



**Solid Sheet
3D Traffic Control Device**



Sekisui Jushi Corporation

Solid Sheet 3D Traffic Control device

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Product Characteristics:

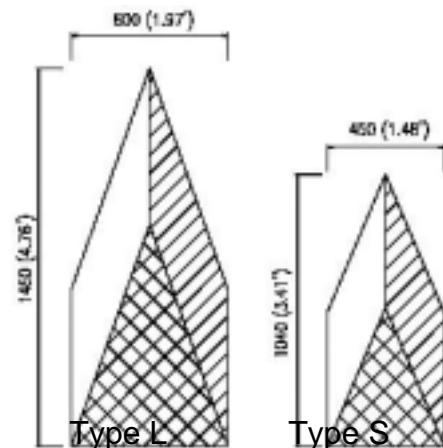
- Thermoplastic flat sheets, shaped and colored in such a way that creates an optical illusion of a 3D obstacle.
- Designed and manufactured in Japan to reduce the number of accidents.
- Used to reduce speed.
- Increases the attention and awareness of the motorist.
- Enhances the visibility of crosswalks.

Solid Sheet's Advantages:

- Installed in direct line of vision of motorist.
- No negative liability as with actual speed bumps.
- Cost is a fraction of lighted crosswalk configurations.
- Easy installation and low maintenance.

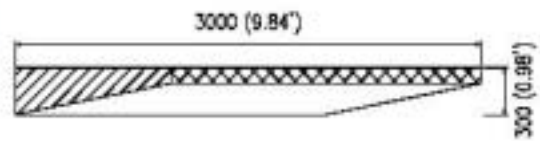
Product line up

Mountain type L,S



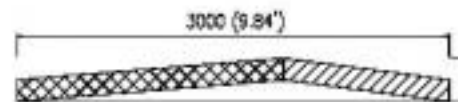
- 2 sizes are available. (L size, S size)
- Install L size only or a combination of L and S sizes. (S size only installation is not effective).
- Mountain-type has a deceleration effect on the driver driving at about 40km/h (25mph) and under.

Block type



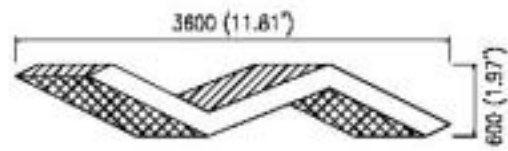
- This type has an effect on making a narrower looking lane to drivers and causing them to reduce their speed.
- This type is effective in separated lanes.
- To maximize their effect, at least 5 sets* per installation are needed. (*1 set : right and left pattern)
- This type can be installed in higher speed roads as compared with Mountain type

Notch type



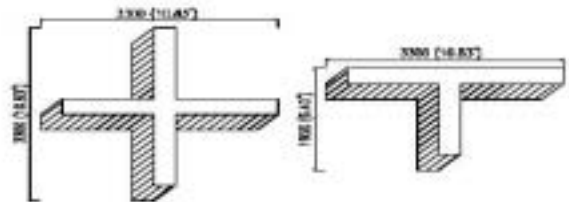
- This type has an effect on making a narrower looking lane to drivers and causing them to reduce their speed.
- This type is effective in separated lanes.
- To maximize their effect, at least 5 sets* per installation are needed. (*1 set : right and left pattern)
- Compared with Mountain type, this type can be installed in higher speed roads.

Thunder type



- This type has an effect on making a narrower looking lane to drivers and causing them to reduce their speed.
- Gives strong visual impact to drivers.
- Is effective in separated lanes.
- Can be installed in higher speed roads as compared with Mountain type.

Cross--mark type



- This type is effective in cross section without any traffic light.

Installation Process:

Special Notes

- ✓ Do not install Solidsheets when the road surface is wet.
- ✓ Avoid installing Solidsheets when the temperature is below 5 C (41F).
- ✓ Arrange the sheet in accordance with the drawing.
- ✓ Allow each sheet to overlap by about 5mm (1/5").

1. Marking out



Decide position, and mark out the road surface.

Make accurate markings corresponding to road surface shape / curve.

2. Painting primer



Painting primer* on the road surface.

Remove any dust, moisture, oil, etc. from road surface in advance. After that, paint the special primer on the marked road.

*Primer Chemicals	Chemical Abstract Services (CAS No.)	%
Chloroprene	9010 - 98 - 4	10 ~ 15
Phenolic resin	9003 - 35 - 4	5 ~ 10
Toluene	108 - 88 - 3	65 ~ 70
Hexane	110 - 54 - 3	10 ~ 15
Ethyl acetate	141 - 78 - 6	5 ~ 10

3. Positioning



Positioning the sheet

After solvent of primer has vaporized, put the sheet precisely in position.

Combine the sheets in accord with the drawing.

4. Heating to adhere



Heating the sheet

Begin by heating the sheet with a low flame and allowing the air to come out from sheet's center.

Next, turn the gas up and melt the sheet with sufficient heat.

(Move gas burner back and forth to heat the sheet uniformly.)

Note: If you spray glass beads on the sheets after heating, it will enhance night time reflection.

5. Cooling to finish



Cooling to finish

Allow the sheets to cool completely.

(Under the high temperature conditions such as in summer, cool the sheets by spraying with water.)

Product Test Data:

I. Measuring data by portable skid tester (BPN) *24th December 1996, 98309487. 5

	DRY	WET
ASPHALT pavement surface	90 ~ 95	70 ~ 75
3-Dimensional Solidsheet (JISLINE-S)	60 ~ 65	45 ~ 50

II. Durability of 3-Dimensional Solidsheet

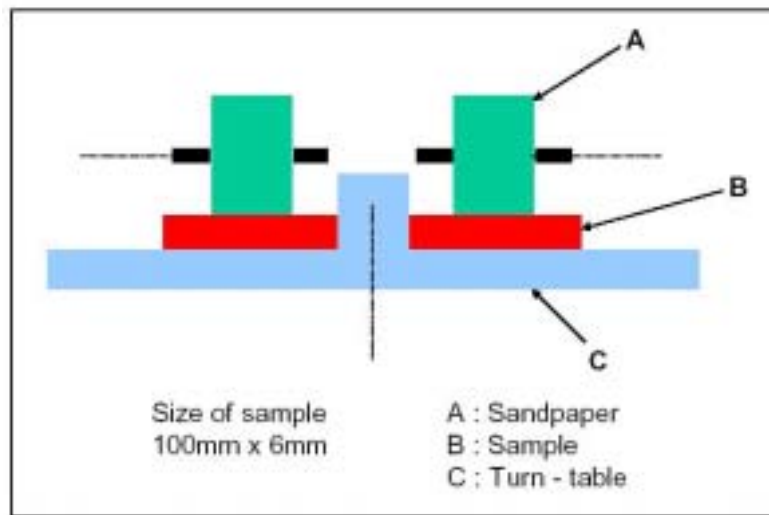
Testing of the 3-dimensional Solidsheet on the actual road is difficult, because of the following reasons. We Therefore advise an abrasion test as shown in the next section.

1. The exact position on the road influences the durability:
 - a. Whether it is on a curve, uphill, downhill or on an inclined angle.
 - b. Whether it is on an accelerating or braking point such as at a crossroads.
2. The situation on each road may be different:
 - a. Is it horizontal or uneven.
 - b. Is there sand or moisture on the surface.
3. The traffic conditions may differ:
 - a. What is the number of vehicles passing over it?
 - b. How many trucks are passing?
 - c. What is their speed?
4. Other influences such as climate, rainfall, snowfall etc.

III. Abrasion test (by TABER abrasion tester)

This test gives an indication of the abrasion resistance by using sandpaper over the sheet surface.

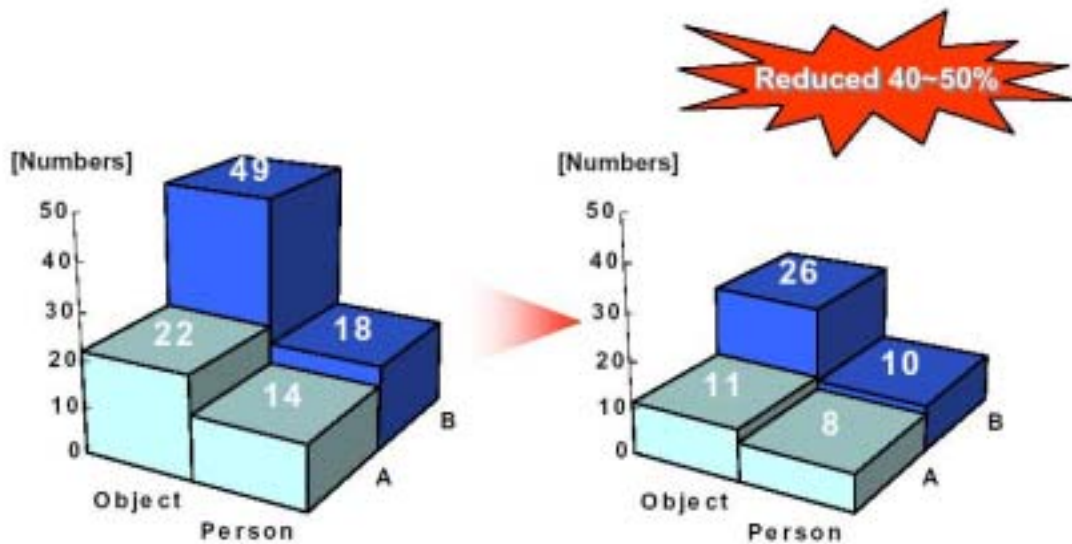
Materials	Quantity by abrasion
3-Dimensional Solidsheet	30 (mg / 200 times)



Traffic Accident Data:

After installing our "Solidsheet", the numbers of traffic accidents were greatly reduced.

Number of traffic accidents



During 4 months BEFORE installation
From Feb. '96 - May '96 in Japan

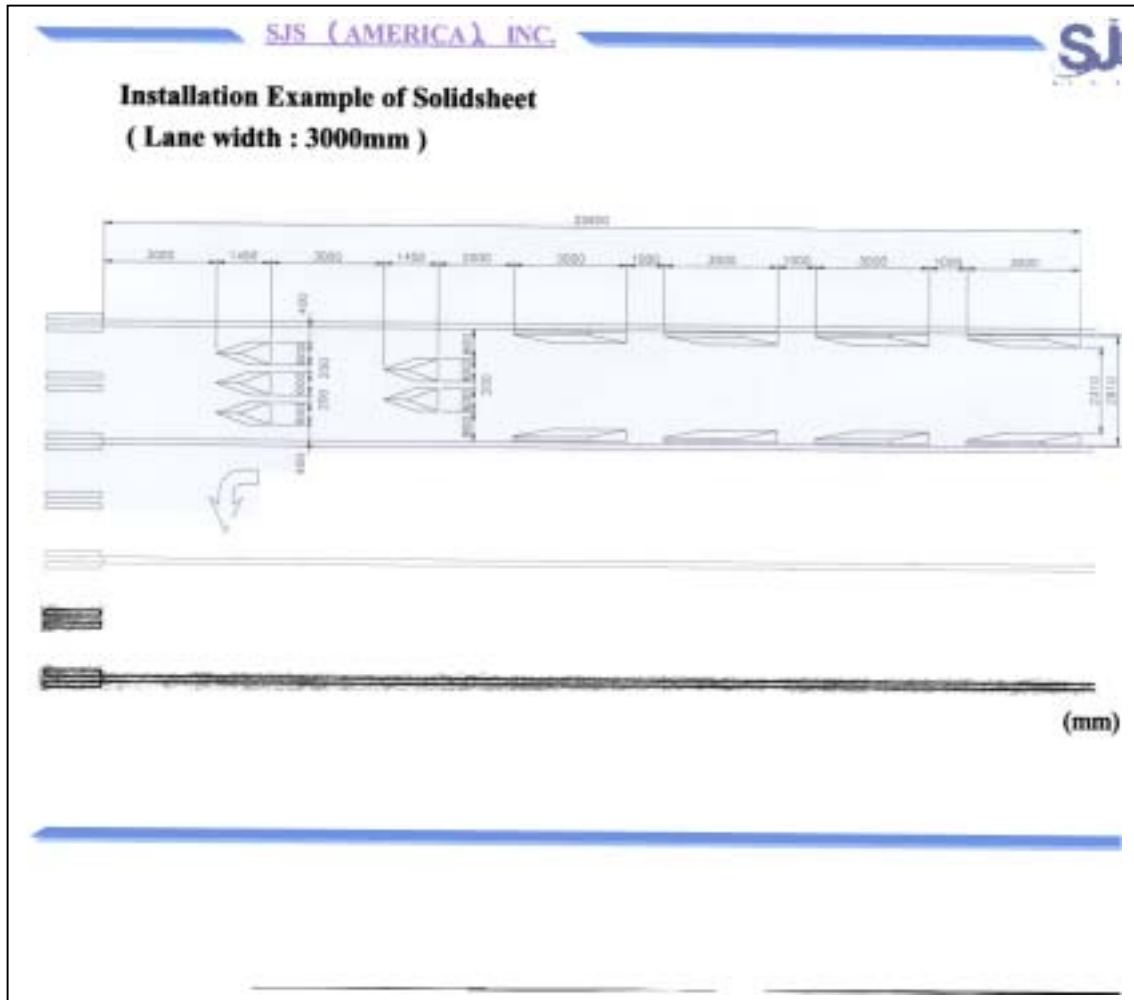
During 4 months AFTER installation
From Feb. '97 - May '97 in Japan

Where:

A: Number of traffic accidents at an intersection without traffic lights.

B: Total number of traffic accidents.

Engineered Product Drawings:



Location Pictures:



Before instalation in Edmonds, WA (U.S.A.)



After instalation in Edmonds, WA (U.S.A.)



Before Installation – Lake Stevens, WA (USA)



After installation – Lake Stevens, WA (USA)



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