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**GRAFFITI RESISTANCE  
OF MITREX SOLAR  
PRODUCTS**

## 1. INTRODUCTION

Graffiti testing follows ASTM D6578 – Determination of Graffiti Resistance. A series of materials typically used as graffiti markings is applied to test panels of the glass being evaluated. The graffiti markings are removed using a series of increasingly strong chemical cleaners. Specimen are evaluated visually to determine cleanability level based on the mildest cleaning agent to completely remove the marking.

## 2. PROCEDURE

Three types of glass are tested: clear, satin, and AR-coated solar glass. The glasses are marked using a 1x1" (25.4 x 25.4mm) square template with the following marking materials: Alkyd enamel spray paint (black), acrylic spray paint (red), solvent-based permanent marker (Sharpie), wax crayon, ballpoint pen ink, and water-based marker. The markings are left to dry for 24 hours before attempting removal.

Scores are awarded based on the mildest cleaning agent to completely remove the marking with no shadow, stain, or loss of gloss using vigorous rubbing. If the strongest cleaning agent is unable to remove the marking, then the score awarded is based on how much of the marking remains. A dry, lint-free cotton cloth is wetted with the cleaning agent before attempting removal. The removal agents and their scores are as follows:

CLEANING AGENT	SCORE
Dry Cloth	10
Mild Detergent	9
Isopropyl Alcohol (IPA)	8
Mineral Spirits	7
Xylene	6
Methyl Ethyl Ketone (MEK)	5
Not cleanable	4-1, based upon visual inspection

## 3. RESULT

The graffiti removal scores are presented in the following table:

GLASS TYPE	SCORE						TOTAL	AVERAGE
	ENAMEL SPRAY PAINT	ACRYLIC SPRAY PAINT	SOLVENT-BASED MARKER	WATER-BASED MARKER	WAX CRAYON	BALLPOINT PEN		
Clear Glass	8	8	8	9	10	8	51	8.5
Satin Glass	8	8	8	9	9	9	51	8.5
AR-Coated Solar	7	8	9	9	9	9*	51	8.5

\*The ballpoint pen left permanent scratches in the AR coating which could not be removed

## 4. RECOMMENDED CLEANING METHOD


Upon discovery of graffiti, an alcohol solution such as ethanol or IPA should be combined with mild rubbing of a soft, lint-free cloth until the markings are removed. Depending on the graffiti type, water with a mild detergent may also be used. Harsh organic chemicals such as acetone or MEK should not be used as these are likely to damage the AR-coating on the glass (if applicable). High-pressure spray equipment should not be used as this may damage the glass.



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