



LOW VOC • NON-SHRINK • NON-SWELL • NON-STAIN • FAST CURE



#### SEALEX ZOTA M150 HYBRID POLYMER

The Zota M150 by Sealex is a one-part elastomeric hybrid technology sealant that combines ther adbantages of silicone and polyurethane but with better performing characteristics. Unlink polyurethane the Zota M150 Hybrid Polymer does not contain any solvent nor isocyanates making the Zota M150 non-shrink, non-bobble and low VOC and high UV resistance. Zota M150 is excellent for outdoor application. Unlike silicone, Zota M150 is paintable.

- Low VOC Comply to Green Building requirement
   Solvent free and odorless
- For both external and internal application
- · Isocyanate free and silicone free
- · Watertight and weatherproof

- Minimal dirt pick up
- · Stain free
- Paintable







| Features                              | Benefits                                                                                                 |
|---------------------------------------|----------------------------------------------------------------------------------------------------------|
| Excellent adhesion to most substrates | Versatile and flexible in applications.                                                                  |
| Isocyanate and solvent free           | Safe to users and home owner especially interior applications Green & environmentally friendly.          |
| Low VOC                               | Less than 2%. comply to Green Building requirement                                                       |
| Odorless (Safe to human)              | Work in comfort. Live in comfort.                                                                        |
| Excellent weather & UV resistance     | Show no cracking, splitting or adhesion failure after long term test.  10 years service life expectancy. |
| Can be use on wet surface             | Increase productivity                                                                                    |
| Non-gassing, building or foaming      | Provide a strong solid long life seal                                                                    |
| Quick cure                            | Increase productivity. Cleaner work space.                                                               |
| Stain - free (Non-migration)          | Excellent stain resistant when applied to porous substrates.                                             |
| Minimal dirt pickup (Silicone free)   | Non-bleeding throughout the life span of the product result in clean joint.                              |
| Excellent paintability                | Paintable with most paints.                                                                              |
| One-part system and primerless        | Versatile and easy to apply and adhere even to wet surfaces.                                             |
| High strength                         | High tensile and shear strength provides a strong joint.                                                 |









## **Applications**

- Concrete joints
- General industrial applications
- General sealing and waterproofing
- Window and Door Construction
- **HVAC**

## **Certification & Compliance**

- ASTM C920 2008 Certified
- LEED 2009 EQ c4.1 VOC Compliance
- SCAQMD rule 1168 VOC Compliance

## **Conformance**

- ZOTA M150 complys to ASTM C920 Type S, Grade NS, Class 25
- Singapore PSB for HDB

## Colors



Standard colors are white, light grey and black. Other colors available upon request.

# **Technical Specification**

| Curing Time         | 3 mm. depth per day |  |  |
|---------------------|---------------------|--|--|
| Skin Time           | 15-25 min           |  |  |
| Odor                | Very Low Odor       |  |  |
| Specific Gravity    | 1.58                |  |  |
| Elongation          | 300% - 400%         |  |  |
| Working Temperature | 5°C - 45°C          |  |  |
| Tensile Strength    | 1.6 MPa             |  |  |
| Movement Capability | ±25%                |  |  |
| Hardness            | 25 - 40 Shore A     |  |  |

## **LEED 2009 (Section 4.1)**

#### Analytical results

|                                                                                | Solid content,<br>% mass | Water content,<br>% mass | Exempt<br>compounds,<br>% mass | VOC less water<br>less exempt<br>compounds, g/l | VOC limit<br>g/l |
|--------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------------|-------------------------------------------------|------------------|
| ZOTA M150<br>HYBRID POLYMER                                                    | 99.7                     | 0**                      | 0***                           | 4.7                                             | 70*              |
| * VOC limit for "Multipurpose Construction Adhesives" ZOTA M150 HYBRID POLYMER |                          |                          |                                |                                                 |                  |

<sup>\*</sup> VOC limit for "Multipurpose Construction Adhesives"

## **Common Bonding Substrates**

- Aluminum
- Metals
- Granite

- Ceramics
- Most Woods
- Marble

- **Most Plastics**
- **PVC**

- Painted Surfaces
- Porcelain
- Porous Surfaces (Convrete, Brick, Etc.)

- Glass











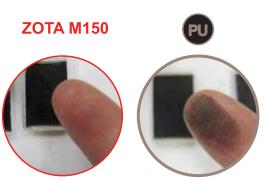




# Features & Benefits

### **WEATHERABILITY**

No degradation and change in colour after 2000 hrs exposure to UV, PU shows signs of degradation and colour change after only 1000 hrs exposure.

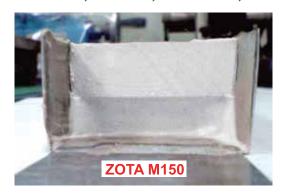


### **PAINTABLE**

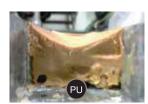
ZOTA M150 offers execellent paintability for all paints and colours compared to other sealants

|              | WATER BASE ACRYLIC PAINT |       |  |
|--------------|--------------------------|-------|--|
| SEALANT      | Α                        | В     |  |
| ZOTA M150    |                          |       |  |
| Silicone     |                          | WALL! |  |
| Polyurethane |                          |       |  |

#### NO BUBBLE, NO FOAM, NO HOLLOW, NON SHRINKAGE



ZOTA M150 when cured remains flexible but provide a solid seal and excellent adhesion without any bubble, hollow and shrinkage compared to all PU which naturally produces bubbles and shrinks.







# Size of Packaging







# Comparison Table



## TECHNICAL SUBMITTA

|   | The state of the s |                     |                      |          |                                                                                                                              |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|----------|------------------------------------------------------------------------------------------------------------------------------|
|   | Properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sealex<br>ZOTA M150 | Polyurethane<br>(PU) | Silicone | Comparison and Results                                                                                                       |
|   | Non-hazardous, safe to human and environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10                  | 5                    | 9        | Unlike PU, ZOTA M150 does not contain any isocyanate and solvent which are hazardous to health and environment.              |
| 9 | Non Dirt Pickup                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10                  | 8                    | 5        | ZOTA M150 does not bleed throughout its life span and so does not attract dirt                                               |
|   | Stain Resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 8                   | 7                    | 5        | Due to its non-bleed property, ZOTA M150 does not stain the substrates especially marble, granite and other porous material. |
|   | Weatherability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9                   | 6                    | 10       | ZOTA M150 displays excellent weather resistance.                                                                             |
| Ì | Non-bubbling and foaming                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10                  | 6                    | 10       | This provides a very strong, long life and solid seal and adhesion.                                                          |
|   | Adhesion Versatility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10                  | 5                    | 8        | ZOTA M150 can be used with most substrates and yet displays the strongest adhesion.                                          |
|   | Paintability with water-based paints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10                  | 8                    | 0        | When painted it is able to blend well with its environment.                                                                  |
|   | Fast Curing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10                  | 7                    | 10       | Increases productivity and also prevents messy working environment when accidently touched.                                  |
|   | Storage Stability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7                   | 7                    | 9        | When stored properly and protected from moisture, ZOTA M150 has an excellent shelf-life.                                     |

# Test Report No. 7191215308-MEC19-ED dated 4 Sep 2019



#### TEST RESULTS:

| ·                                              |                                                         | 1.00.000000                                                                        |
|------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|
|                                                |                                                         | ASTM C920 : 2014a Standard                                                         |
| Test                                           | 'Sealex/Zota M150<br>Modified Polymer'                  | Specification For Elastomeric Joint Sealants                                       |
| Staining And Colour Change                     | No staining                                             | The sealant shall not cause any visible                                            |
| Stanning / the Solder Sharige                  | No colour change                                        | stain on the top surface of a white                                                |
|                                                | · ·                                                     | cement mortar base                                                                 |
| 2. Extrudability                               | 10.0 ml/min                                             | Type S (single component), grade NS                                                |
|                                                |                                                         | (non-sag or gunnable sealant) shall                                                |
|                                                |                                                         | have an extrusion rate of not less than 10 ml/min                                  |
| Rheological (Flow) Properties                  | Vertical displacement:                                  | Grade NS (non-sag) or gunnable                                                     |
| 3. Theological (How) Hoperties                 | 0 mm sag                                                | sealant shall have flow characteristics                                            |
|                                                | Horizontal displacement:                                | such that it does not sag more than                                                |
|                                                | No deformation                                          | 4.8 mm ( <sup>3</sup> / <sub>16</sub> in.) in vertical                             |
|                                                |                                                         | displacement. Also the sealant shall                                               |
|                                                |                                                         | show no deformation in horizontal                                                  |
|                                                |                                                         | displacement (refer to Types II and IV                                             |
|                                                |                                                         | in the tests)                                                                      |
| Indentation Hardness                           | test piece 1, average : 22.9                            | Use T <sub>1</sub> (traffic) sealant shall have a                                  |
|                                                | test piece 2, average : 22.6 average of 2 test pieces : | hardness reading, after being properly cured, of not less than 25                  |
| 28                                             | 22.8                                                    | Use T <sub>2</sub> (traffic) sealant shall have a                                  |
|                                                | 22.0                                                    | hardness reading, after being properly                                             |
|                                                |                                                         | cured, of less than 25                                                             |
|                                                |                                                         | Use NT (non-traffic) sealant shall have                                            |
|                                                |                                                         | a hardness reading, after being                                                    |
|                                                |                                                         | properly cured, of less than 60                                                    |
| 5. Tack-Free Time                              | No transfer of test                                     | There shall be no transfer of the                                                  |
|                                                | specimens to the                                        | sealant to the polyethylene film when tested at 72 hours                           |
| 6. Adhesion & Cohesion Under                   | polyethylene film                                       | The total loss in bond and cohesion                                                |
| Cyclic Movement, Class 25                      | No loss in bond                                         | areas among the three specimens                                                    |
| Cyclic Met ament, Class 20                     |                                                         | tested for each surface shall be no                                                |
|                                                |                                                         | more than 9 cm <sup>2</sup> (1 <sup>1</sup> / <sub>2</sub> in. <sup>2</sup> ) with |
|                                                | OFFICE                                                  | standard mortar, glass, and aluminium                                              |
|                                                |                                                         | or any other specified substrates                                                  |
| 7. Effects Of Heat Ageing On                   | 1.0%                                                    | The sealant shall not lose more than                                               |
| Weight Loss, Cracking And<br>Chalking, average | No cracking and chalking                                | >7% of its original weight or show any cracking and chalking                       |
| 8. Effects Of Accelerated                      | No cracks after                                         | The sealant shall show no cracks                                                   |
| Weathering                                     | UV exposure and bend test                               | greater than those shown in example                                                |
|                                                |                                                         | #2 of Figure 1 in ASTM C793 after the                                              |
|                                                | 4                                                       | specified UV exposure and shall show                                               |
|                                                |                                                         | no cracks greater than those shown in                                              |
|                                                |                                                         | example #2 of Figure 2 in ASTM C793                                                |
|                                                |                                                         | after exposure at cold temperature                                                 |
| Adhesion-In-Peel, average                      | 32.6 N (7.3 lbf)                                        | and the bend test (refer to Photo 2)  The peel strength for each individual        |
| a. Aunesion-in-reel, average                   | cohesive failure within the                             | test shall not be less than 22.2 N                                                 |
|                                                | sealant and no adhesive                                 | (5 lbf) when tested with standard                                                  |
|                                                | bond loss between sealant                               | mortar, glass, and aluminium or any                                                |
|                                                | and substrate for each                                  | other specified substrate. In addition,                                            |
|                                                | test piece                                              | the sealant shall show no more than                                                |
|                                                |                                                         | 25% adhesive bond loss for each                                                    |
| 40.14 (1111 (15) (1)                           | <u> </u>                                                | individual test                                                                    |
| 10. Material Identification/                   | Ether-based material                                    | -                                                                                  |
| Verification By FTIR                           | (refer to Figure 1)                                     |                                                                                    |

#### LIMITED WARRANTY

The information contained in this document offered in good faith is believed to be accurate. However, as it is beyond our control on the conditions and methods of use of our products by our clients the information contained in this document should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end application.

Sealex warranties that all Sealex products meet the specifications herewith at the time of shipment. In the event of breach of such warranty Sealex is limited to refund of purchase price or replacement of any product shown to be other than as warranted.







### **GREEN STANDARDS**

- \* LEED 2009 for New Construction and Major Renovations: Low Emitting Materials (Section 4.1), SCAQMD rule 1168 (2005)
- \* ASTM D2369 EPA Method 24 VOC content 46 g/l or 3.6%



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