Defect Action Sheets	BRE	-	en	
Various	INTEMAC	Fichas de ejecución de obras de hormigón	INTEMAC	82	es	
2011	J. Vinha, J. Piironen, K. Salminen	Proceedings 9th Nordic Symposium in Building Physics, May-June 2011, Tampere, Finland	Tampere University of Technology	1390	en	<a href="http://webhotell2.tut.fi/nsb2011/">http://webhotell2.tut.fi/nsb2011/</a>

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2011	Vasco Peixoto de Freitas, Helena Corvacho, Micheal Lacasse	Proceedings 12th International Conference on Durability of Building Materials and Components, April 2011, Porto, Portugal	FEUP Edições	2208	en	<a href="http://www.fe.up.pt/12d/bmc/">http://www.fe.up.pt/12d/bmc/</a>
2010	J. Thomas, G. Bonfanti	Les risques de non qualité associés à une opération à basse consommation énergétique	Agence Qualité Construction	50	fr	
2010	CIB W 086 Building Pathology	Proceedings 18th CIB World Building Congress May 2010 Salford, United Kingdom	CIB (publication 363)	484	en	
2010		Proceedings Thermal Performance of Exterior Envelopes of Whole Buildings XI, Dec 2010, Clearwater Beach, Florida, USA	Oak Ridge National Laboratory	-	en	<a href="http://www.ornl.gov/sci/buildings/2010/">http://www.ornl.gov/sci/buildings/2010/</a>
2010	J. Thomas, G. Bonfanti	Les risques de non qualité associés à une opération à basse consommation énergétique	Agence Qualité Construction	50	fr	
2010	CIB W 086 Building Pathology	Proceedings 18th CIB World Building Congress May 2010 Salford, United Kingdom	CIB (publication 363)	484	en	CD of selected papers
2009	CIB W 055/065	Proceedings CIB Joint International Symposium - Construction facing worldwide challenges, Sep 2009, Dubrovnik, Croatia	Faculty of Civil Engineering, University of Zagreb	238	en	<a href="http://cib2009.grad.hr/(abstract booklet)">http://cib2009.grad.hr/(abstract booklet)</a>
2009	N.T. Bayazit, G. Manioğlu, G.K. Oral, Z. Yilmaz	Proceedings 4th International Building Physics Conference - Energy efficiency and new approaches, June 2009 Istanbul, Turkey	Beysan Matbaacılık ve Reklamcılık	1017	en	<a href="http://www.ibpc4istanbul.itu.edu.tr/">http://www.ibpc4istanbul.itu.edu.tr/</a>
2009	Harrison, H. W., Trotman, P. M. and Saunders, G. K	Roofs and roofing. Performance, diagnosis, maintenance, repair and the avoidance of defects. 3rd edition	BRE	285	en	
2009	Doran, D, Douglas, J and Pratley, R	Refurbishment and repair in construction	Whittles Publishing Limited	480	en	
2008	Ross, K	Learning the lessons from systemic building failures	NHBC foundation	32	en	
2007	David Watt	Building Pathology Principles and Practices	Royal Institution of Chartered Surveyors	320	en	
2007	James Douglas and Bill Ransom	Understanding Building Failures	Routledge	326	en	
2007	Ross, K, Saunders, G and Novakovic, O	Climate change and innovation in house building: designing out risk	NHBC foundation	34	en	

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2006	R. Pietroforte, E. de Angelis, F. Polverino	Proceedings Joint International CIB 055/065/086 Symposium. Construction in the 21st Century - Local and global challenges, Oct 2006, Rome, Italy	Edizioni Scientifiche Italiane	440	en	CD
2005	Robert William Houghton-Evans	Well Built? A forensic approach to the prevention, diagnosis and cure of building defects	RIBA Publishing	325	en	
2003	Pye, P. W. and Harrison, H. W.	BRE building elements: floors and flooring - performance, diagnosis, maintenance, repair and the avoidance of defects. 2nd edition	BRE	314	en	
2002	Harrison, H. W. and Trotman, P. M.	BRE building elements: foundations, basements and external works	BRE	264	en	
2000	Barry A. Richardson	Defects and Deterioration in Buildings	Routledge	220	en	
1998	Harrison, H. W. and de Vekey, R. C.	BRE building elements: walls, windows and doors - performance, diagnosis, maintenance, repair and the avoidance of defects		303	en	
1997	Geoff Cook and John Hinks	The Technology on Building Defects	Spon Press	374	en	
1994	M. Salvadori, M. Levy	Why Buildings Fall Down: How Structures Fail	WW norton & Co	334	en	