

**POLITECHNIKA WARSZAWSKA
WYDZIAŁ INŻYNIERII ŁĄDOWEJ
ZAKŁAD INŻYNIERII MATERIAŁÓW BUDOWLANYCH**

**LABORATORY EXERCISE REPORT
BUILDING MATERIALS 2 - LABORATORY**

Non-hydraulic Binders: Gypsum and Lime Binders

| | | |
|---------|--------------------|---------------------|
| Author: | Group: | Semester 3 |
| Tutor: | Stationary studies | Academic Year |

1. TASK AIM

The aim of the task was to
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2. TEST RESULTS

2.1. WATER/GYPSUM BINDER RATIO (PN-EN 13279-2)

| Tested material: gypsum binder type A | | | | | | |
|---------------------------------------|-----------------------|------------------------|--------------------|-------------------------|----|-----------------------|
| Team No | Water mass (w) [g] | Binder mass (g) [g] | w/g ratio [g/g] | Mean value w/g [g/g] | pH | Acid/neutral/alkaline |
| 1 | 100 | | | | | |
| 2 | 100 | | | | | |
| 3 | 100 | | | | | |
| 4 | 100 | | | | | |

2.2. BEGINNING OF SETTING (CUTTING METHOD, PN-EN 13279-2)

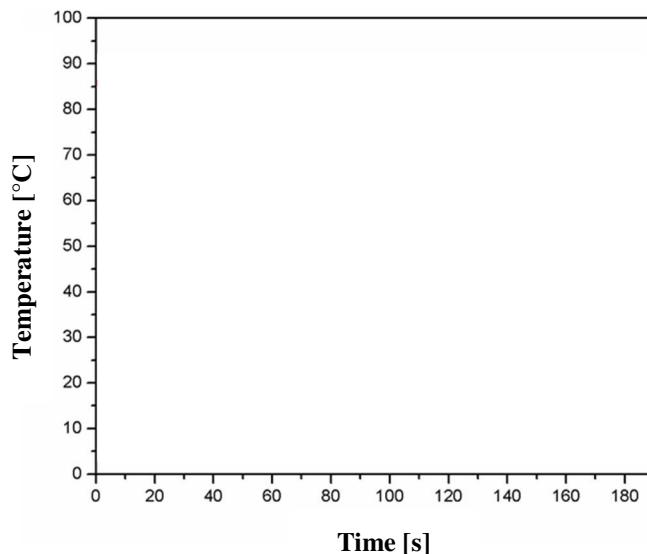
| Tested material: gypsum binder type A | | | | | | | | | | |
|---|----|-----|------|-----|----|-----|------|-------|-----|----|
| Trial | I | II | III | IV | V | VI | VII | VIII | IX | X |
| Time [s] | | | | | | | | | | |
| Cutting edge: a – merged b – not merged | | | | | | | | | | |
| Trial | XI | XII | XIII | XIV | XV | XVI | XVII | XVIII | XIX | XX |
| Time [s] | | | | | | | | | | |
| Cutting edge: a – merged b – not merged | | | | | | | | | | |

2.3. PREPARATION OF SPECIMENS FOR TESTING THE STRENGTH OF GYPSUM BINDER TYPE A (PN-EN 13279-2)

| Gypsum paste composition | | w/g = g | g = g | w = g | |
|----------------------------|-------------------------------------|--|---------------------------|--|---|
| Flexural strength test | | | Compressive strength test | | |
| Specimen | Flexural force, F _g [kN] | Flexural strength, R _g [kN] | Specimen | Compressive force, F _c [kN] | Compressive strength, R _c [kN] |
| 1 | | | 1.1 | | |
| | | | 1.2 | | |
| 2 | | | 2.1 | | |
| | | | 2.2 | | |
| 3 | | | 3.1 | | |
| | | | 3.2 | | |
| Mean value, R _g | | | Mean value R _c | | |

2.4. REACTIVITY OF AIR-BURNED LIME USING THE BEAK METHOD

| | | | |
|------------------------|-------------------------------|------------------|------------|
| Type of lime: | | | |
| Specimen mass: g | Distilled water mass: g | | |
| Reactivity | Measurement No 1 | Measurement No 2 | Mean value |
| Time [min] | | | |
| Temperature [°C] | | | |



2.5. DEGREE OF GRINDING HYDRATIZED CALCIUM LIME BY SIEVE METHOD (PN-EN 196-6)

| Type of lime: | | | | |
|-------------------|-------------------|-----|------------------|-----|
| Mass of sample 1: | Mass of sample 2: | | | |
| Sieve residue | Measurement No 1 | | Measurement No 2 | |
| | [g] | [%] | [g] | [%] |
| 0,09 | | | | |
| 0,2 | | | | |

3. CONCLUSIONS

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4. NOTES & CALCULATIONS

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