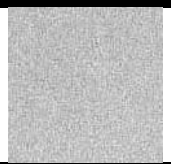
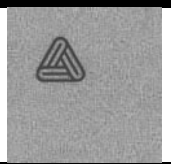
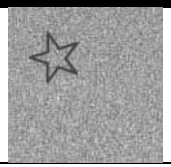
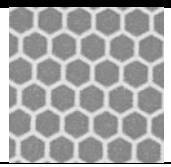
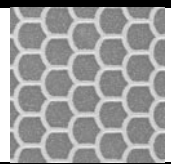
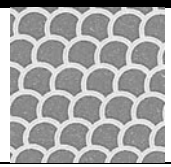
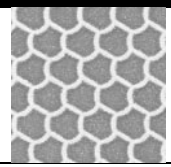
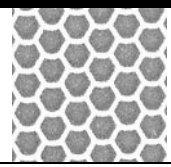
2011 Traffic Sign Retroreflective Sheeting Identification Guide

U.S. Department of Transportation
Federal Highway Administration

This document is intended to help identify sign sheeting materials for rigid signs and their common specification designations. It is not a qualified product list. FHWA does not endorse or approve sign sheeting materials. Many other sheeting materials not listed here are available for delineation and construction/work zone uses.

Retroreflective Sheeting Materials Made with Glass Beads

Example of Sheeting (Shown to scale)								
ASTM D4956-04	I	II	II	III	III	III	III	III
ASTM D4956-09	I	II	II	III	III	III	III	III
AASHTO M268-10	(1)	(1)	(1)	A	A	A	A	A
Manufacturer	Several companies	Avery Dennison®	Nippon Carbide	3M™	ATSM, Inc.	Avery Dennison®	Nippon Carbide	Oracal
Brand Name	Engineer Grade	Super Engr Grade	Super Engr Grade	High Intensity	High Intensity	High Intensity	High Intensity	High Intensity
Series	Several	T-2000	15000	2800 3800	ATSM HI	T-5500	N500	5800
NOTES:	(2)	(3) (4)	(4)	(3) (4)	(4)	(4)	(4)	(4)

(1) – Sheeting material does not meet minimum AASHTO classification criteria.
(2) – Glass Bead Engineer Grade sheeting is uniform without any patterns or identifying marks. Section 2A.08 of the 2009 MUTCD (http://mutcd.fhwa.dot.gov) does not allow this sheeting type to be used for new yellow or orange signs, or new legends on green signs.
(3) – Material no longer sold in the United States as of the date of this publication.
(4) – Section 2A.08 of the 2009 MUTCD (http://mutcd.fhwa.dot.gov) does not allow this sheeting type to be used for new legends on green overhead signs.

- ASTM D4956-04 is referenced in Table 2A-3 of the 2009 MUTCD.
- ASTM D4956-09 is the most current ASTM sign sheeting specification (the 2009 version is designated by "-09").
- AASHTO M268-10 Types for this Guide are based only on retroreflective properties and not other unique AASHTO requirements such as color.

Manufacturer Contact Information

3M - http://www.3M.com/tss
Avery Dennison - http://www.reflectives.averydennison.com
Oracal - http://www.oracal.com
ATSM, Inc. - http://www.atsminc.com
Nippon Carbide - http://www.nikkalite.com
Reflexite - http://www.reflexite.com

FHWA Publication Number: FHWA-SA-11-14. For additional copies of this document, please send request to report.center@dot.gov

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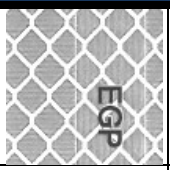
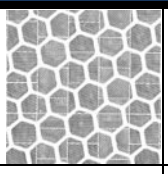
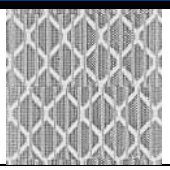
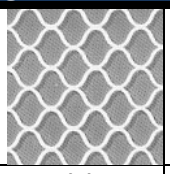
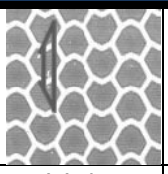
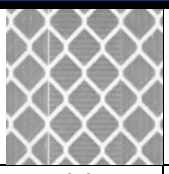
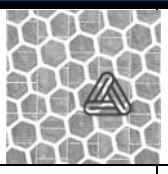
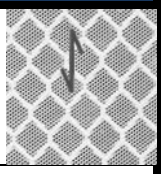
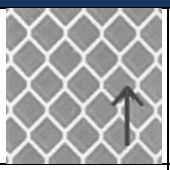
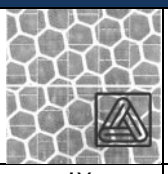
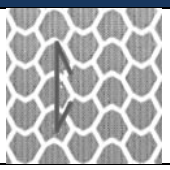
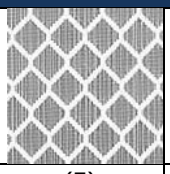
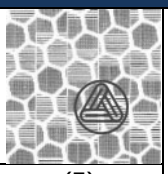
Retroreflective Sheeting Materials Made with Prisms

Example of Sheeting (Shown to scale)								
D4956-04	(5)	III, IV	III, IV, X	(5)	(5) / X	(5)	VIII	VII, VIII, X
D4956-09	I	III, IV	III, IV	IV	IV / VIII	VIII	VIII	VIII
M268-10	(6)	B	B	B	B	B	B	(9)
Manufacturer	3M™	Avery Dennison®	3M™	Reflexite®	Nippon Carbide	3M™	Avery Dennison®	3M™
Brand Name	Engr Grade Prismatic	High Intensity Prismatic	High Intensity Prismatic	High Intensity Prismatic	Crystal Grade	Reflective Sheeting	MVP Prismatic	Diamond Grade™ LDP
Series	3430	T-6500	3930	IC400	94000 / 92000	3940	T-7500	3970
NOTES:	(7)				(8)			(10)

Example of Sheeting (Shown to scale)					
D4956-04	IX	IX	(5)	(5)	(5)
D4956-09	IX	IX	IX	XI	XI
M268-10	B	B	B	D	D
Manufacturer	3M™	Avery Dennison®	Nippon Carbide	3M™	Avery Dennison®
Brand Name	Diamond Grade™ VIP	OmniView™	Crystal Grade	Diamond Grade™ DG3	OmniCube™
Series	3990	T-9500	95000	4000	T-11500
NOTES:					

NOTE: The watermarks have been enhanced in this ID Guide. They are shown to scale but are not as visible on actual sheeting materials. It helps to view the sheeting materials at different angles to see the watermarks. The spacing of the watermarks varies and therefore watermarks may not be present on small pieces of sheeting.

(5) – Material was either unavailable in 2005 (previous version of this Guide) or unassigned in the 2004 version of ASTM D4956.
(6) – Sheeting material does not meet minimum AASHTO classification criteria.
(7) – Section 2A.08 of the 2009 MUTCD (http://mutcd.fhwa.dot.gov) does not allow this sheeting type to be used for new yellow or orange signs, or new legends on green signs.
(8) – These two materials (94000 and 92000) are visually indistinguishable from one another.
(9) – Material has been discontinued prior to AASHTO M268-10.
(10) – Material no longer sold in the United States as of the date of this publication.

Resources

Federal Highway Administration – http://www.fhwa.dot.gov/retro
Manual on Uniform Traffic Control Devices (MUTCD) – http://mutcd.fhwa.dot.gov
ASTM – http://www.astm.org AASHTO – http://www.transportation.org
Texas Transportation Institute – http://tti.tamu.edu/visibility