

CERTIFICATE OF QUALITY

EcoFast® Type HE Cement

NZS 3122:2009



Issued to: National Sales Manager

Test Report No: 24#15

info@goldenbay.co.nz

| Code | Week Ending | Specific Surface Area | Normal Consistency | Initial Set | Final Set | Soundness | Compressive Strength | | | | | | | | | | Free Lime | Sodium Equivalent (NaEq) | Sulphur Trioxide (SO3) |
|----------------------------|-------------|-----------------------|--------------------|-------------|-----------|-----------|----------------------|----------|----------|---------|-------|----------|--------|--------|---------|-----|-----------|--------------------------|------------------------|
| | | | | | | | ISO-CEN | | | | Slump | Concrete | | | | | | | |
| | | | | | | | 1 day | 3 days | 7 days | 28 days | | 1 day | 3 days | 7 days | 28 days | | | | |
| Mean | | 517 | 33.5 | 116 | 2:59 | 1 | 23.8 | 41.7 | 52.5 | 67.6 | 84.0 | 14.6 | 36.0 | 44.3 | 54.8 | 1.5 | 0.56 | 2.37 | |
| Standard Deviation | | 14 | 0.5 | 13 | 0:17 | 0.4 | 1.6 | 2.1 | 2.0 | 1.7 | 10.8 | 1.9 | 3.4 | 3.1 | 3.3 | 0.3 | 0.02 | 0.06 | |
| Min | | 500 | 31.9 | 90 | 2:30 | 0 | 21.2 | 38.5 | 48.7 | 65.0 | 70.0 | 11.5 | 30.0 | 39.5 | 50.0 | 1.0 | 0.52 | 2.28 | |
| Max | | 565 | 34.2 | 135 | 3:30 | 2 | 27.4 | 45.3 | 56.3 | 71.2 | 110.0 | 18.5 | 45.0 | 51.0 | 60.5 | 1.9 | 0.60 | 2.53 | |
| NZS 3122:2009 Requirements | | | | 45 min | 6:00 max | 5 max | | 25.0 min | 40.0 min | | | | | | | | 0.6 max | 3.5 max | |
| Units | | m2/kg | % | minutes | hrs:mins | mm | Mpa | MPa | MPa | MPa | mm | Mpa | MPa | MPa | MPa | % | % | % | |
| 240131-050-HE | 31/01/24 | 565 | 33.0 | 120 | 3:15 | 1 | 23.2 | 44.3 | | | 90 | 15.0 | 36.5 | | | 1.7 | 0.56 | 2.40 | |
| 240105-173-HE | 05/01/24 | 510 | 33.1 | 120 | 2:45 | 1 | 24.9 | 40.0 | 51.9 | 65.6 | 70 | 15.0 | 38.0 | 44.0 | 50.0 | 1.8 | 0.56 | 2.38 | |
| 231221-463-HE | 21/12/23 | 530 | 33.0 | 135 | 3:15 | 1 | 27.4 | 41.4 | 56.3 | 67.9 | 80 | 15.0 | 35.5 | 44.0 | 51.0 | 1.1 | 0.56 | 2.33 | |
| 231202-748-HE | 02/12/23 | 520 | 31.9 | 105 | 3:00 | 1 | 24.3 | 42.9 | 53.1 | 65.0 | 80 | 14.0 | 31.5 | 40.0 | 52.0 | 1.9 | 0.60 | 2.32 | |
| 231123-052-HE | 23/11/23 | 525 | 32.5 | 135 | 3:15 | 0 | 24.0 | 38.6 | 53.3 | 68.4 | 90 | 15.0 | 36.5 | 42.5 | 54.5 | 1.8 | 0.58 | 2.31 | |
| 231109-562-HE | 09/11/23 | 505 | 33.3 | 120 | 3:00 | 1 | 23.8 | 42.7 | 55.7 | 66.8 | 80 | 15.5 | 36.5 | 46.0 | 56.5 | 1.3 | 0.58 | 2.34 | |
| 231024-980-HE | 24/10/23 | 525 | 33.6 | 105 | 2:30 | 1 | 25.6 | 41.8 | 51.8 | 67.0 | 100 | 14.5 | 35.5 | 42.0 | 50.5 | 1.7 | 0.54 | 2.43 | |
| 231011-416-HE | 11/10/23 | 515 | 33.6 | 120 | 2:45 | 1 | 25.0 | 43.8 | 53.5 | 71.2 | 90 | 12.0 | 34.0 | 41.0 | 52.5 | 1.7 | 0.52 | 2.44 | |
| 230928-726-HE | 28/09/23 | 520 | 33.7 | 120 | 3:00 | 0 | 24.9 | 43.8 | 53.8 | 68.2 | 80 | 13.0 | 32.5 | 42.0 | 50.5 | 1.5 | 0.58 | 2.42 | |
| 230915-076-HE | 15/09/23 | 515 | 33.7 | 90 | 3:15 | 1 | 26.4 | 45.3 | 56.1 | 69.3 | 80 | 18.5 | 45.0 | 51.0 | 59.5 | 1.1 | 0.55 | 2.35 | |
| 230829-365-HE | 29/08/23 | 500 | 33.5 | 105 | 2:45 | 1 | 24.6 | 41.9 | 48.7 | 68.7 | 90 | 17.0 | 34.5 | 46.0 | 58.0 | 1.2 | 0.54 | 2.39 | |
| 230818-643-HE | 18/08/23 | 535 | 33.5 | 105 | 2:45 | 1 | 25.1 | 42.0 | 52.2 | 66.8 | 80 | 14.0 | 36.5 | 45.5 | 56.0 | 1.3 | 0.57 | 2.35 | |
| 230731-091-HE | 31/07/23 | 505 | 33.6 | 105 | 2:30 | 1 | 24.1 | 42.6 | 52.3 | 68.7 | 80 | 14.5 | 35.0 | 42.0 | 51.5 | 1.4 | 0.57 | 2.45 | |
| 230719-439-HE | 19/07/23 | 510 | 33.8 | 105 | 2:45 | 1 | 25.3 | 44.7 | 54.7 | 67.1 | 70 | 14.0 | 41.0 | 49.0 | 57.5 | 1.5 | 0.56 | 2.35 | |
| 230704-729-HE | 04/07/23 | 520 | 33.6 | 105 | 2:30 | 0 | 22.9 | 43.8 | 53.1 | 68.5 | 70 | 16.0 | 35.0 | 45.0 | 60.5 | 1.7 | 0.58 | 2.38 | |
| 230617-001-HE | 17/06/23 | 510 | 33.6 | 120 | 3:00 | 1 | 22.0 | 38.5 | 52.7 | 70.4 | 90 | 15.5 | 38.0 | 47.0 | 54.5 | 1.9 | 0.56 | 2.33 | |
| 230515-608-HE | 15/05/23 | 510 | 34.1 | 135 | 3:30 | 1 | 22.2 | 40.9 | 51.7 | 70.7 | 100 | 11.5 | 33.0 | 42.5 | 57.5 | 1.3 | 0.57 | 2.36 | |
| 230502-180-HE | 02/05/23 | 505 | 33.8 | 105 | 3:00 | 1 | 21.2 | 39.1 | 52.3 | 65.7 | 110 | 18.5 | 40.0 | 48.5 | 59.5 | 1.6 | 0.54 | 2.32 | |
| 230421-499-HE | 21/04/23 | 520 | 33.7 | 120 | 3:30 | 0 | 21.4 | 39.2 | 49.9 | 66.8 | 90 | 12.5 | 33.5 | 39.5 | 53.5 | 1.4 | 0.60 | 2.32 | |
| 230402-983-HE | 02/04/23 | 505 | 33.6 | 135 | 3:15 | 1 | 22.4 | 40.8 | 50.6 | 65.6 | 70 | 13.0 | 39.5 | 44.0 | 56.5 | 1.0 | 0.58 | 2.31 | |
| 230323-333-HE | 23/03/23 | 510 | 34.0 | 120 | 3:00 | 1 | 24.2 | 43.1 | 51.1 | 66.6 | 70 | 17.0 | 41.0 | 49.5 | 59.0 | 1.5 | 0.58 | 2.49 | |
| 230309-656-HE | 09/03/23 | 505 | 33.7 | 135 | 3:00 | 2 | 22.7 | 42.9 | 52.7 | 68.0 | 80 | 12.5 | 33.5 | 44.5 | 54.5 | 1.4 | 0.56 | 2.35 | |
| 230217-807-HE | 17/02/23 | 530 | 34.0 | 120 | 3:00 | 1 | 22.9 | 40.8 | 49.9 | 65.3 | 80 | 12.0 | 32.5 | 40.0 | 54.0 | 1.8 | 0.59 | 2.43 | |
| 230203-221-HE | 03/02/23 | 520 | 34.2 | 105 | 3:15 | 1 | 21.8 | 38.8 | 49.1 | 67.2 | 100 | 13.0 | 30.0 | 42.5 | 50.5 | 1.2 | 0.55 | 2.28 | |
| 221231-210-HE | 31/12/22 | 520 | 33.3 | 105 | 3:00 | 1 | 22.3 | 39.1 | 52.7 | 67.7 | 80 | 15.5 | 34.5 | 45.0 | | 1.5 | 0.56 | 2.53 | |

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 Analysis to ASTM C114-18

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

Data reported as per requirements of NZS 3112:1986 & ASTM C114-18

Testing Error-Result Not Available

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Raki Harding
Quality System Manager



Portland Works, Portland, Whangarei 0178

Date issued: 09/02/24

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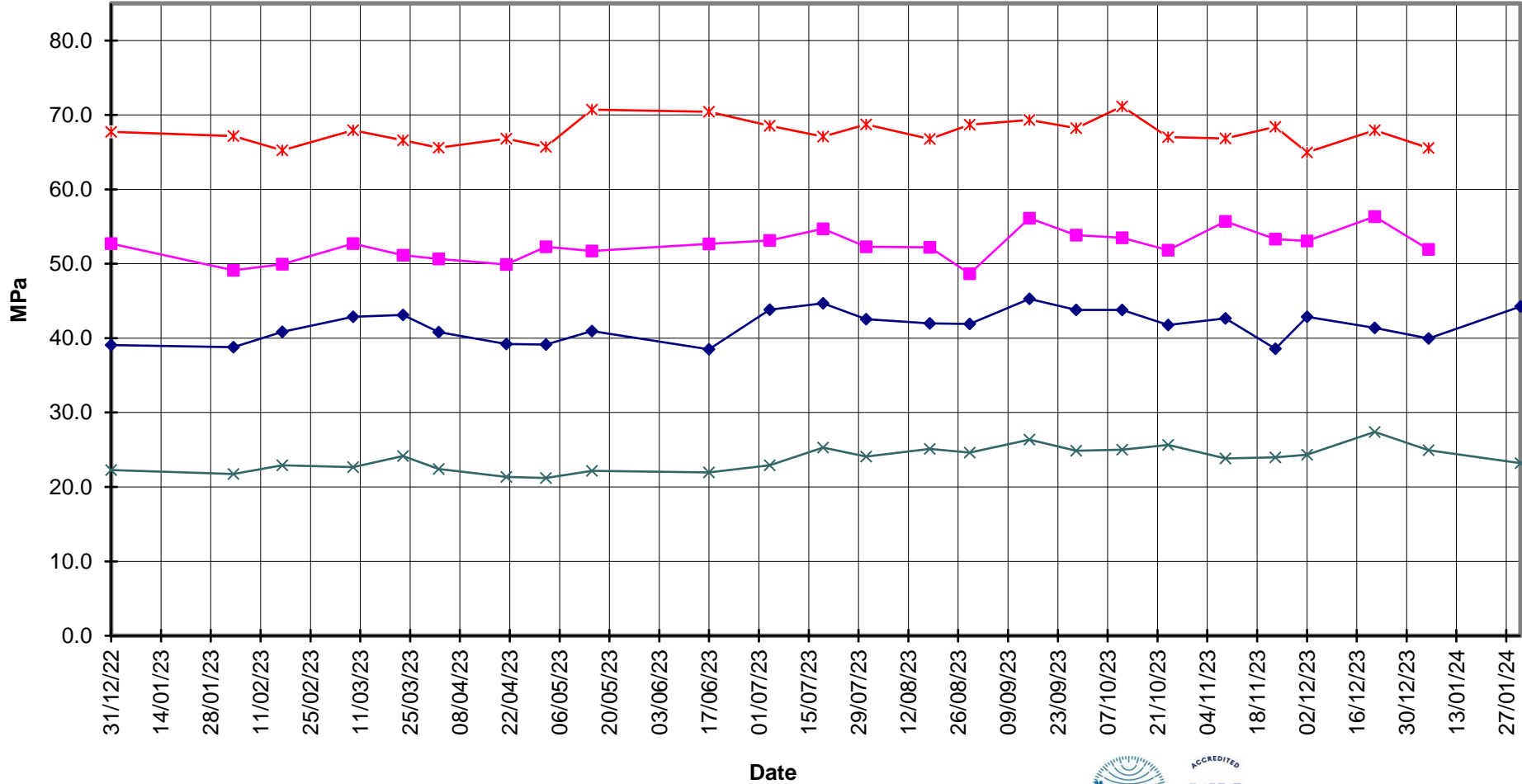


EcoFast®
Type HE Cement



Compressive Strength ISO-CEN Mortar

—x— 28 Days —■— 7 Days —◆— 3 Days —x— 1 Day





EcoFast®
Type HE Cement



Compressive Strength Concrete

