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**Customer: XYPEX CE Ltd.**  
 Thákurova 7, 166 00 Prague 6

**PROTOCOL No. 123081/2014**

**Test procedure and standard: Depth of penetration of water under pressure- ČSN EN 12390-8**  
 Testing hardened concrete - Density of hardened concrete - ČSN EN 12390-7  
 The determination of concrete tensile splitting strength - ČSN EN 12390-6 (informatively\*)  
 Concrete mix with **XYPEX® Admix C-1000 NF admixture**

**Test purpose:**  
**Strength class of concrete: C 30/37-90d**  
**Additional marking: XA1**  
**Workability of concrete: S3**  
**Nominal max aggregate size: 22 mm**  
**Type and class of cement: CEM II/B-S 32,5 R**  
**Additive / admixture: Chryso 460 / Fly ash**  
**Special additive: Xypex® Admix C-1000 NF**  
**Designation of the mixture concrete at the concrete plant: 227**  
**Building: Office building RIVERVIE W, Prague - Smichov**  
**Construction: -**  
**Place of sampling fresh concrete: Building / mixer truck**  
**Date of production of test specimens: October 21<sup>st</sup>, 2013**  
**Took the sample and produced specimens: On-site technician**  
**Specimen Type / Quantity: Cubes 150 mm / 3 pcs**  
**Marking of specimens from the customer: Label (concrete 277 / Serial number of the sample No. 1-3)**  
**Degree of consistency of fresh concrete: -**  
**Air content in fresh concrete: -**  
**Method of compaction of concrete in the production of test specimens: -**  
**Concrete producer: SKANSKA Transbeton, concrete plant 183 - Prague-Ruzyně**  
**Date of shipping specimens to OL: October 29<sup>th</sup>, 2013**  
**Identification of the test specimens: X-277 / Serial number of the sample (No. 1-3)**  
**Storing specimens in the OL after delivery: Air conditioned space - closed box with water at the bottom**  
 Temperature 20 ±2° C, Rh ≥ 95 %  
**Date of test beginning / End: March 21<sup>st</sup> to 24<sup>th</sup>, 2014**  
**Age of concrete at the end of the test period: 151 days**  
**Direction of the pressure of water: Perpendicular to the direction of compaction of concrete**  
**Preparation of test specimen surfaces: Roughening of cement paste with a steel brush**  
**Deviation from standardized method: Determination of strength performed at the age of concrete > 90 days \*)**  
**Note: The test specimens No.3 stored for examination at a later date according to customer requirements**  
**Expanded combined measurement uncertainty (k = 2, which corresponds to 95% confidence level): 2.4% (waterproof)**  
**The results of measurements and testing:**

sample designation	sample weight	sample size	bulk density of concrete ČSN EN 12390-7		max. force at sample failure	tensile splitting strength ČSN EN 12390-6 *)	
			individually	average		individually	average
X-277	kg	mm	kg.m <sup>-3</sup>	kg.m <sup>-3</sup>	kN	MPa	MPa
2	7,801	149,5x149,4x149,7	2 335	-	122,9	3,5	-

**Penetration of pressure water:**



**Evaluation and comment:**

**The water penetration depth into test specimen No. 2: 8 mm ±0,2 mm (151 days).**  
 The requirement ČSN EN 206-1/Z3, Tab. NA F.1(CZ) to the environment XA1 = 50 mm - **satisfied**.  
 The water penetration depth into test specimen No. 1: 28 mm ±1 mm (90 day – Protocol No. 123021/2014).  
**The value of water penetration depth was reduced by 71% compared to the test by the deadline of 90 days.**

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End Protocol

**Note:**

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 The test was executed in accordance with test standard, unless a specific deviation is stated in the protocol text.  
 The test results relate solely to the test subject (test sample).  
 Any comparison of measured values with required values are given in accordance with ČSN EN ISO/IEC 17025:2005.

