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**TECHNICAL DATA SHEET**

**Silmer® OHT Di-xx Series**  
 Hydroxyalkyl modified silicones

**DESCRIPTION**

**Silmer® OHT Di-10, Silmer OHT Di-50, and Silmer OHT Di-100** are hydroxyalkyl modified silicones. These 100% active materials have four primary hydroxyl groups available for reaction and hydrogen bonding. Each end of the silicone polymer is functionalized with a branched alkyl group with two primary hydroxyl groups. These products differ in the chain length of the silicone backbone.

**TYPICAL PROPERTIES**

	Silmer OHT Di-10	Silmer OHT Di-50	Silmer OHT Di-100
<b>Appearance</b>	Clear yellow liquid	Clear yellow liquid	Clear yellow liquid
<b>Viscosity, cPs</b>	220	400	800
<b>Active Content, %</b>	100%	100%	100%
<b>Molecular Weight, g/mol</b>	1400	4500	8400
<b>Equivalent Weight, g/mol</b>	350	1125	2100
<b>Solubility, (1% / 10%)</b>			
- Water	Insoluble/Insoluble	Insoluble/Insoluble	Insoluble/Insoluble
- IPA	Soluble/Soluble	Soluble/Soluble	Soluble/Soluble
- Mineral Spirits	Dispersible/Insoluble	Insoluble/Insoluble	Insoluble/Insoluble

**USES AND APPLICATION**

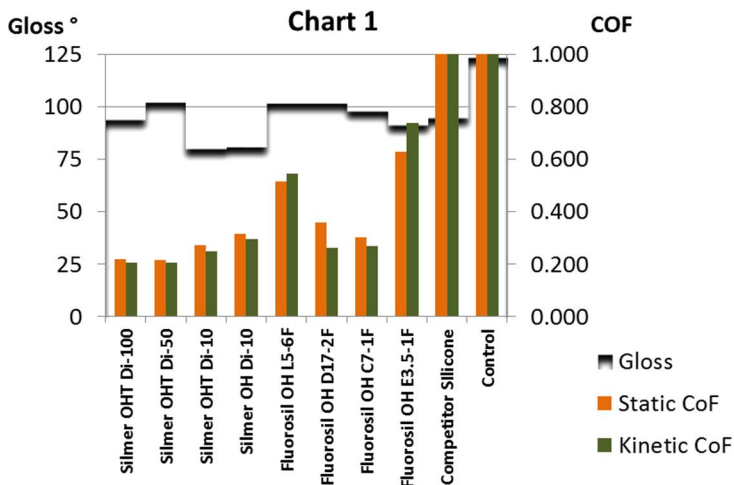
**Silmer OHT Di-10, Silmer OHT Di-50 and Silmer OHT Di-100** are designed to have limited miscibility with organic formulations allowing them to bloom to the surface and provide slip, mar and stain resistance, as well as release properties.

**Silmer OHT Di-xx series products** have primary OH groups for reaction with isocyanate, epoxy, silane or other condensation cured polymers and films. This provides durable properties to a cured system.

**Silmer OHT Di- xx series products** has shown stain release performance better than that of other silicone products and similar to or better than our **Fluorosil** fluoroalkyl silicones. Because **Silmer OHT Di-10** contains no fluoroalkyl it is without the possible downsides of these materials.

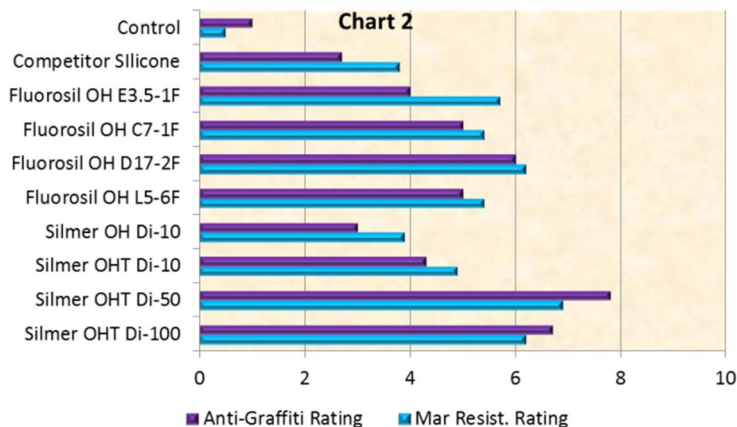
**APPLICATION DATA**

In Chart 1, Static COF, Kinetic COF, and Gloss data are shown for **Silmer OHT Di-10, Silmer OHT Di-50 and Silmer OHT Di-100** products which were evaluated at 2% use level in a WB PU model formulation and compared to various controls. Similar results were achieved with a SB PU system not reported here.



In chart 1, one can see that these products are much better than the control without any additive and the control using 2% of a competitive anti-graffiti silicone, both of which are off of the COF chart scale. Also, **Silmer® OHT Di-10** gives the same or more COF reduction than all four fluoroalkyl based **Fluorosil®** structures. The slip and properties are also better than those of **Silmer OH Di-10**, a corresponding silicone with different hydroxyalkyl modification.

In Chart 2, anti-graffiti ratings and mar resistance ratings are shown for the same materials at 2% in the WB PU model formulation. Here, the **Silmer OHT Di-10** outperforms the control, the control with a competitive silicone and the **Silmer OH Di-10**.



The fluoroalkyl containing **Fluorosil®** structures give better performance, but also come with a much higher price tag.

The **Silmer OHT Di-50** and **Silmer OHT Di-100** outperform the **Silmer OHT Di-10**. These two higher molecular weight materials also outperform the **Fluorosil** products.

The **Silmer OHT Di-10** is the most compatible of these three which will minimize possible side-effects.

Typical use levels for anti-graffiti properties are 1-5%. For slip properties alone, lower use levels can be used. In this case 0.1% is a good screening point.

### **SAFETY**

Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information.

THIS MATERIAL IS NOT FOR MEDICAL OR DRUG USE.

### **STORAGE AND SHELF LIFE**

When stored in the original, unopened containers between 10 and 40°C, **Silmer OHT Di-10**, **Silmer OHT Di-50** and **Silmer OHT Di-100** have a shelf life of 36 months from date of manufacture.

### **PACKAGING**

**Silmer OHT Di-10**, **Silmer OHT Di-50** and **Silmer OHT Di-100** are available in 20kg and 200kg containers.

### **LEGAL DISCLAIMER**

Siltech Corporation believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech Corporation, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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