

BULK SYSTEMS

PRODUCT REFERENCE CHART AUSTRALIA PACIFIC

| Product | | Application | Density (/cc) | RWS% | RBS%* | VOD (km/s) | Rec. Min. Blasthole Diam. (mm) | Rec. Max. Blasthole Depth (m) | Rec. Max. Charge Length (m) | Hole Type | Rec. Max. Sleep Time | Gassed | Reactive Ground | |
|--|-------------------------------------|---|--|-----------|---------|------------|--------------------------------|-------------------------------|----------------------------------|----------------------------------|---|---|-----------------|-----|
| ANFO | | Dry blasting applications | 0.80 | 100 | 100 | 2.5-4.8 | 76 | 80 | 75 | Dry | 42 days | No | No | |
| COAL | Fortan Coal | 9 | 0.90 | 105 | 119 | 2.5-5.8 | 89 | 80 | 75 | Dry | 21 days | No | No | |
| | | 10 | 1.00 | 107 | 134 | 2.5-5.8 | 89 | | | Dry | | | | |
| | | 11 | 1.10 | 112 | 154 | 2.5-5.8 | 89 | | | Dry | | | | |
| | | 12 | 1.20 | 117 | 175 | 2.8-6.1 | 102 | | | Dry | | | | |
| | 13 | 1.28 | 118 | 189 | 3.1-6.3 | 150 | | | Dewatered | | | | | |
| Aquacharge Coal | | Cost effective blasting for dewatered holes | 1.20-1.25 | 111-116 | 166-173 | 4.0-6.3 | 120 | 80 | 45 | Dry/dewatered | 21 days | Yes | No | |
| Fortis | Coal Coal S Coal H | Reliable wet hole blasting in open cut coal mines | 1.15-1.25 | 100-106 | 144-166 | 3.7-6.5 | 115 | 50 | 45 | Dry/wet/dewatered | 21 days | Yes | No | |
| | | 97-103 | 139-161 | 103-110 | 148-172 | | | | | | | | | |
| Fortis | Deep | Reliable wet hole blasting in deeper holes | 1.25 | 114 | 178 | 4.5-6.5 | 250 | 70 | 65 | Dry/wet | 21 days | Yes | No | |
| HARD ROCK | Fortan Advantage | Increased bulk strength for dry holes in open cut hard rock mines | 0.90 | 105 | 119 | 2.5-5.8 | 89 | 30 | 25 | Dry | 21 days | No | No | |
| | | | 1.00 | 107 | 134 | 2.5-5.8 | 89 | | | Dry | | | | |
| | | | 1.10 | 112 | 154 | 2.5-5.8 | 89 | | | Dry | | | | |
| | | | 1.20 | 117 | 175 | 2.8-6.1 | 102 | | | Dewatered | | | | |
| | 13 | 1.28 | 118 | 189 | 3.1-6.3 | 150 | | | Dewatered | | | | | |
| Aquacharge Advantage | | Cost effective blasting for dewatered holes | 1.20-1.25 | 108-118 | 162-176 | 4.0-6.3 | 120 | 30 | 25 | Dry/dewatered | 21 days | Yes | No | |
| Fortis | Advantage Advantage S Advantage H | Reliable wet hole blasting in open cut hard rock mines | 1.10-1.25 | 100-110 | 137-172 | 3.7-6.5 | 89 | 20 | 15 | Dry/wet/dewatered | 21 days | Yes | No | |
| | | 97-107 | 133-167 | 103-113 | 142-177 | | | | | | | | | |
| HOT AND REACTIVE GROUND | Fortan Eclipse | High bulk strength products for dry holes in mildly reactive environments | 1.00 | 107 | 134 | 2.8-5.6 | 89 | 80 | 75 | Dry | 12 hrs reactive ground 21 days unreactive ground | No | Yes | |
| | | | 1.10 | 112 | 154 | 3.6-6.0 | 89 | | | Dry | | | | |
| | | | 1.20 | 117 | 175 | 3.5-6.0 | 102 | | | Dry | | | | |
| | | | 1.30 | 121 | 194 | 4.0-6.8 | 150 | | | Dewatered | | | | |
| | Aquacharge Eclipse | | Cost effective blasting for dewatered holes in mildly reactive environments | 1.20-1.25 | 112-115 | 168-180 | 4.0-6.7 | 120 | 80 | 45 | Dry/dewatered | 12 hrs reactive ground 21 days unreactive ground | Yes | Yes |
| | Fortis | Eclipse Eclipse S Eclipse H | Reliable wet hole blasting in mildly reactive environments | 1.10-1.25 | 102-112 | 140-175 | 3.7-6.6 | 90 | 45 | 40 | Dry/wet/dewatered | 12 hrs reactive ground 21 days unreactive ground | Yes | Yes |
| | | | 98-108 | 135-169 | 105-116 | 144-181 | 4.1-6.7 | | | | | | | |
| | Fortan Eclipse Plus | High bulk strength products for dry holes in highly reactive environments | 1.00 | 108 | 135 | 2.8-5.6 | 89 | 80 | 75 | Dry | 12 hrs reactive ground 21 days unreactive ground | No | Yes | |
| | | | 1.10 | 113 | 155 | 3.2-6.1 | 89 | | | Dry | | | | |
| | | | 1.20 | 118 | 177 | 3.5-6.5 | 102 | | | Dry | | | | |
| | | | 1.30 | 122 | 198 | 3.8-6.9 | 150 | | | Dewatered | | | | |
| | Aquacharge Eclipse Plus | | Cost effective blasting for dewatered holes in highly reactive environments | 1.20-1.25 | 114-117 | 171-183 | 4.0-6.5 | 120 | 80 | 45 | Dry/dewatered | 12 hrs reactive ground 21 days unreactive ground | Yes | Yes |
| | Fortis | Eclipse Plus Eclipse Plus H | Reliable wet hole blasting in highly reactive environments | 1.10-1.25 | 98-108 | 135-169 | 3.7-6.5 | 90 | 30 | 25 | Dry/wet/dewatered | 12 hrs reactive ground 21 days unreactive ground | Yes | Yes |
| | | | 100-110 | 137-172 | 100-110 | 137-172 | 4.1-6.5 | | | | | | | |
| | Fortis | Vulcan H | Reliable blasting in hot, or hot and reactive ground with in-hole temperatures up to 100°C | 1.10-1.25 | 102-112 | 140-175 | 3.7-6.6 | 89 | 50 | 45 | Dry/wet/dewatered | 8 hrs - 100°C | Yes | Yes |
| 1.10-1.25 | | | 105-116 | 144-181 | 4.1-6.7 | | | | | | | | | |
| Xtreme | | Dry blasting applications for in-hole temperatures up to 100°C | 0.80 | 100 | 100 | 2.5-4.8 | 76 | 80 | 75 | Dry | Up to 50°C - 21 days Up to 100°C - 8 hrs | No | Yes | |
| Vistansi | | High shock energy further assists to optimise fragmentation and expand blast patterns, particularly in hard rock metal mining operations. | 1.20-1.35 | 138-149 | 224-251 | 4.0-6.0 | 100 | 30 | 25 | Dry/dewatered | To be determined based on testing of the reactive ground | Yes | Yes | |
| Vistisi | | Highest energy to optimise fragmentation and expand blast patterns, particularly in hard rock metal mining operations. | 1.20-1.35 | 133-144 | 216-243 | 4.5-6.0 | 90 | 30 | 25 | Dry/wet/dewatered | To be determined based on testing of the reactive ground | Yes | Yes | |
| Aquacharge Clear | | To minimise fume generation in dewatered blastholes | 1.20-1.25 | 113-116 | 169-181 | 4.0-6.6 | 120 | 80 | 45 | Dry/dewatered | 21 days | Yes | No | |
| Aquacharge Clear i | | To minimise fume generation in mildly reactive ground. For use in dewatered blastholes | 1.20-1.25 | 113-116 | 169-181 | 4.0-6.6 | 120 | 80 | 45 | Dry/dewatered | 12 hrs reactive ground 21 days unreactive ground | Yes | Yes | |
| Fortis | Clear Clear S | To minimise fume generation in dry, dewatered or wet blastholes | 1.15-1.25 | 102-108 | 147-169 | 3.7-6.6 | 115 | 50 | 50 | Dry/wet/dewatered | 21 days | Yes | No | |
| | | 100-106 | 144-166 | 100-106 | 144-166 | 3.7-6.5 | | | | | | | | |
| Fortis Clear i/S | | To minimise fume generation in mildly reactive ground. For use in dry, dewatered or wet blastholes | 1.15-1.25 | 100-106 | 144-166 | 3.7-6.5 | 115 | 50 | 50 | Dry/wet/dewatered | 12 hours reactive ground may be extended subject to testing 21 days unreactive ground | Yes | Yes | |
| Fortis Clear i | | Use where the generation of post blast fume could be experienced in reactive ground | 1.15 | 102 | 147 | 3.7-6.2 | 115 | 30 | 50 | Dry/wet | Determined based on reactive ground 21 days unreactive ground | Yes | Yes | |
| | | | 1.20 | 105 | 158 | 3.7-6.4 | 115 | 45 | | | | | | |
| | | | 1.25 | 108 | 169 | 3.7-6.6 | 115 | 50 | | | | | | |
| Aquacharge Extra | | Cost effective blasting with highest bulk strength for dewatered holes | 1.20-1.25 | 116-119 | 174-186 | 4.0-6.5 | 120 | 80 | 45 | Dry/dewatered | 42 days | Yes | No | |
| CHALLENGING | Fortan Extra | Highest bulk strength with longer sleep time | 0.90 | 106 | 121 | 2.5-5.2 | 89 | 80 | 75 | Dry | 42 days | No | No | |
| | | | 1.00 | 110 | 137 | 2.5-5.6 | 89 | | | Dry | | | | |
| | | | 1.10 | 116 | 159 | 2.5-6.0 | 89 | | | Dry | | | | |
| | | | 1.20 | 122 | 183 | 2.8-6.5 | 102 | | | Dewatered | | | | |
| | | | 1.30 | 125 | 200 | 3.8-6.8 | 150 | | | Dewatered | | | | |
| | Fortan Extra i | Specifically designed for difficult blasting in dry and dewatered applications in mildly reactive ground. | 1.00 | 108 | 135 | 2.8-5.6 | 89 | 80 | 75 | Dry | Determined based on reactive ground 21 days unreactive ground | Yes | Yes | |
| | | | 1.10 | 114 | 157 | 3.6-6.0 | 89 | | | Dry | | | | |
| | | | 1.20 | 119 | 178 | 3.5-6.5 | 102 | | | Dry | | | | |
| | | | 1.30 | 125 | 203 | 4.0-6.8 | 150 | | | Dewatered | | | | |
| | Fortis | Extra Extra H | Highest bulk strength, longer sleep time | 1.10-1.25 | 110-120 | 151-187 | 4.1-6.7 | 64 | 45 | 40 | Dry/wet/dewatered | 42 days | Yes | No |
| 110-121 | | | 151-189 | 110-121 | 151-189 | 4.1-6.7 | | | | | | | | |
| Vistan s | | High shock energy further assists to optimise fragmentation and expand blast patterns, particularly in hard rock metal mining operations. | 1.20-1.40 | 140-159 | 227-278 | 4.0-6.0 | 100 | 30 | 25 | Wet/dewatered | 21 days | Yes | No | |
| Vistis | | Highest energy to optimise fragmentation and expand blast patterns, particularly in hard rock metal mining operations. | 1.20-1.40 | 137-156 | 223-273 | 4.5-6.0 | 90 | 30 | 25 | Dry/wet/dewatered | 21 days | Yes | No | |
| UNDERGROUND | Subtek with Subtek Control | | Suitable for use in Underground mining across all hole orientations | 0.8 | 75 | 75 | 3.0-6.2 | 38 | - | Density and application specific | 30 days | Yes | No | |
| | | | | 1.0 | 88 | 110 | | 38 | | | | | | |
| | | | | 1.2 | 101 | 151 | | 45 | | | | | | |
| | Subtek Control (Decoupled Charging) | | Used in underground mining for development/headings | >0.55 | 58 | 40 | | 45 | | | 7 days | | | |
| | Subtek Eclipse with Subtek Control | | Used in underground mines with mildly reactive ground | 0.8 | 75 | 75 | 3.0-6.2 | 38 | - | Density and application specific | Determined based on reactivity | Yes | Yes | |
| | | | | 1.0 | 88 | 110 | | 38 | | | | | | |
| | | | 1.2 | 101 | 151 | | 45 | | | | | | | |
| Subtek Control (Decoupled Charging) | | Used in underground development where there is reactive ground | >0.55 | 58 | 40 | | 45 | | | | | | | |
| Subtek Vulcan with Subtek Control | | Used in underground mines with reactive and/or hot ground | 0.8 | 73 | 75 | 3.0-6.2 | 38 | - | Density and application specific | Based on Ground Conditions | Yes | Yes | | |
| | | | 1.0 | 81 | 101 | | 38 | | | | | | | |
| | | | 1.2 | 88 | 132 | | 60 | | | | | | | |
| Subtek Vulcan with Subtek Control (Decoupled Charging) | | Used in underground development headings with reactive and/or hot ground | >0.55 | 63 | 43 | | 45 | | | | | | | |
| QUARRY/ CONSTRUCTION | Centra Gold Gold ES Gold GT | Designed specifically for use in wet blastholes | 1.15-1.25 | 112 | 168 | 4.5-6.4 | 76 | 25 | 20 | Dry/wet/dewatered | 21 days | Yes | No | |
| | | | 1.10 | 103 | 142 | 4.1-5.9 | 76 | 30 | 26 | | | | | |
| | | | 1.15-1.25 | 113-120 | 162-187 | 4.4-6.7 | 76 | 25 | 20 | | | | | |
| Centra Extend | | Dry hole bulk explosive | 1.10 | 115 | 158 | 3.5-6.05 | 89 | 25 | 20 | Dry | 21 days | Yes | No | |
| Centra Eclipse | | Designed for mildly reactive ground | 1.15-1.25 | 102-112 | 140-175 | 3.7-6.6 | 90 | 30 | 25 | Dry/wet/dewatered | 21 days | Yes | Yes | |
| CIVIL TUNNELLING | Civec System with Civec Control | | Designed for use in civil tunnelling and underground construction applications | 0.80-1.20 | 72-98 | 72-147 | 4.5-6.2 | 38-64 | - | - | Dry/wet | 7 days | Yes | No |
| | Civec Control (Decoupled Charging) | | | >0.55 | 58 | 40 | | 38 | | | | | | |

* Relative to ANFO @ density 0.8g/cc

Please refer to the Technical Data Sheets on orica.com for the latest product updates for countries within Australia Pacific.

© 2023 Orica Group. All rights reserved. All information contained in this document is provided for informational purposes only and is subject to change without notice. Since the Orica Group cannot anticipate or control the conditions under which this information and its products may be used, each user should review the information in the specific context of the intended application. To the maximum extent permitted by law, the Orica Group specifically disclaims all warranties express or implied in law, including accuracy, non infringement, and implied warranties of merchantability or fitness for a particular purpose. The Orica Group specifically disclaims, and will not be responsible for, any liability or damages resulting from the use or reliance upon the information in this document.

The word Orica, the Ring device, Fortis, Fortan, Vistan, Centra, Subtek, Civec, Aquacharge and Xtreme are trademarks of the Orica Group.

The information listed in the above chart is from Australia Bulk Systems Technical Data Sheets. For country specific technical properties within Pacific Region please refer to orica.com to download up-to-date Technical Data Sheets.

Bulk Reference Chart Updated December 2023



orica.com