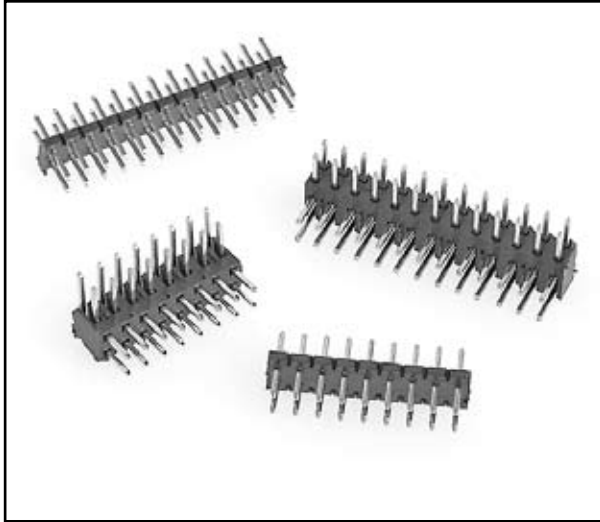


# 3M™ Pin Strip Header

2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series



- Industry standard compatible
- High temperature dielectric
- "No lead" wave and reflow solder compatible
- Unique lengths available
- Maximizes use of PC board space
- Mates with boardmount and wiremount products
- End stackable feature
- Side stackable feature
- Pin Strip Headers are available in tape and reel with vacuum cap for automatic placement
- See Regulatory Information Appendix for chemical compliance information

Date Modified: September 5, 2008

TS-0808-E  
Sheet 1 of 4

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## Physical

### Insulation:

Material: High Temperature Thermoplastic (PCT or LCP)

Flammability: UL 94V-0

Color: Black

### Contact:

Material: Copper Alloy

### Plating:

Underplating: 100 μ" [ 2.54 μm ] Nickel

Wiping Area: 30 μ" [ 0.76 μm ] Gold

Solder Tails: 300 μ" [ 7.6 μm ] Matte Tin or 200 μ" Tin-Lead

Marking: None

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## Electrical

**Current Rating:** 1.5 A

**Insulation Resistance:**  $> 1 \times 10^9 \Omega$  at 250 V<sub>DC</sub>

**Withstanding Voltage:** 500 V<sub>RMS</sub> at Sea Level

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## Environmental

**Temperature Rating:** -55°C to +105°C

**Process Rating:** Maximum 260°C (per J-STD-020C)

**Moisture Sensitivity Level:** 1 (per J-STD-020C)

UL File No.: E68080

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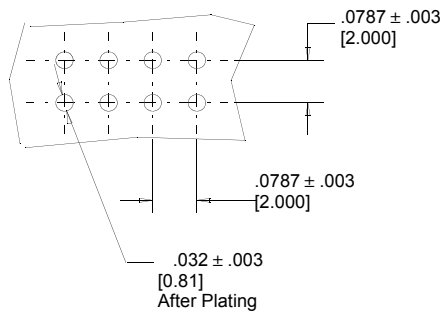
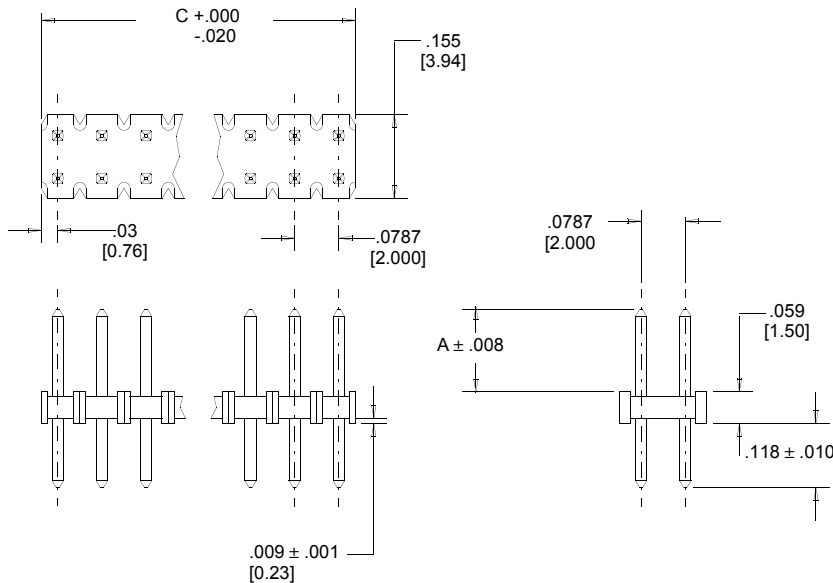
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# 3M™ Pin Strip Header

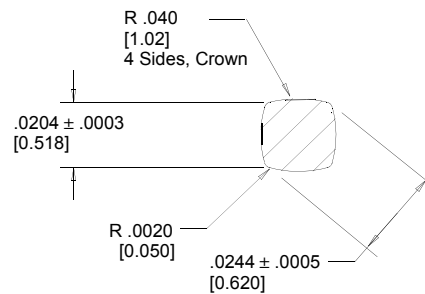
2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series

## Straight



Recommended Mounting Hole Pattern



Pin Cross Section

Contact Quantity	Dimension C
04	.157
06	.238
08	.315
10	.394
12	.472
14	.551
16	.630
18	.709
20	.787
22	.866
24	.945
26	1.024
28	1.102
30	1.181
32	1.280
34	1.339
36	1.417
38	1.496
40	1.575
42	1.654
44	1.732
46	1.811
48	1.890
50	1.969
52	2.047
54	2.126
56	2.205
58	2.283
60	2.382

mm  
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

[ ] Dimensions for Reference Only



## Ordering Information

**1512XX-8X22-XX**

Contact Quantity  
(See Table 1)

Pin Length  
Dim 'A'  
3 = .130"  
4 = .152"

Plating suffix:

RB = 30 μ" [.76 μm] Gold w/Matte Tin solder tails (App. E1 & C1 Apply)  
TB = 30 μ" [.76 μm] Gold w/Tin-lead solder tails (App. E3 & C2 Apply)

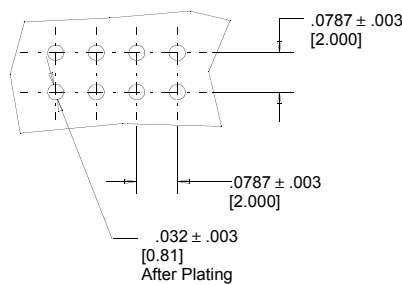
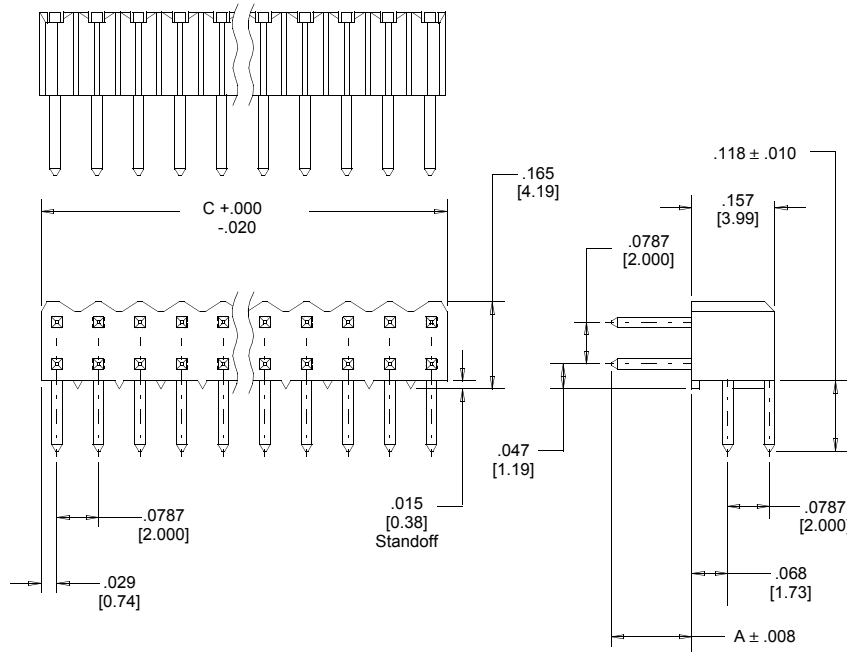
TS-0808-E  
Sheet 2 of 4

# 3M™ Pin Strip Header

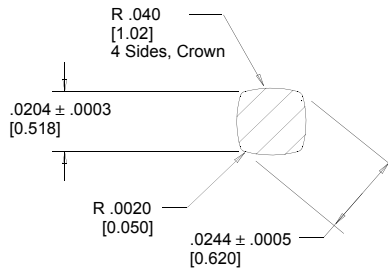
2 mm × 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series

## Right Angle



Recommended  
Mounting Hole Pattern



Pin Cross Section

Contact Quantity	Dimension C
04	.157
06	.238
08	.315
10	.394
12	.472
14	.551
16	.630
18	.709
20	.787
22	.866
24	.945
26	1.024
28	1.102
30	1.181
32	1.280
34	1.339
36	1.417
38	1.496
40	1.575
42	1.654
44	1.732
46	1.811
48	1.890
50	1.969
52	2.047
54	2.126
56	2.205
58	2.283
60	2.382

mm  
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

[ ] Dimensions for Reference Only



## Ordering Information

**1512XX-7X22-XX**

Contact Quantity  
(See Table 1)

Pin Length  
Dim 'A'  
3 = .130"  
4 = .152"

Plating suffix:

RB = 30 μ [ .76 μm ] Gold w/Matte Tin solder tails (App. E1 & C1 Apply)  
TB = 30 μ [ .76 μm ] Gold w/Tin-lead solder tails (App. E3 & C2 Apply)

TS-0808-E  
Sheet 3 of 4



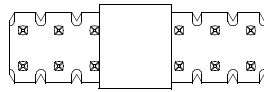
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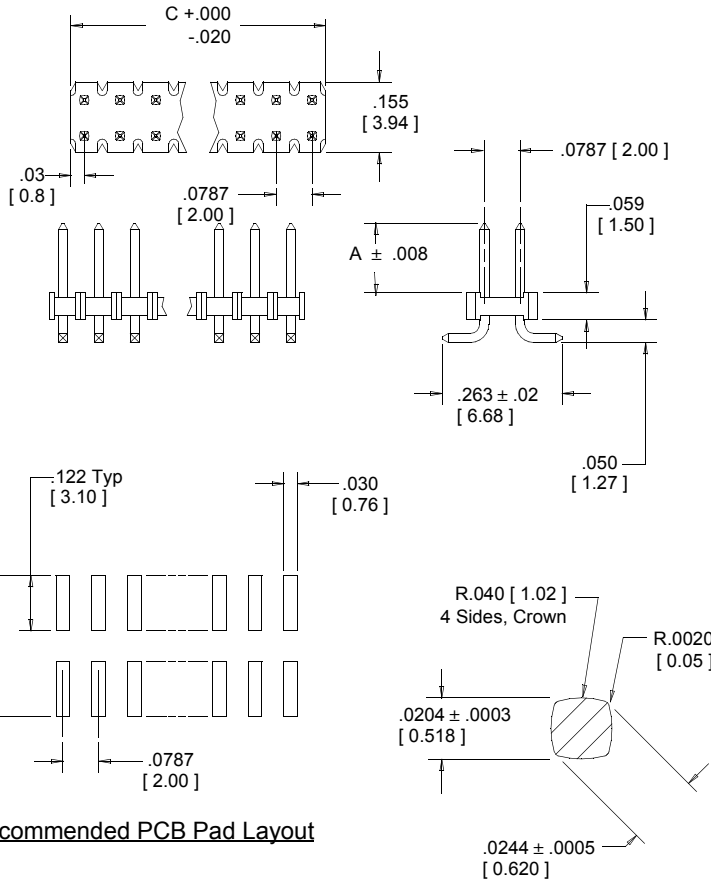
# 3M™ Pin Strip Header

2 mm x 2 mm Solder Tail Straight & Right Angle, Surface Mount Straight

1512 Series



Example of vacuum cap on part



Recommended PCB Pad Layout

Pin Cross Section

Contact Quantity	Dimension C	Tape Width	Order Code
4	.139 [3.5]	n/a	n/a
6	.217 [5.5]	n/a	n/a
8	.295 [7.5]	24 mm	WB
10	.374 [9.5]	24 mm	WC
12	.453 [11.5]	24 mm	WC
14	.531 [13.5]	24 mm	WC
16	.611 [15.5]	24 mm	WC
18	.689 [17.5]	32 mm	WC
20	.768 [19.5]	32 mm	WC
22	.847 [21.5]	44 mm	WD
24	.925 [23.5]	44 mm	WD
26	1.005 [25.5]	44 mm	WD
28	1.083 [27.5]	44 mm	WD
30	1.162 [29.5]	44 mm	WD
32	1.240 [31.5]	56 mm	WE
34	1.320 [33.5]	56 mm	WE
36	1.398 [35.5]	56 mm	WE
38	1.477 [37.5]	56 mm	WE
40	1.556 [39.5]	56 mm	WE
42	1.634 [41.5]	56 mm	WE
44	1.714 [43.5]	72 mm	WF
46	1.792 [45.5]	72 mm	WF
48	1.870 [47.5]	72 mm	WF
50	1.970 [49.5]	72 mm	WF
52	1.970 [49.5]	72 mm	WF
54	2.107 [53.5]	72 mm	WF
56	2.185 [55.5]	72 mm	WF
58	2.264 [57.5]	88 mm	WG
60	2.344 [59.5]	88 mm	WG

Notes: 1. Tape & reel include vacuum pick-up cap for pick n place handling equipment.  
2. Parts in tray packaging are supplied without vacuum cap.

mm  
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	±.1	±.01	±.005

[ ] Dimensions for Reference Only



Note: Tape and Reel not available on all sizes, please call.

## Ordering Information

**1512XX-2X20-XX-XX**

Contact Quantity  
(See Table 1)

Pin Length  
Dim 'A'  
3 = .130"  
4 = .152"

Plating suffix:

RB = 30 μ" [7.6 μm] Gold w/Matte Tin solder tails (App. E1 & C1 Apply)  
TB = 30 μ" [7.6 μm] Gold w/Tin-lead solder tails (App. E3 & C2 Apply)

Packaging suffix:

Blank = Tray Packaging  
WX = Tape & Reel Packaging  
(see table 1)

TS-0808-E  
Sheet 4 of 4

# Regulatory Information Appendix

## 3M Electronic Solutions Division/Interconnect

### EUROPE

#### Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product is RoHS Compliant 2005/95/EC.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

**This product contains lead in the solder tail area in excess of the maximum concentration value allowed.**

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

#### Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC, as amended by EU Commission Decision 2005/717/EC, as amended by EU Court of Justice Decision 2008/C 116/04

**This product contains decaBDE in the insulating material in excess of the maximum concentration allowed for finished products subject to EU RoHS that are placed on the EU market after June 30, 2008.**

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

## Appendix E5: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

**This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.**

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

## CHINA

### Appendix C1: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does not** contain any of the following substances in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

### Appendix C2: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
端子镀层(contact plating)	×	○	○	○	○	○
○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)						
×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

# Appendix C3: China RoHS



Electronic Industry Standard of the People's Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers (excluding decaBDE); or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product's life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M's Regulatory Information Appendix, then 3M's entire liability and Buyer's exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
合金(Metal alloy)	×	○	○	○	○	○
<p>○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.)</p> <p>×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)</p>						

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This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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