

Schedule

Admaterials Technologies Pte Ltd
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Certificate No. : LA-2010-0461-A

Issue No. : 15

Date : 14 April 2021

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FIELD OF TESTING : Chemical and Biological Testing

| MATERIALS / PRODUCTS TESTED | TESTS / PROPERTIES | STANDARD METHODS / TECHNIQUES / EQUIPMENT |
|-----------------------------|---|---|
| A Aggregates | 1. Chloride Content | SS 73: Part 17: 1992 BS 812: Part 117: 1988 BS EN 1744-1: 2009 + A1: 2012 (Clause 7) BS EN 1744-1: 1998 (Clause 7) BS EN 1744-5: 2006 |
| | 2. Sulfate Content | SS 73: Part 18: 1992 BS 812: Part 118: 1988 BS EN 1744-1: 2009 + A1: 2012 (Clause 10, 12) BS EN 1744-1: 1998 (Clause 10, 12) |
| | 3. Potential Alkali Silica Reactivity (Chemical Method) | ASTM C289: 2007 |
| | 4. Lightweight Organic Contaminator | BS EN 1744-1: 2009 + A1: 2012 (Clause 14.2) |
| | 5. Humus Content | BS EN 1744-1: 2009 + A1: 2012 (Clause 15.1) |
| | 6. Fulvo Acid | BS EN 1744-1: 2009 + A1: 2012 (Clause 15.2) |
| | 7. Loss on Ignition | BS EN 1744-1: 2009 + A1: 2012 (Clause 17) |
| | 8. Fixed Water Content by Ignition Test | ASTM C637-20, Clause 9.1.3.1 |
| | 9. Total Sulfur Content | BS EN 1744-1:2009+A1:2012, Clause 11 |
| | 10. Water Soluble Chloride Salts using the Mohr Method | BS EN 1744-1:2009+A1:2012, Clause 9 |

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|---|---|--|
| B1 Cement, Silica Fume, Ground Granulated Blast Furnace Slag | 11. Organic Impurities 1. Loss of Ignition 2. Sulfate 3. Residual Insoluble 4. Manganese 5. Silica 6. Iron (III) Oxide 7. Aluminium Oxide 8. Calcium Oxide 9. Magnesium Oxide 10. Chloride 11. Alkali 12. Carbon Dioxide 13. Sulfide 14. Pozzolanicity 15. Heat of Hydration – Solution Method 16. Chemical Analysis by X-Ray Fluorescence 17. Chemical Analysis of Hydraulic Cement for Specific Analytes <ul style="list-style-type: none"> • Insoluble Residue • Ferric Oxide • Phosphorus Pentoxide • Titanium Dioxide • Ammonium Hydroxide Group • Magnesium Oxide • Sulfur Trioxide • Loss On Ignition • Silicon Dioxide • Aluminium Oxide • Calcium Oxide • Sodium & Potassium Oxide, Total Alkali • Chloride 18. Free Calcium Oxide in Cement - Rapid (Sr(NO ₃) ₂) Method | ASTM C40 / C40M - 20 SS 73: 1974 } BS EN 196-2: 2013 SS 397: Part 2: 1997 } BS EN 196-2: 2013 SS 397: Part 2: 1997 BS EN 196-5: 2011 BS EN 196-8: 2010 BS EN 196-2: 2013 ASTM C114-18 ASTM C114-18, No. 30.3 |

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| B2 Cement, Fly Ash | 1. Reactive Silica | BS EN 196-2: 2013 / (SS EN 197-1: 2014) (BS EN 450-1:2012) |
| B3 Silica Fume | 1. Specific Surface Area – BET method 2. Free Calcium Oxide 3. Surface silicon | ISO 9277: 2010 BS EN 451-1:2017 ISO 9286 : 1997 |
| B4 Fly Ash | 1. Loss of Ignition 2. Sulfate 3. Residual Insoluble 4. Manganese 5. Silica 6. Iron (III) Oxide 7. Aluminium Oxide 8. Calcium Oxide 9. Magnesium Oxide 10. Chloride 11. Alkali 12. Free Calcium Oxide | <p>} BS EN 196-2: 2013 (BS EN 450-1: 2012)</p> <p>BS EN 451-1:2017</p> |
| C Concrete (Hardened Concrete) | 1. Chloride 2. Sulfate 3. Cement Content 4. Silane Content by Py-GC 5. Apparent Chloride Diffusion Coefficient of Cementitious Mixtures by Bulk Diffusion 6. Imidachloprid Concentration 7. Determination of the chloride resistance of concrete, unidirectional diffusion | <p>BS 1881-124:2015 BS EN 14629:2007 BS 1881-124:2015 BS 1881-124:2015</p> <p>ADM/CB/0005:2016</p> <p>ASTM C1556 - 11a (2016) Nordtest Method NT BUILD 443 (Approved 1995-11)</p> <p>ADM/CB/0006:2018</p> <p>EN12390-11:2015</p> |
| D Plaster / Motar / Screed | 1. Mix Composition (i.e. Cement, Lime, Gypsum & Aggregate) 2. Chloride 3. Sulfate | } BS 4551 : 2005 + A2:2013 |

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| E Admixture | <ol style="list-style-type: none"> 1. Absolute Density at 20°C 2. Conventional Dry Material Content 3. pH Value at 20°C 4. Water Soluble Chloride 5. Alkali Content 6. Silicon Dioxide SiO₂ Content 7. Infrared Analysis 8. Ash Content 9. Homogeneity 10. Colour | <p>ISO 758: 1976</p> <p>BS EN 480-8: 2012</p> <p>ISO 4316: 1977</p> <p>BS EN 480-10: 2009</p> <p>BS EN 480-12: 2005</p> <p>BS EN 196-2: 2013 (procedure 4.5)</p> <p>BS EN 480-6: 2005</p> <p>SS 320: 1987</p> <p>BS EN 934-1:2008</p> <p>BS EN 934-1:2008</p> |
| F Repair Material | | |
| 1 Polymer Modified Cement Motar / Waterproofing Coating / Modified Cement Mortar / Waterproofing Coating | <ol style="list-style-type: none"> 1. Polymer Content 2. Polymer Identification 3. Cement Content | <p>ADM/C&B/001: 2021</p> <p>ADM/C&B/002: 2021</p> <p>BS 4551: 2005 + A2: 2013</p> |
| 2 Cementitious Waterproof Membrane | <ol style="list-style-type: none"> 1. Verification of base polymer 2. Chloride Content | <p>ADM/C&B/001: 2021</p> <p>ADM/C&B/002: 2021</p> <p>ADM/C&B/003: 2010</p> |
| 3 Waterproofing Coating - for repair to external wall | <ol style="list-style-type: none"> 1. Verification of base polymer 2. Polymer Content | <p>ADM/C&B/002: 2021</p> <p>ADM/C&B/001: 2021</p> |
| 4 Non-Cementitious Waterproof Membrane | <ol style="list-style-type: none"> 1. Volatile Content 2. Verification of base polymer | <p>ADM/C&B/001: 2021</p> <p>ADM/C&B/001: 2021</p> <p>ADM/C&B/002: 2021</p> |

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|--|--|---|
| G Building Material 1 Prepacked Mortar 2 Prepacked Skim Coat 3 Prepacked Waterproof Screed 4 Tile Grout 5 Acrylic Polymer Cementitious Coating | 1. Polymer Content 2. Product Identification Analysis 1. Product Identification Analysis 1. Polymer Content 1. Identification of Polymer |) ADM/C&B/001: 2021) ADM/C&B/002: 2021) ADM/C&B/002: 2021) ADM/C&B/001: 2021 ADM/C&B/002: 2021 |
| H Paint and Coating | 1. Density 2. Non-Volatile Matter 3. Paint Dilution Test 4. Volatile Organic Compounds 5. Water Content by Karl Fisher | SS 5: Part B7: 2013(2018)+A1:2018 ASTM D1475-13 (2020) SS 5: Part B2: 2013 (2018), ISO 3251:2019,IDT ASTM D2369-20 ADM/C&B/004:2020 ISO 11890-2: 2013 ISO 11890-1: 2007 ADM/C&B/009: 2019 |
| I Metals and Metal Products | <u>Determination of Metal Composition by Optical Emission Spectroscopy</u> 1. Carbon and Low Alloy Steels 2. Stainless Steels | ASTM E415 - 17 ASTM A751: 2020 ASTM E1086: 2014 ASTM A751: 2020 |
| J Food, Chinese Proprietary Medicine (CPM), Traditional Chinese Medicine (TCM), Health Supplements | 1. Arsenic, Cadmium, Copper, Lead, Mercury | ADM/C&B/007:2021 |

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| K Building Products, Plastic, Rubber, Polymer materials, Packing materials, Paint and Coating | 1. Phthalates: <ul style="list-style-type: none">• bis(2-n-butoxyethyl)phthalate• Benzyl butyl phthalate• Dipentyl phthalate• Dibutyl phthalate• Dicyclohexyl phthalate• Diethyl phthalate• Dihexyl phthalate• Diisobutyl phthalate• Dimethyl phthalate• Dinonyl phthalate• Di-n-octyl phthalate• bis(2-Ethoxyethyl)phthalate• bis(2-Ethylhexyl)phthalate• bis(2-Methoxyethyl)phthalate• bis(4-Methyl-2-pentyl)phthalate• Diisodecyl phthalate• Diisononyl phthalate | CPSC-CH-C10001-09.4 |
| | 2. N-methyl Pyrrolinone (NMP) | ADM/C&B/008:2019 |
| | 3. Epichlorohydrin | ADM/C&B/008:2019 |

Approved Signatory

Mr. Lu Jin Ping – For All Accredited Tests

Ms. Sherly Wijaya - For Sections A – I, K

Ms. May Soe Moe – For Sections A – I

Ms. Doris Tan – For Sections J & K

Note:

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid test results. The **management system requirements** in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001.