

## **Understanding Glass Fabric**

# Glass Fabric

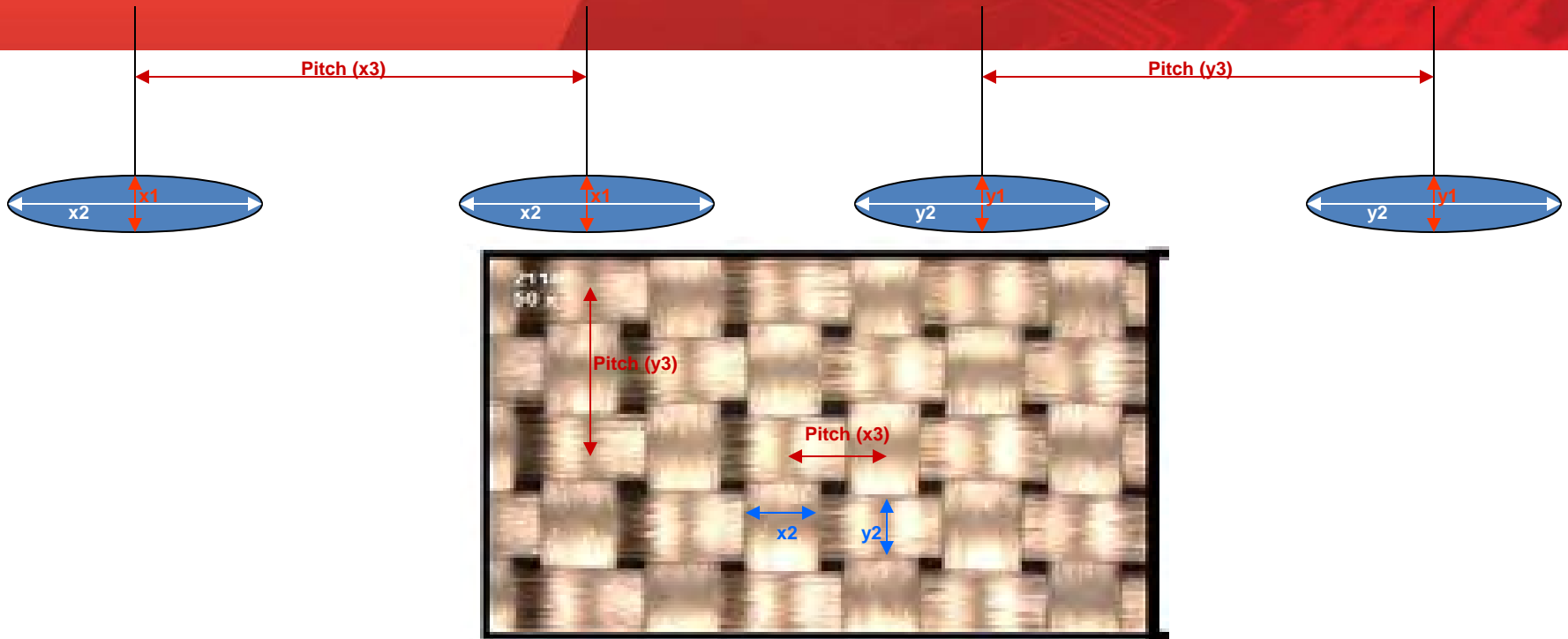
Glass Style	Weave	Warp Count	Fill Count	Warp Yarn	Fill Yarn	Fabric Thickness inches	Fabric Thickness mm	Fabric Nominal Weight OSY	Fabric Nominal Weight g/m2
1035	Plain	66	68	ECD 900-1/0	ECD 900-1/0	0.0011	0.030	0.88	30
1037	Plain	70	73	ECC 1200-1/0	ECC 1200-1/0	0.0011	0.030	0.68	23
1067	Plain	70	70	ECD 900-1/0	ECD 900-1/0	0.0014	0.035	0.91	31
106	Plain	56	56	ECD 900-1/0	ECD 900-1/0	0.0013	0.032	0.73	25
1078	Plain	54	54	ECD 450 1/0	ECD 450 1/0	0.0017	0.040	1.41	48
1086	Plain	60	60	ECD 450 1/0	ECD 450 1/0	0.0022	0.050	1.60	54
1080	Plain	60	47	ECD 450-1/0	ECD 450-1/0	0.0021	0.064	1.45	49
2113	Plain	60	56	ECE 225-1/0	ECD 450-1/0	0.0031	0.074	2.31	78
2313	Plain	60	64	ECE 225- 1/0	ECD 450-1/0	0.0033	0.080	2.38	81
3313	Plain	61	62	ECDE 300-1/0	ECDE 300-1/0	0.0033	0.081	2.43	82
3070	Plain	70	70	ECDE 300-1/0	ECDE 300-1/0	0.0034	0.086	2.74	93
2116	Plain	60	58	ECE 225-1/0	ECE 225-1/0	0.0037	0.097	3.22	109
1506	Plain	46	45	ECE110-1/1	ECE 110-1/0	0.0056	0.140	4.89	165
1652	Plain	52	52	ECG 150-1/0	ECG 150-1/0	0.0045	0.114	4.09	142
7628	Plain	44	31	ECG 75-1/0	ECG 75-1/0	0.0068	0.173	6.00	203

## Fiberglass Yarn Nomenclature

<i>1st Letter</i>	E = E-glass ( electrical grade )
<i>2nd Letter</i>	C = Continuous Filaments
<i>3rd Letter</i>	Filament Diameter C, D, E, DE, G
<i>1st number</i>	Yardage in one pound
<i>2nd number</i>	Number of strands in a yarn/ strands plied or twisted

**MS Spread Glass Fabrics Used by Isola**  
**1035, 1037, 1067, 1086 & 1078**

# Glass Dimensions



Glass Fabric	Measurements Results (mils)					
	X1	X2	X3	Y1	Y2	Y3
<b>1035</b>	1.12	10.20	16.10	0.53	10.90	15.50
<b>106</b>	1.00	4.80	18.50	0.60	10.20	20.60
<b>1067</b>	0.82	8.85	14.30	0.78	12.40	13.70
<b>1080</b>	1.60	8.20	17.00	1.10	12.10	22.40
<b>1086</b>	1.44	10.80	16.60	1.00	14.70	17.10
<b>2113 / 2313</b>	2.40	10.50	17.00	1.00	15.30	18.20
<b>3313</b>	1.90	13.10	16.20	1.50	11.00	16.30
<b>3070</b>	1.70	12.70	14.80	1.70	12.60	14.20
<b>2116</b>	2.20	14.10	17.20	2.00	14.50	17.30
<b>1652</b>	2.40	15.30	17.50	2.90	15.90	18.80

# Glass Language Terms

## Common Terms:

- Expanded Weave
- Open Weave
- Open Filament
- Spread Glass
- Flat Glass
- Mechanically Spread ( MS )
- Square Weave

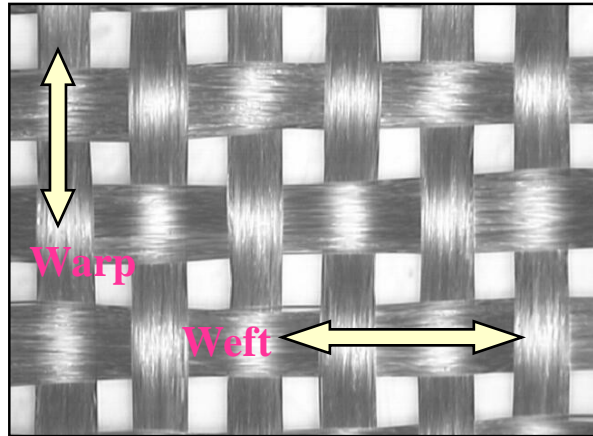
# Glass Definitions

## Definitions:

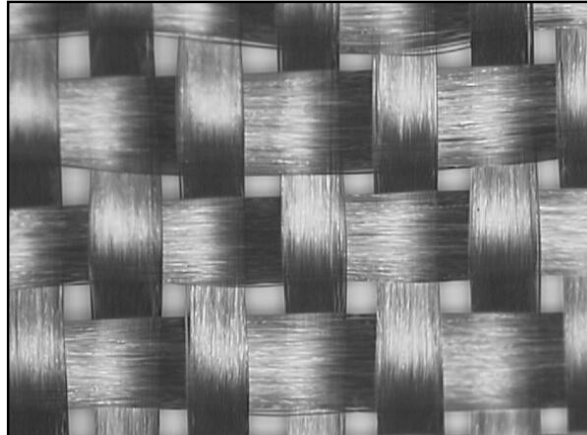
- **Expanded Weave** – Glass Spread More than Standard in one direction
- **Open Weave** – Same as Expanded
- **Open Filament** – Same as Expanded
- **Spread Glass** – Glass is spread out in various processes
- **Mechanically Spread (MS) Glass** – Glass is Mechanically Spread in both the warp and fill directions.
- **Square Weave** – Glass that has a Balanced Density and/or Yarn Counts in Warp and Fill Directions.
- **Flat Glass** – Glass is made from fibers with little or zero twist. Isola does not offer Flat Glass. Spread Glass is “Flatter” but not truly a Flat Glass.

# Explanation Glass Spreading Terminology

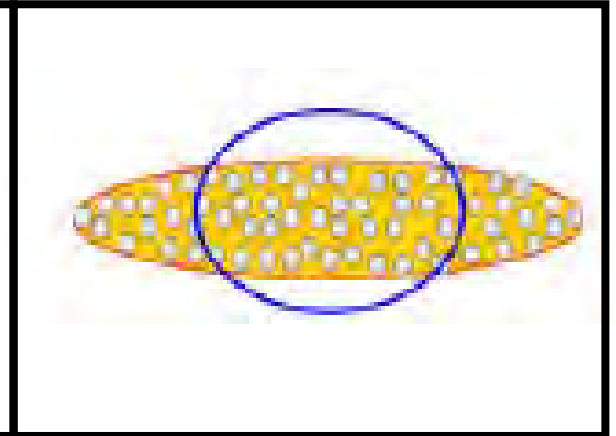
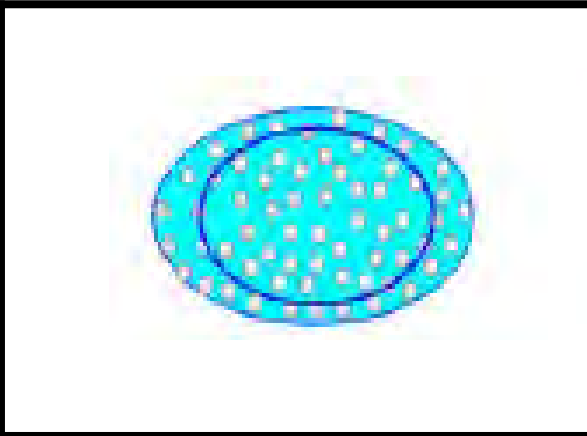
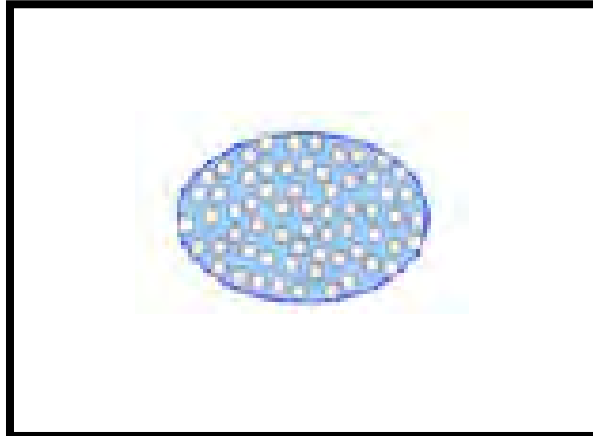
**Standard**



**Expanded**



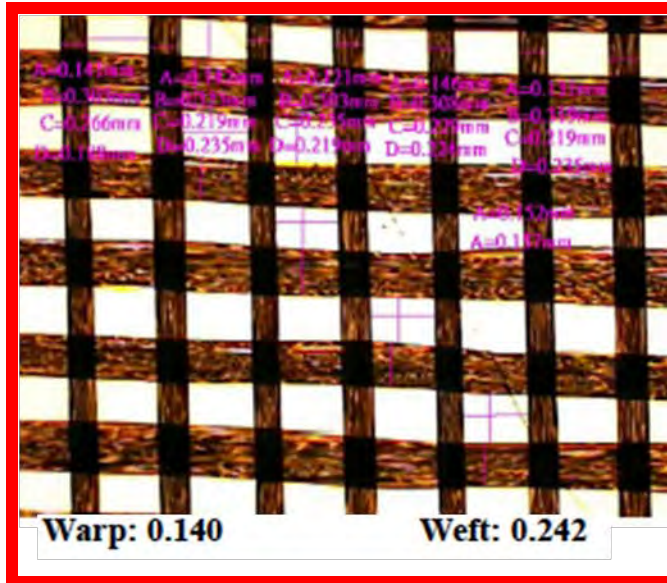
**Spread (MS)**



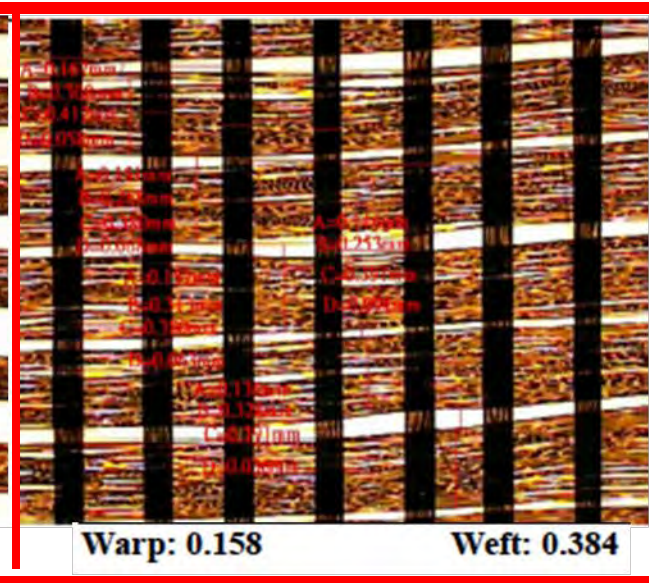


# Standard Weave Versus Expanded Weave

# 106 Standard



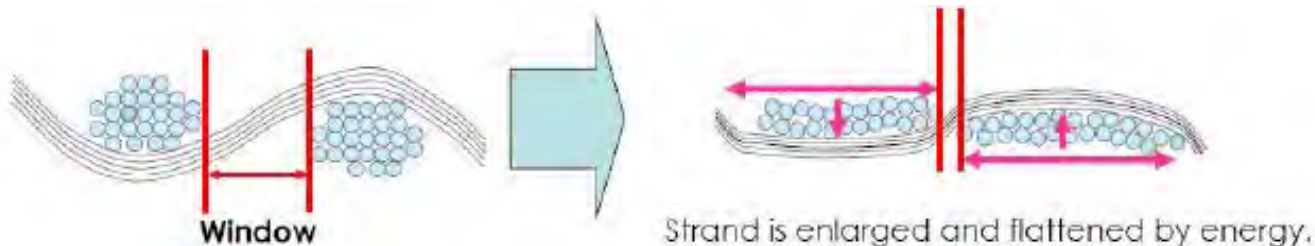
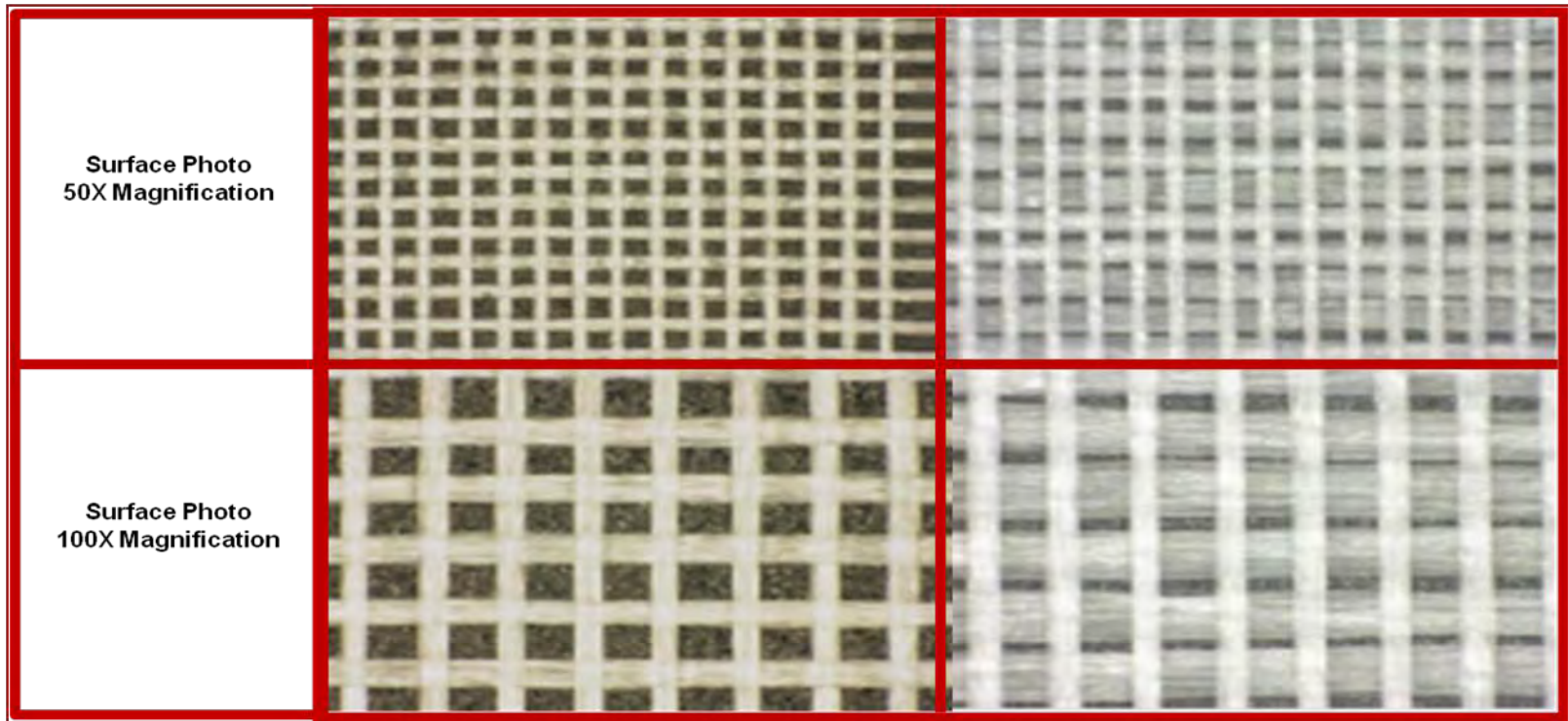
# 106 Expanded



**Note: Most of the spreading occurs in the fill direction on the expanded glass**

# 106 Glass Examples

## Standard Glass      Spread Glass



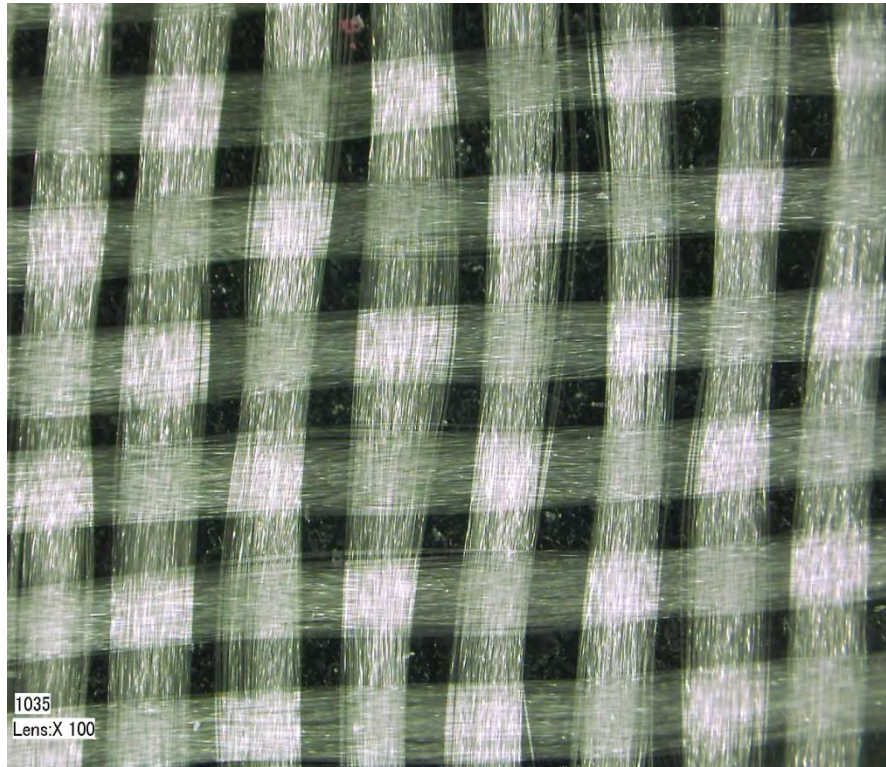


# How to Define What You Need

Glass Styles	Square	Expanded	Spread	MS Spread
106	Yes	Yes	Yes	No
1067	Yes	Yes	Yes	Yes
1078	Yes	Yes	Yes	Yes
1080	No	Yes	Yes	No
1086	Yes	Yes	Yes	Yes
2113	No	Yes	Yes	No
2313	No	Yes	Yes	No
3313	Yes	Yes	Yes	Yes/No
2116	Yes	No	No	No
1652	Yes	No	No	No
7628	No	No	No	No

- Square weave – same yarn count in warp and fill
- Expanded or Spread weave – Glass is expanded in only one direction warp or fill
- MS Spread (Mechanically spread) – Glass spread in both directions

# Woven Glass Fabric



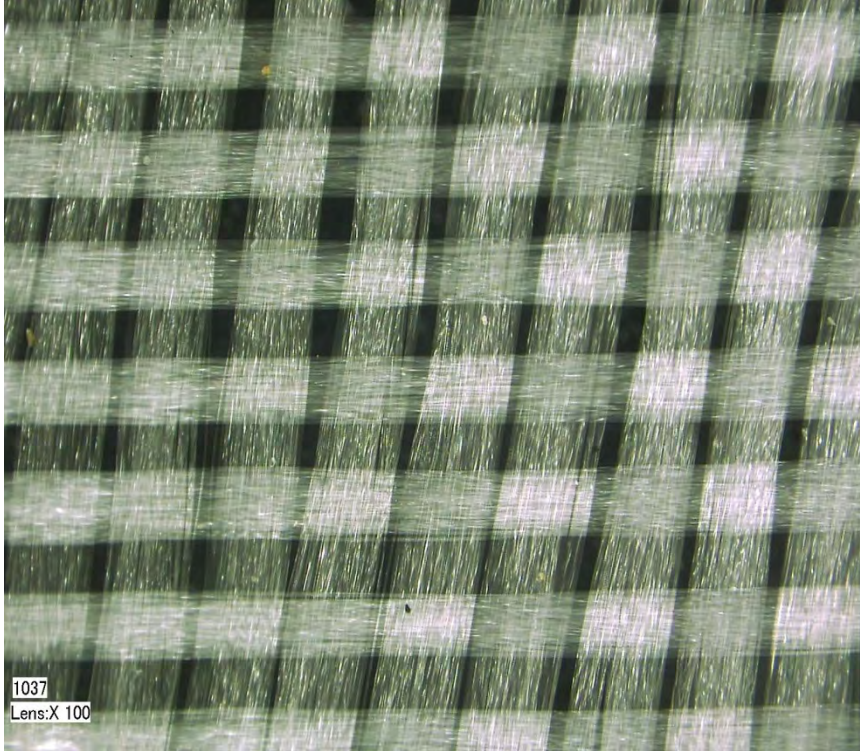
**1035**

**Warp & Fill Count:** 66 x 68 (ends/in)

**Thickness:** 0.0011" / 0.030 mm

**MS Glass Fabric  
used by Isola**

# Woven Glass Fabric



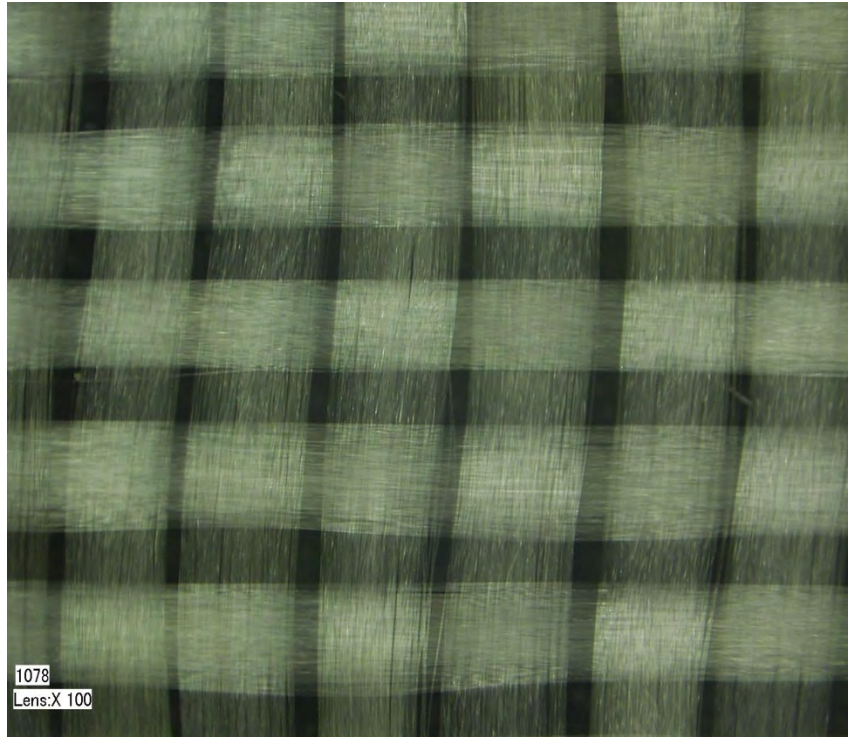
**1037**

**Warp & Fill Count:** 70 x 73 (ends/in)

**Thickness:** 0.0011" / 0.030 mm

**MS Glass Fabric  
used by Isola**

# Woven Glass Fabric



**1078**

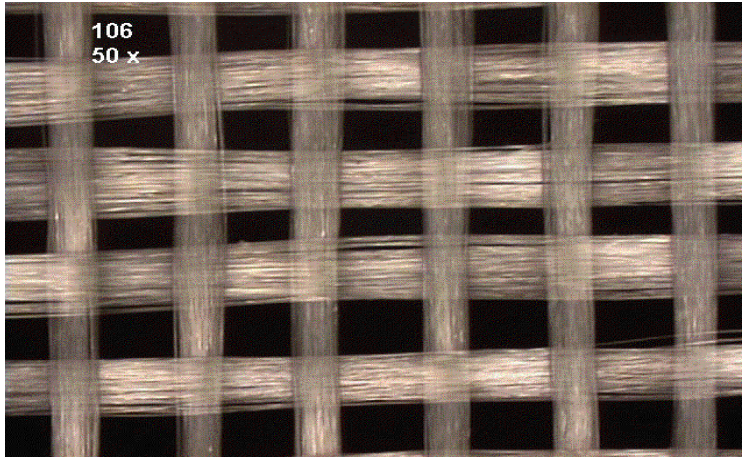
**Warp & Fill Count:** 54 x 54 (ends/in)

**Thickness:** 0.0017" / 0.040 mm

**MS Glass Fabric  
used by Isola**



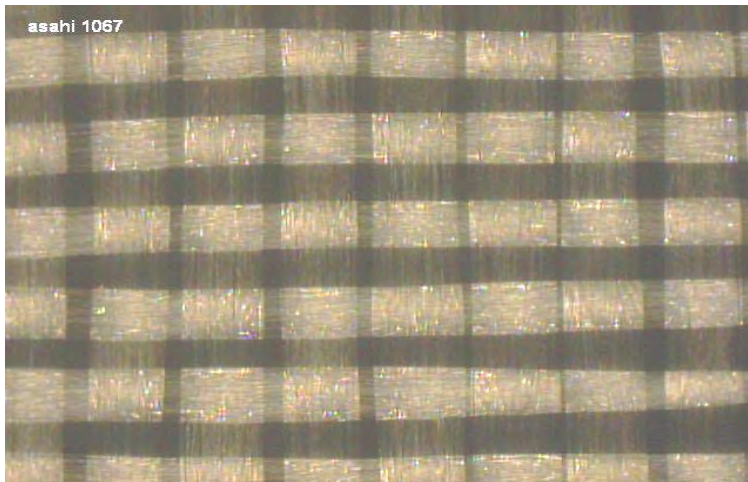
# Woven Glass Fabric



**106**

**Warp & Fill Count:** 56 x 56 (ends/in)

**Thickness:** 0.0013" / 0.032 mm



**1067**

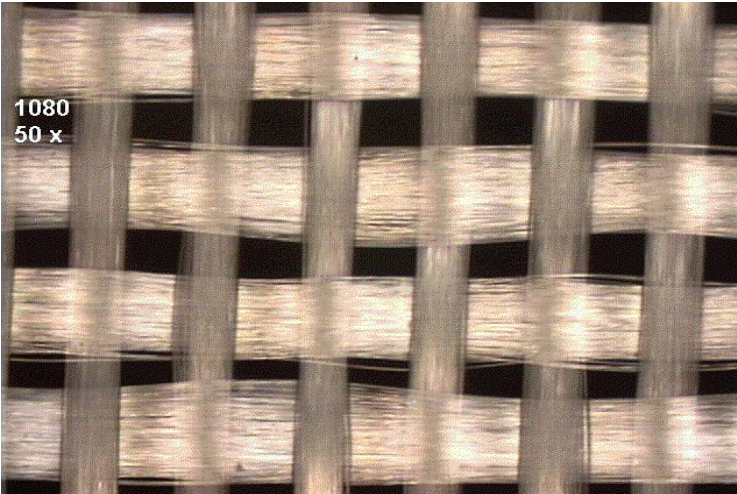
**Warp & Fill Count:** 70 x 70 (ends/in)

**Thickness:** 0.0014" / 0.035 mm

**MS Glass Fabric  
used by Isola**



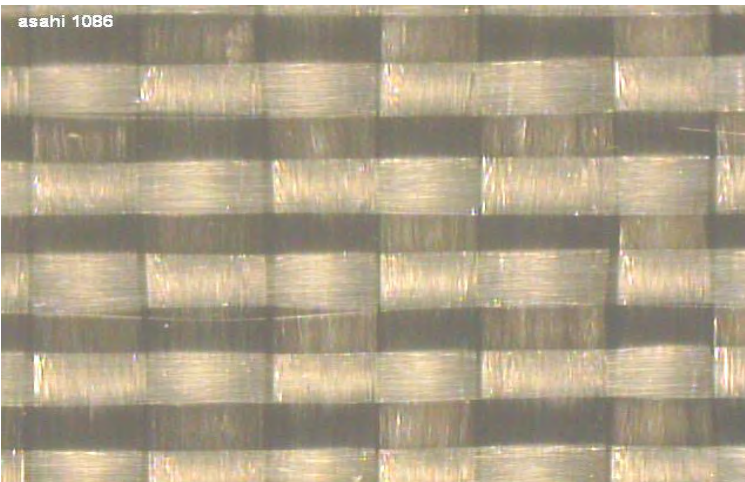
# Woven Glass Fabric



**1080**

**Warp & Fill Count:** 60 x 47 (ends/in)

**Thickness:** 0.0021" / 0.064 mm



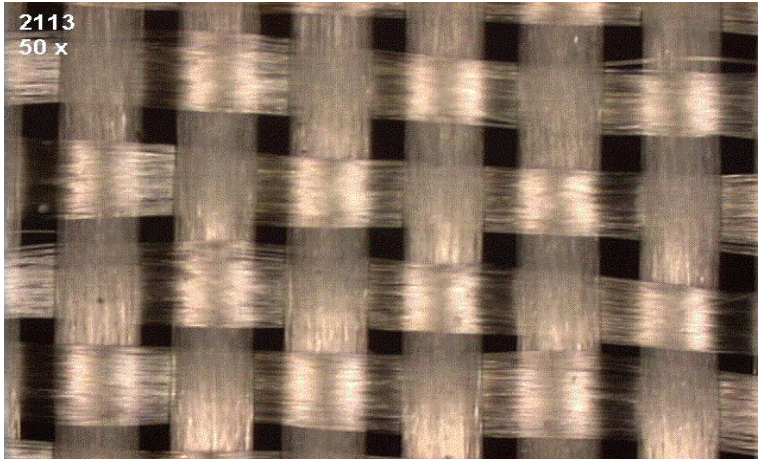
**1086**

**Warp & Fill Count:** 60 x 60 (ends/in)

**Thickness:** 0.0022" / 0.050 mm

**MS Glass Fabric  
used by Isola**

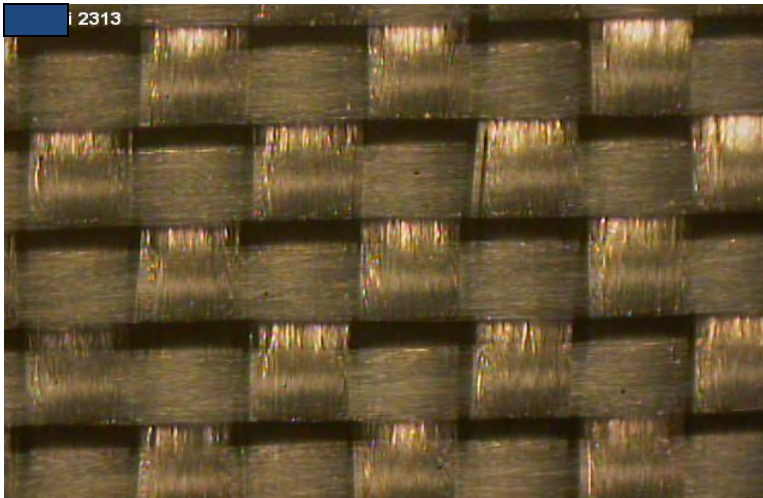
# Woven Glass Fabric



**2113**

**Warp & Fill Count:** 60 x 56 (ends/in)

**Thickness:** 0.0031" / 0.074 mm



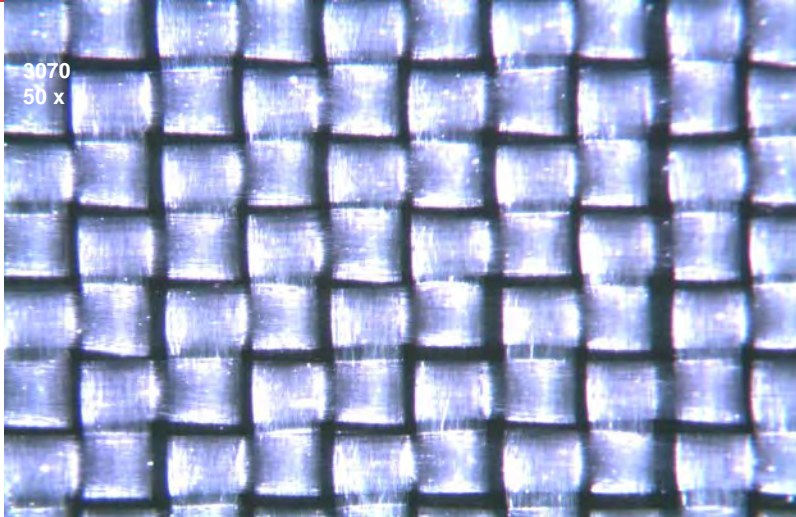
**2313**

**Warp & Fill Count:** 60 x 64 (ends/in)

**Thickness:** 0.0033" / 0.080 mm



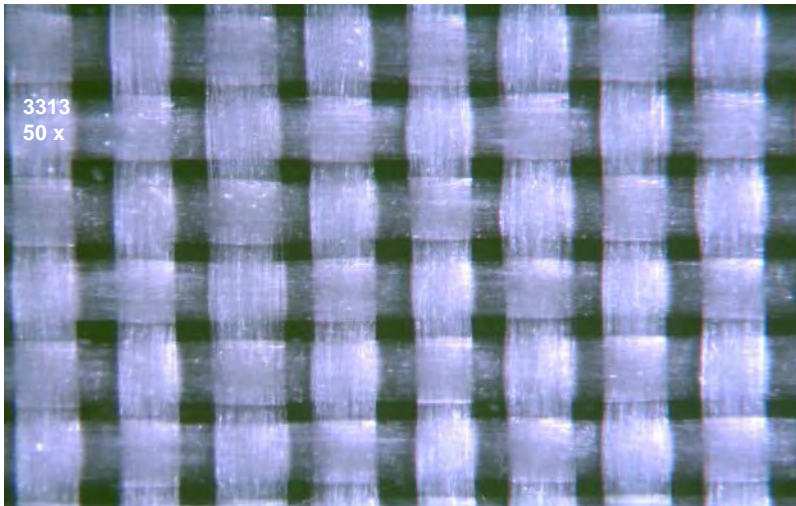
# Woven Glass Fabric



**3070**

**Warp & Fill Count:** 70 x 70 (ends/in)

**Thickness:** 0.0034" / 0.086 mm

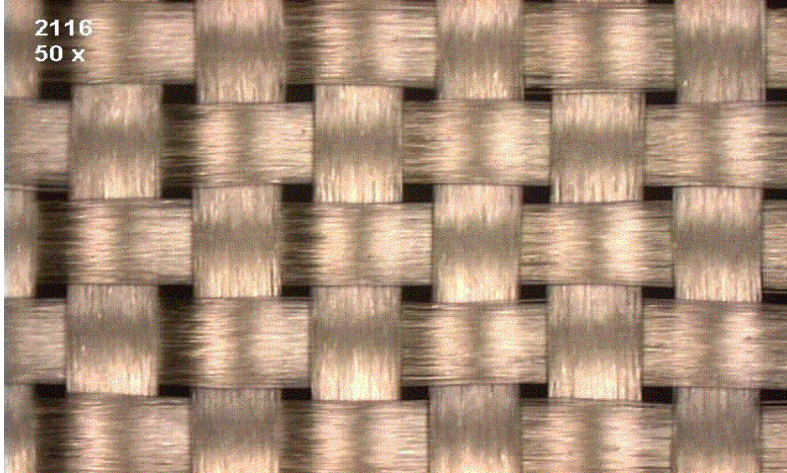


**3313**

**Warp & Fill Count:** 61 x 62 (ends/in)

**Thickness:** 0.0033" / 0.081 mm

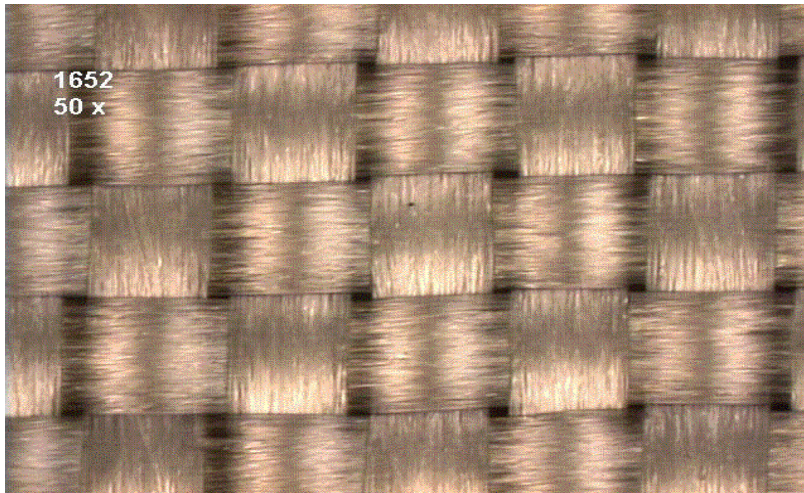
# Woven Glass Fabric



**2116**

**Warp & Fill Count:** 60 x 58 (ends/in)

**Thickness:** 0.0038" / 0.097 mm



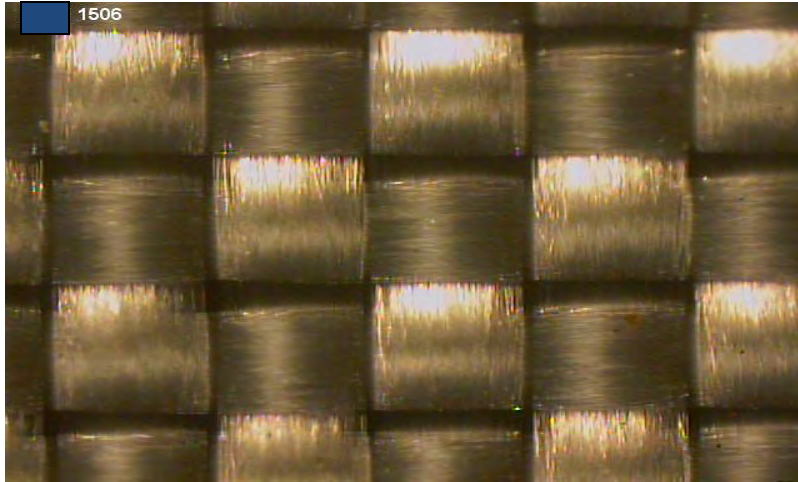
**1652**

**Warp & Fill Count:** 52 x 52 (ends/in)

**Thickness:** 0.0045" / 0.114 mm



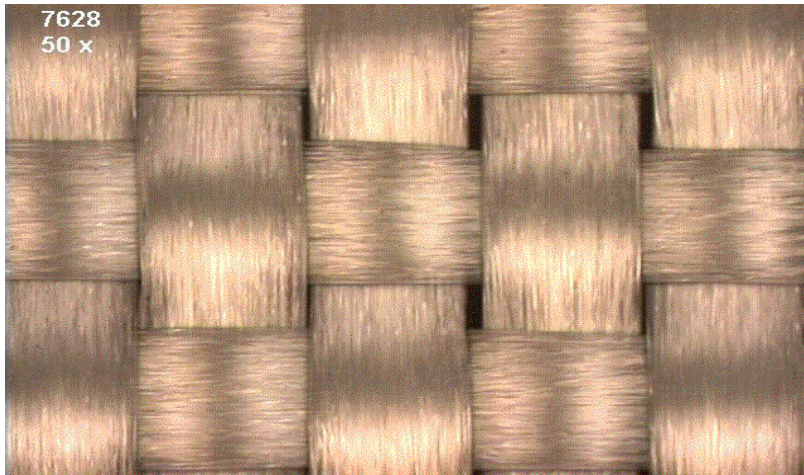
# Woven Glass Fabric



**1506**

**Warp & Fill Count:** 46 x 45 (ends/in)

**Thickness:** 0.0056" / 0.140 mm



**7628**

**Warp & Fill Count:** 44 x 32 (ends/in)

**Thickness:** 0.0068" / 0.173 mm