

Bijlage 12 Detailtekening van een objectnummer



Hieronder vindt u de kleur specificaties.

- Grijs: Pantone Cool Gray 7 C
- Blauw/groen: Pantone 7467 C
- Zwart





Product Technical Bulletin

ORALITE® Series 5600 Fleet Engineering Grade Reflective Film Release 1, Effective April 2007

Description

ORALITE® Series 5600 Fleet Engineering Grade Reflective Film was specially developed for the manufacture of fleet vehicle, long-term traffic control, guidance, warning and information signs, reflective letterings, numbers and symbols. Compatible with solvent-based inkjet and thermal printers, conformable Series 5600 film features a permanent, solvent-based adhesive and an 84-lb., PE-coated liner. This 5-mil, 7-year film offers outstanding resistance to chemicals and corrosion and features excellent reflectivity to provide a good reflection even in poor visibility and bad weather conditions. Its special impact- and scratch-resistant surface and high flexibility make it an excellent choice for use on all types of reflective signage. Series 5600 film complies with international specifications for reflective materials, including ASTM D4956.

Product Data

Construction

This information is subject to change. Please ensure you are referencing the most recent Product Bulletin.

- **Face Film** – 5-mil retro-reflective cast PVC film
- **Adhesive** – Solvent polyacrylate, permanent, removable with heat

Physical Properties

The information stated below is based on testing results and intended solely as an information source. These values are given without guarantee and no warranty is implied or expressed. ORACAL recommends the purchaser conduct independent tests prior to use in order to determine suitability for his/her intended application.

Outdoor Durability	7 years
Application Surface Contours	Uneven or curved surfaces, corrugations or rivets
Minimum Surface/Air Application Temperature	+46° F
Temperature Resistance	Adhered to acrylic, -68° F to +176° F no variation
Resistance to Solvents and Chemicals	After 72 h adhered to aluminum at room temperature, resistant to most oils and greases, weak acids, salts and alkalis
Shelf Life	2 years (68°F/50% relative humidity)
Adhesive Power	(FINAT-TM 1, after 24h average) adhered to stainless steel: 3.4 lb/in ² , tear of the film
Tensile Strength (along)	(DIN EN ISO 527) min.10 MPa

Tensile Strength (across)	(DIN EN ISO 527) min.10 MPa
Elongation at Break (along)	(DIN EN ISO 527) min. 30%
Elongation at Break (across)	(DIN EN ISO 527) min. 50%
Dimensional Stability	N/A

Colors

ORALITE® Series 5600 Fleet Engineering Grade Reflective Film is available in 14 high-impact colors including white, lemon yellow, yellow, orange, red, ruby red, green, sky blue, blue, brown, black, gold, turquoise and violet.

Printing and Fabrication

Color Profiles

Color profiles can be downloaded from www.oracal.com. For additional color management support, please call ORACAL USA's Technical Support team at 1-800-ORACAL-1 (672-2251).

Ink Drying

Allow printed film to dry flat for at least 24 to 72 hours at 70°F before applying a laminate or cutting, trimming, mounting or applying the graphic.

Laminating

To provide UV protection and extend the life of the ink for up to four years, ORACAL recommends laminating all digital prints. Series 5600 is compatible with ORAGUARD® Series 290 laminates.

Compatible Substrates

ORALITE® Series 5600 film is compatible with most clean, smooth, non-porous, rigid, weather-resistant surfaces. For use in manufacturing traffic signs, the most reliable and durable substrates are properly prepared aluminum sheets and extrusions. ORACAL recommends that users carefully evaluate all other substrates to determine their suitability for reflective film applications.

Substrate Evaluation

For successful application of reflective media, the following substrate properties must be tested and determined to be suitable:

- Adhesion – initial and long term
- Outgassing
- Mechanical properties
- Durability

Adhesion

Following the guidelines provided on pages 5 through 10 of this bulletin, prepare the substrates to be tested. In addition, an etched and degreased aluminum panel should be used as a control. Substrate preparation is an area to test various procedures, such as:

- Aluminum – Etch, no etch, alloy, mechanically reclaimed, surface roughness, surface coating type, panel thickness
- Plywood – Grade, sanded, not sanded, sealed edges, unsealed edges, paint type
- Plastics - Type, new, recycled, flame treated, chemically treated surface, solvent wiped

Properly apply the reflective film to the prepared substrates (including the aluminum control panel) following the instructions for each substrate as described in this bulletin.

Application

Important Notes

- The high-quality adhesives used on ORACAL pressure-sensitive films create an excellent bond with most clean, smooth, weather-resistant surfaces that are free of grease, dust or any contaminants. For a long-lasting bond, the target surfaces must be properly prepared. ***Be sure to check the directions provided by the manufacturer of the substrate you are using to determine the recommended cleaning method for that surface.*** Gas bubbles may form between the film and the surface if any solvent residue remains as a result of improper cleaning or if paint on the surface is too fresh. Freshly lacquered or painted surfaces should be allowed to stand for at least three weeks after complete curing before adhering the film. *The compatibility of selected lacquers and paints should be tested by the end-user prior to use.*
- ORALITE® Series 5600 film should be conditioned prior to application to provide a minimum film temperature of 65°F throughout the roll. Be sure to store both the film and the substrate in the same area so that the temperatures of the substrate and the media are the same.
- For best results, use a mechanical applicator to apply reflective film. Mechanical applicators apply even pressure and ensure a bubble-free and wrinkle-free application, whereas hand application can result in bubbles and/or wrinkles that cannot be removed from the finished sign.
- Never use a wet application method with reflective film as the moisture between the face stock and the substrate can cause the reflective metal particles to oxidize. Use of a wet application method will invalidate the standard warranty on this product.
- Clean, lint-free gloves should be used to prevent contamination when handling blanks and film.

Application Techniques

Application Temperatures

ORACAL films should never be adhered at temperatures below 46°F. Newly fabricated sign faces should remain in the application environment for at least 24 hours to promote uniform adhesion and allow any residual moisture to evaporate. A significant drop in temperature should be avoided during the first 24 hours after adhesion.

Cutting

Reflective film either can be cut by hand or die cut one sheet at a time, or it can be band sawed or guillotined in stacks. If two or more pieces are used side by side, they must be matched to assure uniform day color and night appearance. ORALITE® Series 5600 Reflective Film is designed for use on electronic cutting plotters. To reduce the possibility of stress cracking, the inside corners of cut out letters and symbols should be rounded using the largest radius consistent with acceptable appearance. Minimum radius should be 1/8" on a 3" letter.

Edge Sealing and Clear Coating

Clear coating of ORALITE® Series 5600 Reflective Film is not recommended because it will reduce the normal effective performance life. Edge spotting of cut letters that will be exposed to de-icing salts or will be installed in highly industrialized areas can be minimized by coating the sign with edge sealer.

Storage

Shipping, Storage, Shelf Life

- Film must be stored at 68°F/50% relative humidity.
- For optimal product quality and performance, film must be stored in a dry, clean area, out of direct sunlight.
- Shelf life of ORACAL® Series 5600 must not exceed two years from the date it is received from ORACAL USA.
- Store rolls horizontally in the shipping carton.
- Store partially used rolls in the shipping carton or suspend horizontally from a rod or pipe through the core.
- Unprocessed sheets should be stored flat.
- Finished signs should be stored on edge.
- Screen processed faces or signs must be protected with resin-coated paper or the liner from Series 5600 used as slipsheeting. Place the glossy side of the slipsheeting against the sign face. Double-faced signs must have the glossy side of the slipsheet against each face of the sign.
- Avoid banding, crating or stacking because this puts signs and faces under pressure. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing, which may cause damage during handling.
- Store sign packages indoors on edge.
- Do not allow panels or finished signs to become wet in shipment or storage. Should packages signs become wet, unpack immediately and allow signs to dry.

General Performance Considerations

The durability of ORALITE® Engineering Grade Reflective Film depends upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions and maintenance. The stated maximum durability rating of Series 5600 film can be expected in applications that are subject to vertical exposure when processed and applied to properly prepared aluminum according to ORACAL recommendations.

The user must determine the suitability of any non-metallic sign backing for its intended use. Applications to unprimed, excessively rough or non-weather-resistant surfaces, or exposure to severe or unusual conditions can shorten the durability of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability.

Warranty

ORACAL USA warrants its pressure-sensitive vinyl films to be free of defects in materials and manufacture, and to perform as stated in published product technical information bulletins if properly stored and applied. ORACAL USA will, at its discretion, either replace defective material or refund the purchase price of any ORACAL®, ORAJET®, ORAGUARD®, ORALITE® or ORAMASK® materials that do not meet this warranty within the specified effective performance life. The customer assumes responsibility in determining product suitability for intended use. ORACAL USA shall not be liable for any direct, indirect or consequential damages arising from the use or inability to use the product. This warranty is declared in lieu of any other claim, whether

expressed or implied, and is not subject to interpretation. If you are in extreme climate zones (Southwestern United States, desert, tropics, etc.), South America, Latin America or the Caribbean, contact ORACAL USA for specific warranty information for your area.

Contact Us

ORACAL USA
7251 Salisbury Road
Jacksonville, FL 32256
Telephone – 904-726-9597
Toll Free – 888-672-2251
Fax – 904-265-3355
www.oracal.com

ORALITE® Series 5600 Fleet Engineering Grade Reflective Film

Description

5-mil, cast PVC reflective film that is weather resistant and self-adhesive. Series 5600 is flexible with excellent corrosion and solvent resistance. Meets ASTM D 4956 specifications for Type I, Class 1 retroreflective sheeting.

Available in 14 high impact colors.

Release Liner

89# PE-coated silicone paper

Adhesive

Clear, solvent-based, permanent adhesive (removable with heat)

Applications

Specially developed for vehicle graphics applications to produce reflective lettering, markings and decorations. Series 5600 is suitable for use on cutting plotters. Provides flexibility for application over corrugations and rivets.

Technical Data

Thickness (without liner and adhesive)	5 mil
Temperature Resistance	Adhered to aluminum, -58°F to +203°F, no variation
Suitable fire extinguishing media Fire Rating	water spray mist, dry extinguishing agent, carbon dioxide, foam ASTM E 84-07 Class "A"
Adhesive Power (FINAT TM-1, after 24 h, average)	Adhered to stainless steel: 3.4 lb/in (tear of film)
Tensile Strength (DIN EN ISO 527)	Along: Min. 10 N/mm ² Across: Min. 10 N/mm ²
Elongation at Break (DIN EN ISO 527)	Along: Min. 100% Across: Min. 100%
Seawaterability (DIN 50 021)	Adhered to aluminum, after 100h/73°F, no variation
Shelf Life (68°F/50% relative humidity)	2 years
Minimum Life Expectancy (based on accepted application procedures on vertical surfaces)	7 years (unprinted)
Minimum Application Temperature	59°F
Available Lengths	150' (50-yard), 30' (10-yard)
Available Widths (inches)	15 (punched), 24, 30, 48, (54, 60, white only)
Recommended Laminates	ORAGUARD® Series 293
Recommended Application Tapes	ORATAPE® HT55, MT95, MT72
Print Compatibility (white only)	Latex, Solvent, Eco-Solvent, Thermal & Screen Printing

ORACAL® recommends that printed film be allowed to dry for at least 24 hours at 70°F (48-72 preferred) before applying a laminate.

Attention

Recycling Recommendation: Waste class similar to household waste, is to be recycled according to the local regulations.

Surfaces to which the material will be applied must be cleaned thoroughly of dust, grease or any contaminants. Freshly lacquered or painted surfaces should be allowed to stand for at least three weeks after complete curing. The compatibility of selected lacquers and paints should be tested by the end-user prior to use.

The statements in this information sheet are based upon our knowledge and practical experience. This data is intended only as a source of information and is given without any guarantee and does not constitute a warranty. Due to the wide variety of possible uses and applications, customers should independently determine the suitability of this material for their specific purpose, prior to use.



AN ORAFOL COMPANY

ORALITE® Series 5600 Fleet Engineering Grade Reflective Film

Technical Data

ORALITE® Series 5600 meets the following ASTM D 4956 specifications for Type I, Class 1 retroreflective sheeting.

		Minimum coefficient of retroreflection (R) cd/ft ² (cd • lx ⁻¹ • m ⁻²)				Daytime Luminance Factor (Y%)	
Observation Angle		0.2°		0.5°			
Entrance Angle		-4°	30°	-4°	30°	Minimum	Maximum
white	010	70	30	30	15	27	
yellow	020	50	22	25	13	15	45
orange	035	25	7	13	4	10	30
red	030	14	6	7.5	3	2.5	15
green	060	9	3.5	4.5	2.2	3	12
blue	050	4	1.7	2	0.8	1	10
brown	080	1	0.3	0.3	0.2	1	9

Color Specification Limits (Daytime)*

		1		2		3		4	
		x	y	x	y	x	y	x	y
white	010	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329
yellow	020	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472
orange	035	0.558	0.352	0.636	0.364	0.570	0.429	0.506	0.404
red	030	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346
green	060	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771
blue	050	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216
brown	080	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390

Color Specification Limits (Nighttime)*

		1		2		3		4	
		x	y	x	y	x	y	x	y
white	010	no requirement							
yellow	020	0.513	0.487	0.500	0.470	0.545	0.425	0.572	0.425
orange	035	0.595	0.405	0.565	0.405	0.613	0.355	0.643	0.355
red	030	0.650	0.348	0.620	0.348	0.712	0.255	0.735	0.265
green	060	0.007	0.570	0.200	0.500	0.322	0.590	0.193	0.782
blue	050	0.033	0.370	0.180	0.370	0.230	0.240	0.091	0.133
brown	080	0.595	0.405	0.540	0.405	0.570	0.365	0.643	0.355

*The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with CIE Standard Illuminant D65.

For instant access to more information click on the links below

Profiles

<http://www.oracal.com/knowledge/icc-profiles.asp>

Tech Support

<http://www.oracal.com/knowledge/contact-support.asp>

Find a Distributor

<http://www.oracal.com/distributors/>

General Warranty

http://www.oracal.com/_userfiles/File/GeneralWarranty.pdf



AN ORAFOL COMPANY

3M Scotchcal 40 voor solvent based Piezo Ink Jet

Productbeschrijving

Voordelen

- Perfecte printkwaliteit op basis van solvent based piezo ink jet.
- Perfecte hechting van de solvent based piezo ink jet inkten.
- Tot 36 maanden 3MTM MCSTM garantie voor buitentoepassingen.

Producten

IJ 40-10 RG 40-10	wit glans, permanente lijmlaag
IJ 40-10R RG 40-10R	wit glans, verwijderbare lijmlaag
IJ 40-20R RG 40-20R	wit mat, verwijderbare lijmlaag
IJ 40-114 RG 40-114	transparant, permanente lijmlaag

Note: Het 'RG' product is standaard Series 40 folie, deze is omgekeerd gewikkeld op een speciale kern voor gebruik op de ArizonaTM Digital Screen Press.

Karakteristieken

Deze informatie is aan verandering onderhevig. Neem contact met onze lokale 3M verkooporganisatie of technische service op, om te controleren of dit het meest recente productbulletin is.

Eigenschap	Beschrijving
Folie	4 mil (0,10 mm), wit/transparant vinyl
Dikte (Folie en lijmlaag)	0.11-0.13 mm
Type lijm en kleur	drukgevoelig, licht grijs* (*except IJ 40-114) IJ 40-10, -114 permanent, solvent based acrylaat IJ 40-10R; -20R: verwijderbaar, solvent based acrylaat
Rugpapier	140g/m ² , gecoat papier
Applicatieoppervlak	Vlak
Applicatieondergronden	Glas, metaal, verf
Aanbrengtemperatuur	10° C
Verwijderbaarheid	Verwijderbaar binnen de garantietermijn
Temperatuurbestendigheid	-50° - +90° C
Treksterkte (min)	130%
Maatvastheid	<0,2 mm
Hechting	
(FINAT TM -1, rvs)	> 18 N/25 mm (40-10; 40-114
200 mm/min	> 6 N/25 mm (40-10R; 40-20R
Houdbaarheid	2 jaar na ontvangst van 3M

Beperkingen

Wij garanderen deze folie niet voor onderstaande ondergronden:

- Roestvrij staal.
- Niet-3M folies (zie ook Verwijdering op pagina 8).
- Ondergronden die geen schoon, effen oppervlak hebben.
- Diepe geulen. Gebruik voor deze applicatie 3M Scotchcal™ 1100 dat speciaal voor diepe geulen is ontwikkeld, of neem contact op met de technische service van 3M.
- Applicaties op slecht gelakte en/of uitgeharde ondergrond.
- Aanwezige grafische afbeeldingen die intact moeten blijven. Tijdens het verwijderen van 3M Scotchcal 40 kunnen deze worden beschadigd.
- Grafische afbeeldingen die worden blootgesteld aan:
 - Benzinedampen of gemorste benzine bij benzinepompen, benzinetanks van personen- of bestelwagens of tankwagens.
 - Grafische afbeeldingen die voor autofabrikanten (OEM) moeten worden gemaakt; neem voor alternatieven contact op met de afdeling Automotive Systems van 3M.

Duurzaamheid

Alleen een 3M Scotchprint® Graphics Authorized Manufacturer of een 3M Piezo Ink Jet Registered Fabricator kan 3M MCS Warranted Graphics produceren.

Wanneer verwerkt en aangebracht overeenkomstig de geldende 3M-voorschriften, mogen de volgende prestaties worden verwacht. Deze gegevens zijn gebaseerd op resultaten van testen, uitgevoerd in de Verenigde Staten en in Europa.

Niettemin zal de exacte levensduur worden beïnvloed door de gekozen ondergrond en de voorbereiding ervan, door de blootstellingsfactoren en het onderhoud.

- Juiste combinatie van folie, inkt en laminaat of vernis.
- Voldoende droging.
- Juiste keuze en voorbereiding van de ondergrond.
- Applicatiemethode.
- Blootstellingscondities.
- Schoonmaak en onderhoud methode.

Wanneer dient u een vernis of laminaat te gebruiken

Een vernis of laminaat zorgt voor bescherming van de afbeelding en verandert de glans van de afbeelding. Alleen afbeeldingen die aan onderstaande condities blootstaan dienen te worden voorzien van het juiste laminaat of vernis:

- Fleet graphics; afbeeldingen die worden blootgesteld aan mechanische wrijving of brokstukken van wegen
- Alle afbeeldingen die worden blootgesteld aan wasstraten met een schurende werking, inclusief handmatige en automatische wasstraten, krassende schoonmaakmiddelen of chemicaliën.

In het inkt instructiebulletin staat ge detailleerde informatie voor het succesvol printen en de montage. Voor de maximale garantie dient u deze voorschriften op te volgen.

Applicatietape

De applicatietape hangt af van het type folie dat is geproduceerd, de inkt, laminaat of vernis die is gebruikt.

Zie instructiebulletin 4.3 voor informatie.

Laminaat of vernis	Pre-space Tape	Pre-mask Tape
Bedrukt, onbedrukt	SCPS-100	SCPM-19
1920DR		
IJ 40-114	SCPS-100	SCPM-19
8530		

Verwijderbaarheid

Dit onderwerp heeft alleen betrekking op IJ 40-10R en IJ 40-20R.

Uitzonderingen

- Verwijdering van horizontale buitentoepassingen.
- Verouderde laklagen en staal dient te worden getest op de verwijderbaarheid. Oxidatie of krijten kan resulteren in het achterblijven van lijm na het verwijderen van de folie.
- Lak die geen juiste hechting heeft met de ondergrond kan beschadigd worden na het verwijderen van de folie.
- Lak die niet voldoende is uitgehard.

Aanvullende literatuur

3M biedt voor alle producten gedetailleerde technische literatuur. Instructie bulletins zijn beschikbaar en beschrijven het gebruik van onze producten.

Vraag uw lokale 3M Commercial Graphics afdeling of raadpleeg de lokale Commercial Graphics internetpagina voor de up to date product- en/of instructiebulletins.

Technische Service

Voor antwoord op al uw technische vragen die met 3M Commercial Graphics producten verband houden, kunt u contact opnemen met onze technische afdeling. De telefoonnummers treft u hieronder aan.

Belangrijk: De gegevens, technische informatie en aanbevelingen, die in dit bulletin worden vermeld, zijn het resultaat van proeven, die naar beste weten betrouwbaar zijn, maar waarvan de volledigheid of juistheid niet wordt gegarandeerd. Noch de fabrikant, noch de verkoper is aansprakelijk voor enige schade hetzij direct of indirect, die het gevolg is van het gebruik van het product, respectievelijk de ongeschiktheid van het product. De verkoper en/of fabrikant is slechts gehouden tot vervanging van materiaal dat niet aan de fabriekseisen blijkt te voldoen. Voor de toepassing dient de gebruiker aan de hand van praktijkproeven vast te stellen of het materiaal voor het beoogde doel geschikt is. De gebruiker neemt deze proeven geheel voor eigen risico. De duurzaamheid, die in dit document wordt vermeld, geldt alleen voor de klimaatzone van Noord- en Midden-Europa.



Commercial Graphics

3M Nederland B.V.

Industrieweg 24 - 2382 NW Zoeterwoude

Postbus 193 - 2300 AD Leiden

Tel. 071-5450362 - Fax 071-5450378

e-mail: commgraphics.nl@mmm.com