

# CERTIFICATE OF QUALITY

## EcoFast® Type HE Cement

NZS 3122:2009



Issued to: **National Sales Manager**

Test Report No: **24#61**

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                       |             | 519                   | 33.4               | 118         | 3:00      | 1         | 24.1                 | 42.4     | 52.8     | 67.8    | 85.6  | 15.1     | 36.2   | 44.6   | 54.7    | 1.5 | 0.56      | 2.38                     |                        |
| Standard Deviation         |             | 15                    | 0.5                | 13          | 0:17      | 0.4       | 1.4                  | 1.8      | 1.8      | 1.8     | 11.2  | 1.7      | 3.4    | 2.7    | 3.7     | 0.3 | 0.02      | 0.04                     |                        |
| Min                        |             | 500                   | 31.9               | 90          | 2:30      | 0         | 21.2                 | 38.5     | 48.7     | 65.0    | 70.0  | 11.5     | 29.5   | 40.0   | 48.0    | 1.1 | 0.52      | 2.31                     |                        |
| Max                        |             | 565                   | 34.1               | 135         | 3:30      | 2         | 27.4                 | 45.3     | 56.3     | 71.2    | 110.0 | 18.5     | 45.0   | 51.0   | 61.0    | 1.9 | 0.60      | 2.45                     |                        |
| 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     | %   | %         | %                        |                        |
| 240429-362-HE              | 29/04/24    | 550                   | 33.3               | 135         | 3:00      | 1         | 23.2                 | 43.0     | 51.1     |         | 90    | 15.0     | 37.5   | 46.5   |         | 1.5 | 0.56      | 2.43                     |                        |
| 240421-987-HE              | 21/04/24    | 520                   | 33.7               | 120         | 3:15      | 2         | 22.7                 | 43.7     | 50.3     |         | 100   | 16.0     | 35.5   | 44.5   |         | 1.5 | 0.57      | 2.42                     |                        |
| 240409-388-HE              | 09/04/24    | 530                   | 33.8               | 135         | 3:15      | 1         | 24.9                 | 43.2     | 51.8     | 66.7    | 100   | 15.0     | 29.5   | 40.5   | 48.0    | 1.4 | 0.56      | 2.39                     |                        |
| 240318-418-HE              | 18/03/24    | 520                   | 34.0               | 135         | 3:30      | 1         | 24.1                 | 43.1     | 52.6     | 66.4    | 70    | 17.0     | 42.5   | 47.0   | 61.0    | 1.8 | 0.57      | 2.44                     |                        |
| 240310-055-HE              | 10/03/24    | 505                   | 33.1               | 120         | 3:15      | 1         | 24.2                 | 44.3     | 53.7     | 70.3    | 90    | 15.0     | 35.0   | 43.5   | 54.0    | 1.1 | 0.58      | 2.37                     |                        |
| 240301-396-HE              | 01/03/24    | 520                   | 32.8               | 120         | 3:00      | 1         | 23.9                 | 42.0     | 52.8     | 67.7    | 90    | 14.0     | 34.5   | 45.5   | 55.5    | 1.6 | 0.56      | 2.36                     |                        |
| 240214-666-HE              | 14/02/24    | 515                   | 32.9               | 120         | 3:00      | 2         | 23.5                 | 42.3     | 53.2     | 66.0    | 70    | 16.0     | 37.0   | 45.5   | 54.5    | 1.3 | 0.57      | 2.38                     |                        |
| 240131-050-HE              | 31/01/24    | 565                   | 33.0               | 120         | 3:15      | 1         | 23.2                 | 44.3     | 50.6     | 65.9    | 90    | 15.0     | 36.5   | 43.5   | 52.5    | 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                     |                        |

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.

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*Vincent Lane*

Vincent Lane  
Works Chemist



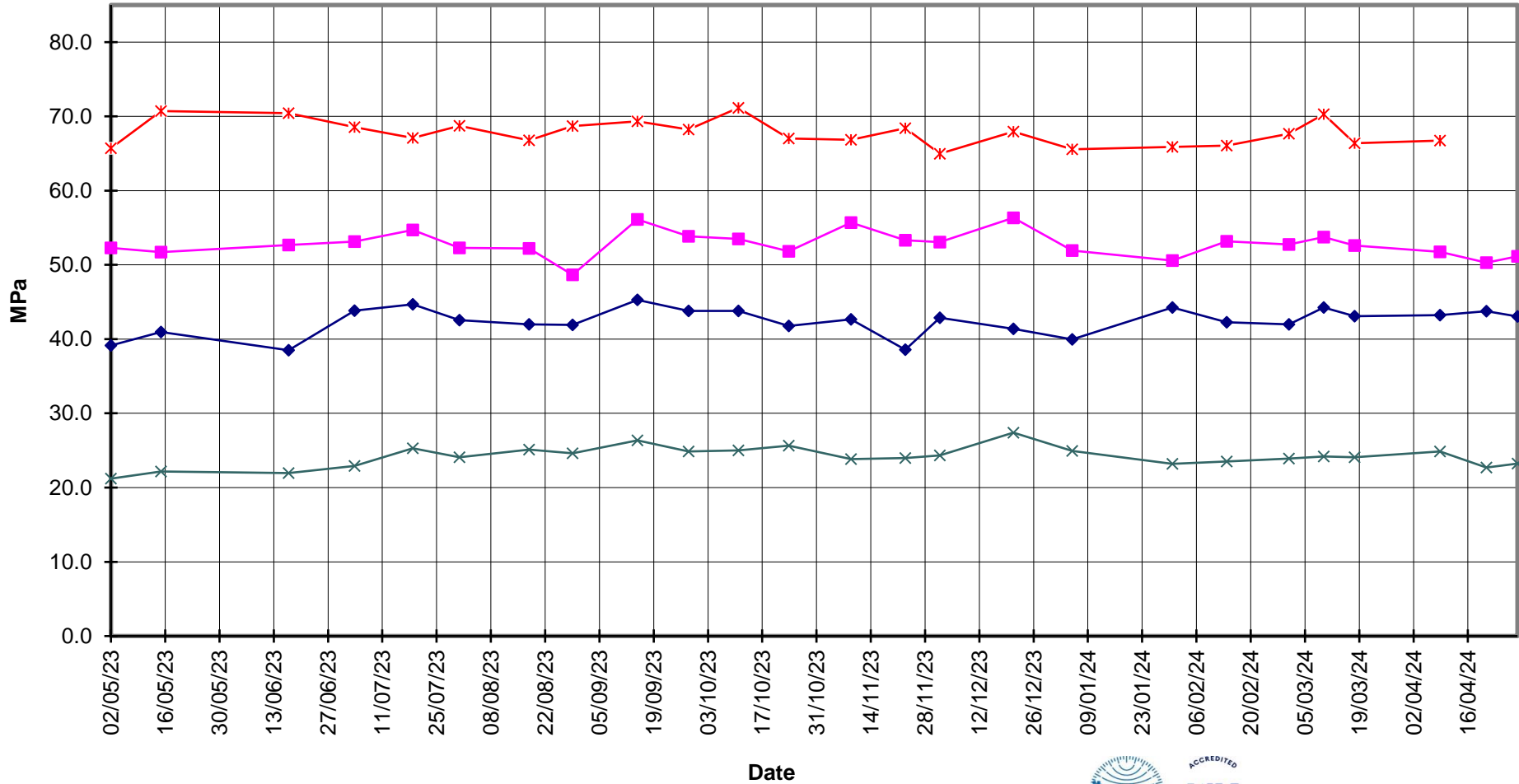
Portland Works, Portland, Whangarei 0178

Date issued: 17/05/24

Page 1 of 3



**EcoFast®**  
**Type HE Cement**  
**Compressive Strength ISO-CEN Mortar**





# EcoFast® Type HE Cement



## Compressive Strength Concrete

—x— 28 Days —■— 7 Days —◆— 3 Days —x— 1 Day —\*— Slump

