



DIAMOND
COATINGS



Diamox Visin Anti-Reflection Coating - PMMA

INTRODUCTION

Diamond Coatings, a privately owned group of companies, is a recognised leader in the production and manufacture of vacuum coatings, which include transparent conductive coatings (our Diamox ITO range – Indium Tin Oxide) and optical coatings (our Diamox Visin AR range – Eg: Broadband AR or V coat, 3DAR for Cinema application, Beam Splitter, etc).

Our AR coatings are individually designed and fine-tuned, to be deposited onto both glass and plastic, to meet your specific requirements and specifications.

This Visin AR Filter product is designed for front covers of LCD, PCAP and other displays. We provide highly visible Anti-Reflection (AR) coating with high transmission, to minimize the reflection glare.

Our AR coating technology is vacuum deposited to ensure the quality is among the finest performance in the optical thin film industry.

DIAMOND COATINGS LTD.

Unit 3&4 Sterling Park, Pedmore Road,
Brierley Hill,
West Midlands, DY5 1TB
Tel: +44 (0) 121 550 9430
Email: enquiries@diamondcoatings.co.uk
Web: www.diamondcoatings.co.uk

DIAMOND COATINGS INC.

1428 N Horne St Suite 130,
Gilbert, Arizona,
85233
Tel: +1 (480) 999 3456
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COATING LAYER STRUCTURE



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PROPERTIES

Test	Test Condition/Method	Result
OPTICAL		
Total Light Transmission	Cary 5000 UV-Vis-Nir Spectrometer	Avg 98%
Light Reflection	Cary 5000 UV-Vis-Nir Spectrometer	0.5% at 550nm
MECHANICAL		
Pencil Hardness	TQC SP0010	5~6H
Abrasion Resistance	50 strokes (back and forth) with 1.5kg Steel wool	Extremely light markings
Adhesion	ISO 2409 Cross-hatch test	100/100
Impact Strength	DIN 53453	4kJ/m ²
CHEMICAL		
Ammonia	Rub with cotton	Maintained good condition up to 10,000 rubs
Hydrochloric Acid (3%)	Soak in solvent	Maintained good condition up to 1,000 hours
Sodium Hydroxide (10%)	Soak in solvent	Maintained good condition up to 1,000 hours
Ethanol	Soak in solvent	Maintained good condition up to 1,000 hours
Artificial Sweat	Soak in solvent	Maintained good condition up to 240 hours
Hair Cream	Spread on surface and keep in 60°C & 95% humidity atmosphere	Maintained good condition up to 1,000 hours
Hand Cream	Spread on surface and keep in 60°C & 95% humidity atmosphere	Maintained good condition up to 1,000 hours
Hair Shampoo	Spread on surface and keep in 60°C & 95% humidity atmosphere	Maintained good condition up to 1,000 hours

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Olive Oil	Spread on surface and keep in 60°C & 95% humidity atmosphere	Maintained good condition up to 1,000 hours
HUMIDITY RESISTANCE		
Adhesion Test	60°C , 95% Humidity	Maintained good condition up to 1,000 hours
HEAT RESISTANCE		
Adhesion Test	80°C	Maintained good condition up to 1,000 hours
HEAT IMPACT RESISTANCE		
Adhesion Test	-30°C & 80°C	Maintained good condition up to 500 test cycles
LIQUID DURABILITY		
Adhesion Test	Soaking in 60°C hot water	keep good condition up to 240 hours
LIGHT DURABILITY		
Adhesion Test	Xenon lamp	keep good condition up to 500 hours

Note 1 UV-VIS-NIR Spectrophotometer - Absolute reflectance (5Deg incidence)

Note 2 Apply to 1mm float glass - Haze Meter

Note 3 Surface resistivity meter - HR type probe

Note 3 Scotch tape peeling on AR coated Layer

Note 5 Steel wool 200g/cm² load

Scratch: 0-5: A 5-20: B > 20: C

Note 6 180Deg peel method

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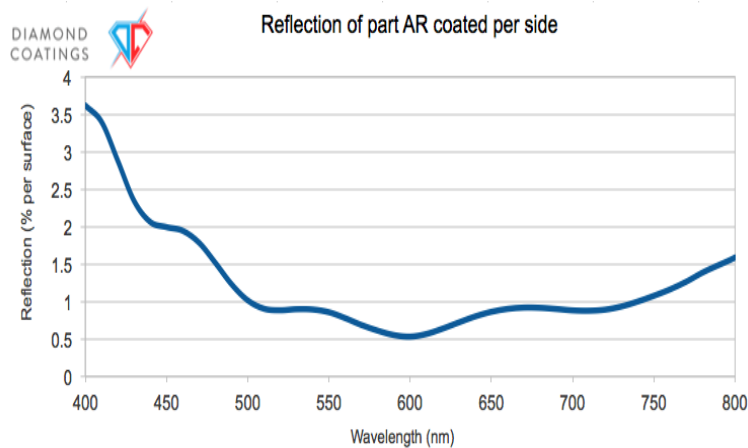
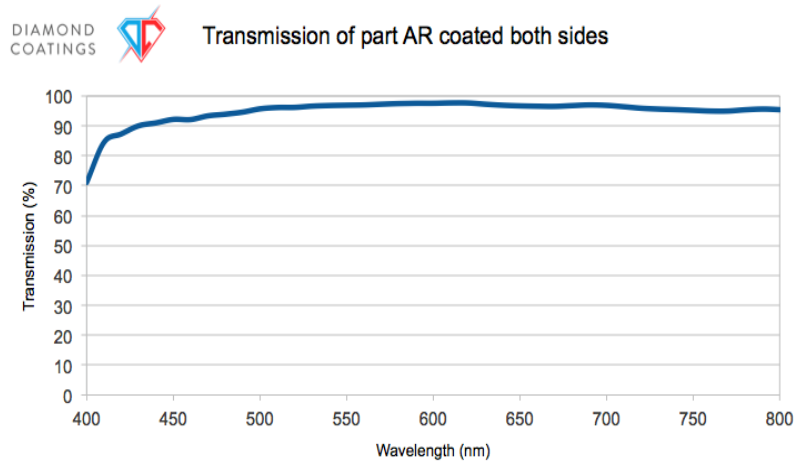


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Transmission and Reflection of Diamox AR1617 Film



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Contact Angle

Test Sample	Contact Angle
Pure Water	103Deg
Oleic acid	59Deg

Environmental Testing

Test Sample	Result	Test Method
Heat	Unchanged	103DegC – 500 Hours
Cycling Test	Unchanged	-30DegC to +60DegC – 50 times
Humidity	Unchanged	60DegC – 90% RH – 500 Hours

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Chemical Resistance

Test Condition:

Deposit a drop of test sample on film surface, wipe the drop after 30 minutes and check the surface.

These tests have not been done by an independent laboratory and are to be used for information only.

Test sample	Result
Glass Cleaner	Unchanged
Alcohol	Unchanged
Acetone	Unchanged
Kitchen cleaner 5% aq.sol.	Unchanged
NaOH 1% aq.sol.	Unchanged
NH4OH 3% ap.sol.	Unchanged
HCl 3% aq.sol.	Unchanged

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Processing Care Point

Cleaning instructions:

Our Diamox AR1617 film can be cleaned with a soft microfibre cloth and breath wiping. For more stubborn marks, please use a soft cloth with Ethanol or IPA.

Machining Instructions:

If parts are to be machined after lamination, it is advised that the original protective film layer, provided with the Diamox AR1617 film, be removed and replaced with a low-tack protective film prior to machining, to ensure no knotting or film lifting etc.

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