

3M Science.
Applied to Life.™



**Your passport to
better, safer roads.**

Comprehensive vehicle registration solutions.

One trusted name: 3M.

As roads and vehicles change, one thing remains the same: the need for fast, effective identification of vehicles, safeguarded against counterfeiting or obscurity. With 3M's complete, end-to-end vehicle registration solutions, government agencies and license plate converters can optimize processes, help to make law enforcement's job easier and maintain revenue flow for infrastructure.

Security

As vehicles have become smarter, our license plate technology has too. Combat counterfeiting and protect public safety and revenue.

3M™ Dynamic Security Script (High Definition)	4
3M™ Ensure™ Virtual Security Thread (Beaded)	4

Sheeting

Greater brightness, durability, security and visibility is only the beginning.

High Definition Sheeting	5-6
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Systems

Get the power of easy, efficient license plate design and production—right from the comfort of your own facility.

3M™ Precision Plate System	10
3M™ Plate Builder Software	10

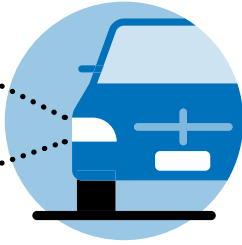
Services

Whether you're looking to optimize license plates for machine readability or you need full registration fulfillment services, we've got you covered.

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Get your plates in shape at [3M.com/VehicleRegistration](https://www.3m.com/VehicleRegistration)

The case for great plates



Visible safety

Better visibility means better road safety.

Reflective plates improve nighttime visibility of vehicles, including parked or stalled vehicles when lights are off.



Law enforcement

Serious crimes often involve vehicles.

20%

In the U.S., 20% of law enforcement officers in states that require both front and back license plates reported specifically using the front plate to help their case.

Source: Based on entries for the 2008 LBLP award program sponsored by IACP.

Revenue collection

Vehicle taxes contribute to infrastructure, education and more.

Some experts believe requiring only one license plate would result in over

\$23 million of lost revenue in the state of Colorado alone.

Source: Hammond, S., Higgins, L., Walden, T., Walden, M. (2012) Front Plate Market Research: Comparison of Single Versus Dual License Plates - Report delivered August 2012

Trust an industry-leading innovator for your vehicle registration needs.

Whether printing digitally or imaging through conventional methods, our High Definition License Plate or standard license plate sheeting give you the flexibility to create the right plates for your application. Security features like 3M™ Dynamic Security Script and 3M™ Ensure™ Virtual Security Thread help combat counterfeiting and protect public safety and revenue.

License Plate Sheeting Product Selector

Preprinted	White	Reflectivity (.2/5) White	Application	Sheeting Type	Page No.
X	X	150	White and bright; compatible with a wide range of processes; specific application requirements	6700	5
	X	50	Inkjet or flexo printing	3750*	6
X	X	50	Thermal transfer printing	9250*	6
X	X	45	Traditional embossed plates, subject to surface impressions, wide range of hot stamp foil and roll coat compatibility	4750	7
X	X	50	Traditional embossed plates, no surface impressions, limited hot stamp foil and roll coat compatibility	4770	7

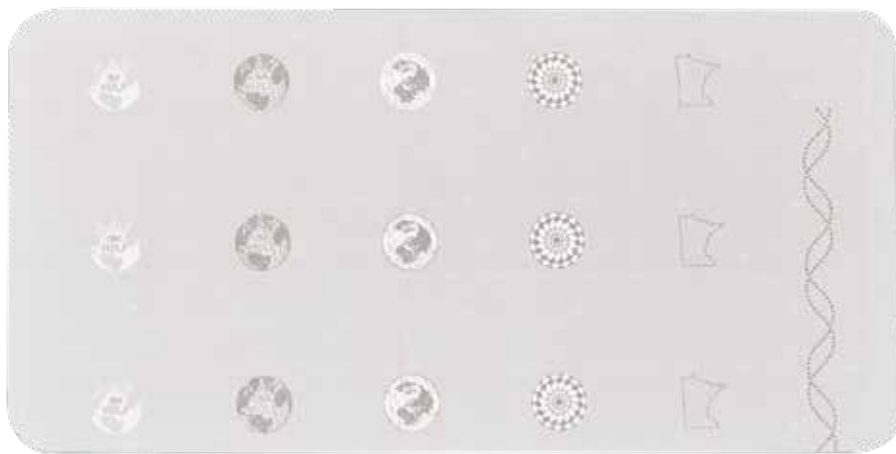
*Requires 3M Overlaminat 9097 to complete construction (Page 9).

Two great options. One goal:

Assuring authenticity.



Just like a driver's license or passport, secured license plates connect vehicles to owner's identities. This helps protect public safety as well as the revenue that could be lost to counterfeiting.



For High Definition License Plates:

3M™ Dynamic Security Script

- ▶ Because the dynamic security script is embedded in the production process it's more secure than conventional printed graphics, watermarks, embossed characters and holograms
- ▶ Varied-brightness of image elements allows for visibility from distances up to 25 feet
- ▶ Customizable for country or state
- ▶ Tamper-resistant



For Beaded Sheeting License Plates:

3M™ Ensure™ Virtual Security Thread

- ▶ Vehicle registration plates feature anti-counterfeiting thread that runs vertically or horizontally depending on plate dimensions
- ▶ 3D sinusoidal waves appear to float in front of and behind plate surface
- ▶ Visible from inside of police vehicles

3M™ High Definition License Plate Sheeting

Move your license plate production into the future with 3M™ High Definition License Plate Sheeting. Micro-replicated optical elements make it bright, clear and easy to read, especially in the rain or at night.

Series 6700

- ▶ Easy for law enforcement to read at greater distances
- ▶ White appearance ideal for multi-color or graphic plates
- ▶ Compatible with digital printing platforms
- ▶ Can be embossed and roll-coated or hot stamped
- ▶ Pressure-sensitive adhesive with protective liner that removes easily
- ▶ 5-year warranty



More than
2x brighter
than 3M™ Beaded License Plate Sheeting





3M™ High Definition License Plate Sheeting and 3M™ Beaded License Plate Sheeting Comparison

	3M High Definition License Plate	3M Beaded License Plate
Day		
Night		
Reflectivity	>150 cd/lx/m ²	~45-70 cd/lx/m ²
Whiteness	Cap Y >55	Cap Y ~40-50
Security	Embedded during production	Directional/laser—added post production
Construction	Prismatic sheeting*	Glass beads with an aluminum layer
Plate Manufacturing	Requires adjustments to the manufacturing process (3M will assist with conversion)	Uses existing processes
Printing	Compatible with roll coat or digital printing methods. Extends printhead life by 4X vs. beaded (when using 3M's DLP printer)	Compatible with roll coat or digital printing methods

*3M High Definition License Plate Sheeting has a fabrication line characteristic that's invisible at normal road distances and does not affect its performance.

3M™ Reflective License Plate Sheeting

Series 3750

Compatible with either inkjet or flexo printing processes, Series 3750 Sheeting is designed for use on multi-year reflective license plates.

- ▶ **Reflectivity:** 50 cd/lx/m²
- ▶ Customer-printed with background graphics and variable plate messages, background graphics only or variable plate messages only
- ▶ Can be blanked flat or with a debossed rim
- ▶ Requires 3M™ Clear Protective Film 9097 overlamine after printing



3M™ Digital License Plate Sheeting

Series 9250

Compatible with thermal transfer printing processes, 9250 Series Sheeting is designed for use on multi-year reflective license plates fabricated with the 3M™ Digital License Plate System.

- ▶ **Reflectivity:** 50 cd/lx/m²
- ▶ Digital printing with background graphics and variable plate messages, background graphics only, or variable plate messages on pre-printed graphics
- ▶ Can be blanked flat or with a debossed rim
- ▶ Requires 3M™ Clear Protective Film 9097 overlamine after printing
- ▶ Series 9250E features 3M™ Ensure™ Image (directional positive identification images or marks)
- ▶ Series 9250T features 3M™ Ensure™ Virtual Security Thread

3M™ Preclear Reflective License Plate Sheeting

Series 4750

Designed for traditional embossed plates, Series 4750 Sheeting offers a wide range of hot stamp foil and roll coat capability.

- ▶ **Reflectivity:** >45 cd/lx/m²
- ▶ Transparent or opaque hot stamping foils or roll coating inks
- ▶ Vinyl topfilm
- ▶ Series 4750E features 3M™ Ensure™ Image (directional positive identification images or marks)
- ▶ Series 4750VST features 3M™ Ensure™ Virtual Security Thread



Series 4770

Designed for traditional embossed plates, Series 4770 Sheeting offers good brightness with limited hot stamp foil and roll coat capability.

- ▶ **Reflectivity:** 50 cd/lx/m²
- ▶ Transparent or opaque hot stamping foils or roll coating inks
- ▶ EAA topfilm
- ▶ Series 4770E features 3M™ Ensure™ Image (directional positive identification images or marks)
- ▶ Series 4770T features 3M™ Ensure™ Virtual Security Thread

3M™ Digital License Plate Clear Protective Film

Series 9097

Produce fully reflective vehicle registration plates for multi-year use with 3M™ Digital License Plate Clear Protective Film Series 9097.

- ▶ Applied to printed 3M™ License Plate Sheeting through roll handling unit of the 3M™ Digital Printing System/Precision Plate System
- ▶ Compatible with Sheeting Series' 9250, 3750 and 6700



3M™ Validation Stickers


Help improve officials' ability to see and identify vehicle compliance with 3M's fully reflective decals. They're highly visible and difficult to remove. Each year the printed color of the decal may be changed for easy identification and revenue collection.

Seen from over
100
meters away



3M™ Precision Plate System

This digital license plate printing solution helps optimize mass production processes.



3x
faster
than 3M's thermal
transfer printer



3M™ Plate Builder Software

Our easy-to-use software streamlines and optimizes your license plate production when integrated with the 3M™ Precision Plate System.



- ▶ **Improved efficiency:** Continuous supply of UV curable ink eliminates “ribbon changeovers” or the need to stop the printer when ink runs low
- ▶ **Less waste:** Back up the sheeting to eliminate gaps between jobs and reduce material waste
- ▶ **Faster production:** 3x faster than 3M's thermal transfer printer
- ▶ **Greater flexibility:** Purchase and print on white sheeting, achieve photo-realistic resolutions and replace “make to stock” production with “make to order”

- ▶ Cloud-based system
- ▶ Automate order entry
- ▶ Track production information from order to shipment
- ▶ Produce detailed reports
- ▶ Role-based security with secure user logins

3M™ Design Services

License plates should look great to the human eye—and be readable for machine vision too. With 3M™ Design Services, we can help you develop a design that’s adjusted to improve readability for infrared cameras, all without needing to make a sample. From Connected and Automated Vehicles (CAVs), to law enforcement and tolling, easily “readable” plates will be ready for the future.



Visible spectrum proof



Image of infrared spectrum plate at ~850nm



Image of plate designed for maximum IR readability ~850nm

3M™ Registration Fulfillment Services

Reduce inventory and operational costs with fast turnarounds with 3M™ Registration Fulfillment Services. This complete service offering incorporates motor vehicle credential data, transactions, manufacturing and distribution in one. That means Motor Vehicle Agencies (MVAs) can securely and tightly control issuance through direct mail to motorists.

- ▶ Help enhance agency cash flow
- ▶ Leverage transaction pricing focus on On-Demand production
- ▶ Create potential new revenue sources through optional programs like specialty plates and plate retention fees during reissues
- ▶ Includes 3M™ Digital Validation Registration Systems: Hassle-free, centralized, print-on-demand production and management of registration forms and stickers

