



CERTIFICATE OF QUALITY

EcoSure® Type GP Cement

NZS3122:2009 (Bulk & Bag Dispatch)



Issued to: National Sales Manager

Test Report No: 24#63

info@goldenbay.co.nz

| Code | Week Ending / Voyage | Specific Surface Area | Normal Consistency | Initial Set | Final Set | Soundness | Compressive Strength | | | | | | | Free Lime | Sodium Equivalent (NaEq) | Sulphur Trioxide (SO3) |
|----------------------------|----------------------|-----------------------|--------------------|-------------|-----------|-----------|----------------------|----------|----------|----------|--------|--------|---------|-----------|--------------------------|------------------------|
| | | | | | | | ISOCEN | | | Concrete | | | | | | |
| | | | | | | | 3 days | 7 days | 28 days | Slump | 3 days | 7 days | 28 days | | | |
| Mean | | 360 | 29.3 | 154 | 3:50 | 1 | 34.6 | 47.2 | 64.7 | 94 | 27.5 | 38.5 | 50.1 | 1.4 | 0.54 | 2.33 |
| Standard Deviation | | 7 | 0.2 | 7 | 0:10 | 0.3 | 1.1 | 1.5 | 1.0 | 6 | 2.1 | 2.0 | 3.5 | 0.2 | 0.01 | 0.05 |
| Min | | 345 | 28.9 | 150 | 3:30 | 1 | 32.9 | 44.4 | 63.8 | 80 | 25.0 | 35.0 | 45.0 | 1.1 | 0.52 | 2.22 |
| Max | | 370 | 29.6 | 165 | 4:15 | 2 | 36.5 | 49.8 | 67.7 | 100 | 30.5 | 42.5 | 56.5 | 1.8 | 0.56 | 2.40 |
| NZS 3122:2009 Requirements | | | | 45 min | 6:00 max | 5 max | | 35.0 min | 45.0 min | | | | | | 0.6 max | 3.5 max |
| Units | | m2/kg | % | minutes | hrs:mins | mm | MPa | MPa | MPa | mm | MPa | MPa | MPa | % | % | % |
| 240514-875-GP | 14/05/24 | 370 | 29.5 | 150 | 4:15 | 1 | 34.7 | 48.8 | | | | | | 1.7 | 0.54 | 2.39 |
| 240512-873-GP | 12/05/24 | 365 | 29.6 | 165 | 4:00 | 2 | 34.0 | 47.0 | | 90 | 31.5 | | | 1.8 | 0.54 | 2.37 |
| 240506-706-GP | 06/05/24 | 370 | 29.6 | 150 | 3:45 | 1 | 35.0 | 47.3 | | 90 | 30.5 | 42.5 | | 1.6 | 0.55 | 2.36 |
| 240502-364-GP | 02/05/24 | 360 | 29.5 | 165 | 4:00 | 2 | 32.9 | 44.4 | | | | | | 1.6 | 0.53 | 2.38 |
| 240429-360-GP | 29/04/24 | 360 | 29.5 | 165 | 3:45 | 2 | 33.6 | 46.1 | | 100 | 26.0 | 38.0 | | 1.4 | 0.53 | 2.39 |
| 240425-988-GP | 25/04/24 | 365 | 29.5 | 150 | 3:45 | 1 | 35.1 | 45.6 | 65.2 | | | | | 1.7 | 0.55 | 2.35 |
| 240421-984-GP | 21/04/24 | 360 | 29.6 | 150 | 3:30 | 2 | 33.7 | 46.0 | 64.3 | 100 | 26.5 | 38.5 | | 1.6 | 0.54 | 2.33 |
| 240414-690-GP | 14/04/24 | 365 | 29.5 | 150 | 3:45 | 1 | 32.9 | 44.5 | 63.8 | 90 | 30.5 | 41.0 | 56.5 | 1.3 | 0.54 | 2.33 |
| 240409-385-GP | 09/04/24 | 360 | 29.5 | 150 | 3:45 | 1 | 33.3 | 46.7 | 63.9 | 90 | 27.0 | 40.0 | 52.5 | 1.4 | 0.54 | 2.40 |
| 240405-108-GP | 05/04/24 | 355 | 29.2 | 150 | 4:00 | 1 | 35.4 | 46.5 | 63.9 | 100 | 26.5 | 37.0 | 51.0 | 1.3 | 0.56 | 2.37 |
| 240402-120-GP | 02/04/24 | 360 | 29.4 | 150 | 4:00 | 1 | 35.8 | 48.2 | 66.4 | | | | | 1.3 | 0.56 | 2.33 |
| 240329-972-GP | 29/03/24 | 360 | 29.5 | 150 | 4:00 | 1 | 33.4 | 45.5 | 63.8 | 90 | 27.5 | 37.0 | 49.5 | 1.4 | 0.55 | 2.35 |
| 240325-711-GP | 25/03/24 | 360 | 29.4 | 150 | 4:00 | 1 | 34.7 | 47.2 | 64.0 | | | | | 1.4 | 0.54 | 2.33 |
| 240321-419-GP | 21/03/24 | 345 | 29.6 | 150 | 3:45 | 1 | 34.0 | 46.5 | 64.8 | | | | | 1.3 | 0.55 | 2.37 |
| 240318-415-GP | 18/03/24 | 350 | 29.4 | 150 | 3:45 | 1 | 33.1 | 46.8 | 63.8 | 80 | 29.5 | 40.0 | 52.0 | 1.3 | 0.55 | 2.38 |
| 240313-053-GP | 13/03/24 | 355 | 29.4 | 150 | 4:00 | 1 | 35.1 | 46.4 | 64.5 | | | | | 1.4 | 0.52 | 2.40 |
| 240310-051-GP | 10/03/24 | 350 | 29.3 | 150 | 3:45 | 1 | 35.9 | 49.6 | 67.7 | 100 | 26.0 | 35.0 | 47.0 | 1.3 | 0.55 | 2.28 |
| 240308-720-GP | 08/03/24 | 365 | 29.1 | 150 | 3:45 | 1 | 35.6 | 48.7 | 65.5 | | | | | 1.2 | 0.53 | 2.26 |
| 240305-717-GP | 05/03/24 | 365 | 29.1 | 165 | 4:00 | 1 | 35.6 | 48.2 | 64.6 | 90 | 25.5 | 38.0 | 53.0 | 1.3 | 0.54 | 2.22 |
| 240301-385-GP | 01/03/24 | 350 | 28.9 | 150 | 3:45 | 1 | 33.8 | 46.8 | 64.3 | 100 | 25.5 | 39.5 | 48.0 | 1.2 | 0.56 | 2.26 |
| 240228-383-GP | 28/02/24 | 360 | 29.0 | 150 | 3:30 | 1 | 33.8 | 46.9 | 63.9 | | | | | 1.5 | 0.56 | 2.34 |
| 240222-049-GP | 22/02/24 | 370 | 29.1 | 150 | 3:45 | 1 | 34.2 | 47.4 | 65.4 | | | | | 1.2 | 0.56 | 2.34 |
| 240217-047-GP | 17/02/24 | 370 | 29.0 | 165 | 3:45 | 1 | 36.4 | 49.3 | 65.2 | 100 | 25.0 | 36.5 | 46.5 | 1.1 | 0.56 | 2.29 |
| 240214-662-GP | 14/02/24 | 350 | 29.1 | 165 | 4:00 | 1 | 34.9 | 48.8 | 65.1 | 100 | 27.5 | 38.0 | 45.0 | 1.1 | 0.53 | 2.22 |
| 240212-660-GP | 12/02/24 | 350 | 29.0 | 150 | 3:45 | 1 | 36.5 | 49.8 | 64.9 | | | | | 1.3 | 0.55 | 2.31 |

The above samples were tested as received in accordance with the current terms of accreditation and methods stated in NZS 3122:2009 with the exception of: Chemical composition to ASTM C114-18

All concrete testing conducted in accordance with NZS 3112:1986.

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Vincent Lane
Works Chemist



Portland Works, Portland, Whangarei 0178

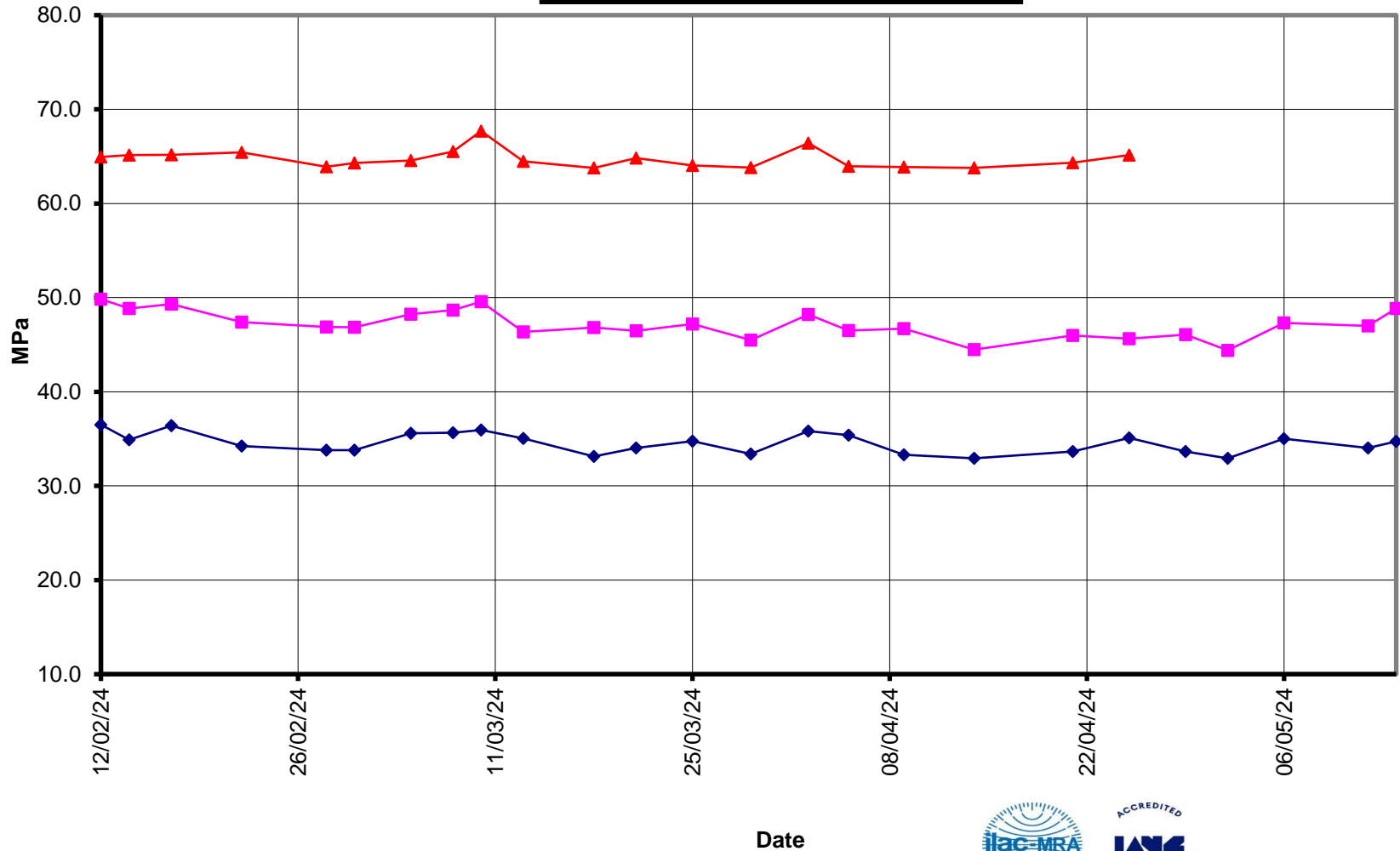
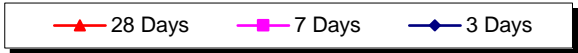
Date issued: 27/05/2024

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EcoSure® Type GP Cement

Compressive Strength ISO-CEN Mortar (Bulk Dispatch)





EcoSure® Type GP Cement

Compressive Strength Concrete (Bulk Dispatch)



—x— 28 Days —■— 7 Days —◆— 3 Days —x— Slump

