

**KUJAWY CEMENT
PLANT IN BIELAWY**

Holcim Polska S.A.
Kujawy Cement Plant
Technical Support

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Quality Certificate of cement

Type of cement : **CEM II/A-V 42,5R**

Requirements acc. to: **EN 197-1:2011**

Values obtained for the period of: **February 2024**

| | Unit | Results | Requirements acc. to: EN 197-1:2011 |
|--|------|---------|--|
|--|------|---------|--|

1. Properties (by standards)

| | | | |
|--|-----|-------|-----------------|
| Compressive strength | | | |
| Early strength, after 2 days | MPa | 25,7 | ≥ 20 |
| Standard strength, after 28 days <small>(results from previous month)</small> | MPa | 56,3 | ≥ 42,5 i ≤ 62,5 |
| Initial setting time | min | 210 | ≥ 60 |
| Expansion of cement | mm | 0,5 | ≤ 10 |
| Sulfate content (as SO ₃) | % | 2,80 | ≤ 4,0 |
| Chloride content Cl ⁻ | % | 0,051 | ≤ 0,10 |
| Loss on ignition ^{a)} | % | - | ≤ 5,0 |
| Insoluble residues ^{a)} | % | - | ≤ 5,0 |

2. Additional information

| | | | |
|--|---|-------|---|
| Laser particle size distribution passing 8 µm/32 µm | % | 33/76 | - |
|--|---|-------|---|

a)only for CEM I and CEM III

Anna Kozłowska

Kierownik Jakości
Kozłowska
Cementownia Kujawy w Bielawach
stamp/signature

Holcim Polska S.A.

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Kapitał akcyjny: 811.329.500 opłacony w pełni, nr rejestracyjny BDO 000001937

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