

POLITECHNIKA WARSZAWSKA WYDZIAŁ INŻYNIERII LĄDOWEJ ZAKŁAD INŻYNIERII MATERIAŁÓW BUDOWLANYCH		
LABORATORY EXERCISE REPORT BUILDING MATERIALS 2 - LABORATORY		
Building mortars composition determination		
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1. TASK AIM

The aim of the task was to

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2. ASSUMPTIONS

Assumptions for the mortar	
Application	Internal mortar middle layer "N"
Mortar type	1) Cement mortar, 2) cement-lime mortar
Compressive strength class	M4
Consistence [cm]	6 ÷ 9

3. COMPONENTS TESTS RESULTS AND MORTAR QUALITATIVE AND QUANTITATIVE COMPOSITION

3.1. COMPONENTS BULK DENSITY

Components	Binder 1	Binder 2	Aggregate

Volume [dm ³]	0,5	0,5	0,5
Mass [kg]			
Bulk density in the loos state [kg/dm ³]			

3.2. DRY COMPONENTS CONTENTS

Components	Parts by volume [-]		By volume V_x [dm ³]		By mass m_x [kg]	
	Mortar 1	Mortar 2	Mortar 1	Mortar 2	Mortar 1	Mortar 2
Binder 1	1	1				
Binder 2	0	1				
Aggregate	5	6				
Total dry contents volume [dm ³] and mass [kg]						

3.3. FRESH MORTARS PROPERTIES AND FINAL COMPOSITIONS

Property	Mortar 1	Mortar 2
Consistence determined in Novikov apparatus – penetration depth [cm]		
Mass of used water [kg]		
Total mass of components [kg]		
Volume of the mortar V_z [dm ³]		
Volumetric density of the fresh mortar [kg/dm ³]		
Consistence determined using flow table – diameter [cm]	$D_1 = \dots\dots\dots$ $D_2 = \dots\dots\dots$ $D_{av} = \dots\dots\dots$	$D_1 = \dots\dots\dots$ $D_2 = \dots\dots\dots$ $D_{av} = \dots\dots\dots$

