SILICONE TECHNOLOGIES DIVISION
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Compliance of Arlon Silicone Products to the European Directive 2011/65/EC on RoHS and the Chinese Administration Measure on the Control of Pollution Caused by Electrical and Electronic Equipment

Arlon Silicone Technologies Division offers a wide selection of silicone products that comply with the European Directive 2011/65/EC on the Restriction of Hazardous Substances (European RoHS) and the Chinese Administration Measure on the Control of Pollution Caused by Electronic Information Products (Chinese RoHS). European and Chinese RoHS serve to protect the health of persons and the environment by reducing the quantity of several hazardous substances in electrical and electronic equipment. Direction 2011/65/EC of RoHS became effective on 08 June 2011 and Chinese RoHS became effective on 01 March 2007. Both European and Chinese RoHS restrict the same hazardous substances and share the same permissible levels. The hazardous substances and their maximum permitted levels are listed in Table 1.

Hazardous Substance	Permitted Maximum Level	
	PPM	%wt
Lead	1000	0.1
Mercury	1000	0.1
Cadmium	100	0.01
Chromium, Hexavalent	1000	0.1
PBB (polybrominated biphenyls)	1000	0.1
PBDE (polybrominated diphenyl ethers)	1000	0.1

Table 1

Arlon Silicone Technologies Division ensures that its silicone products comply with RoHS by eliminating the use of the six hazardous substances listed in Table 1 as raw materials. The compliance of manufactured products listed in Appendix A and B has been determined through a combination of data review and independent laboratory analysis.

Raw material data provided by our vendors is thoroughly examined for compliance to RoHS. Arlon is an ISO 9001:2008 certified manufacturing facility so incoming raw materials are monitored by our quality assurance group through vendor certification. Any manufacturing or formulation change to raw materials requires immediate notification by our vendors per the ISO 9001:2008 standard which ensures RoHS compliant materials are received.

 Revised: 15 October 2013

The information and data contained herein are believed reliable, but all recommendations or suggestions are made without guarantee. It is the responsibility of the end user to thoroughly and independently test materials for any planned application and determine satisfactory performance before commercialization. Furthermore, no suggestions for use, or material supplied, shall be construed as a recommendation or inducement to violate any law or infringe on any patent.

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Arlon has contracted the Process Chemistry Laboratory of Intertek Caleb-Brett to test raw materials and silicone products for compliance to RoHS. Intertek Caleb-Brett offers laboratory testing, laboratory outsourcing, cargo inspection, and certification services at 370 offices and 217 laboratories in over 118 nations. The Process Chemistry Laboratory is an ISO-1705 accredited facility located in Louisiana, USA. Intertek's Process Chemistry Laboratory utilizes X-Ray Fluorescence Spectroscopy (XRF) as a screening tool to determine the quantity of lead, mercury, chromium, cadmium and bromine present in materials. The detection limit for these elements by XRF is 20 ppm.

The silicone products listed in Appendix A and B are in compliance with European RoHS and Chinese RoHS. Compliance to RoHS was determined through a review of vendor supplied data on raw materials and/or testing by XRF conducted at an independent laboratory. The absence of an Arlon silicone product from Appendix A or B does not indicate non compliance with RoHS, but that evaluation for compliance has yet to be completed.

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Appendix A – Silicone Rubber Compounds and Calendered Silicone Products

The silicone rubber compounds and silicone products listed below are in compliance with European RoHS and Chinese RoHS.

Arlon's standard calendered part numbers are of the form (GG)(##)(C)(CO)(TTT). The second part of the number, designated by (##), is a two digit code that identifies the silicone rubber compound used to produce that calendered product. The fourth part, designated by (CO), is a one or two letter code that identifies the color of the silicone rubber compound used to produce that calendered product. The calendered product is in compliance with the RoHS Directive if its compound code and color are listed in Table 2.

Silicone Rubber Compound Identification						
Compound Number	Compound / Color Code*		Compound Number	Compound / Color Code*	Compound Number	Compound / Color Code*
307CR	07 / R		510CR	10 / R	313CR	13 / R
414CB	14 / B		414CR	14 / R	317CR	17 / R
322C	22 / R		427CB	27 / B	427CR	27 / R
440CN	40 / N		440CR	40 / R	439CN	50 / N
439CR	50 / R		451C	51 / N	301CR	56 / R
410CB	57 / B		410CG1	57 / GA	410CR	57 / R
410CX	57 / X		410CXA	57 / XA	310CB	58 / B
310CG	58 / G		310CG1	58 / GA	310CR	58 / R
332C	59 / R		434CB	60 / B	434C	60 / R
434CW	60 / W		388C	62 / R	363CR	63 / R
466CT	66 / T		472C	72 / W	375CR	75 / R
384CS	84 / S		493C	94 / C	397CX	97 / X
498CR	98 / R		499CA	99 / A	593C	A3 / N
595CX	A5 / X		599CX	A9 / X	407CG	07 / G
308CR	08 / R		309C	09 / R	453C	53/R
Table 2						

Example:

51073G031D, standard calendered part number (GG)(##)(C)(CO)(TTT)

(GG) Two digit code identifying the substrate [51] = Style 7628 dispersion coated fiberglass
- **fiberglass includes only red, white, green, and black dispersion coats.**
- **polymer films includes only poly(ethylene-tetrafluoroethylene) "ETFE" substrate code "25".**

(##) Two digit code identifying the silicone rubber compound [07] = 407CG compound

(C) One digit code identifying the product construction [3] = Cured Side 1 / Cured Side 2

(CO) One or two letter(s) identifying the product color [G] = Green

(TTT) Three digit code identifying the overall product thickness in mils [031] = 0.031"

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Compound code is “07” and the color code is “G”. 07 / G indicates silicone rubber compound 407CG which is listed in Table 1 indicating that the compound and the calendered product is in compliance with the RoHS Directive.

Occasionally, the part numbers of some specialty products do not adhere to the standard part numbering system described in the previous example. In these cases the full part number is listed in Table 3.

Specialty Products	
680-R3839R	680-R3844R
FLX9940	61089R040

Table 3

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Appendix B – Extruded Silicone Products

The extruded silicone products listed below are in compliance with European RoHS and Chinese RoHS.

Extruded Silicone Products in Compliance with Directive 2002/95/EC on RoHS		
LW###B##-##	LW###R##-##	LW###X##-##
9##-##B##-##	9##-##R##-##	9##-##X##-##
T####-B####-##	T####-R####-##	
A####-B####-##	A####-R####-##	
RBLW###R#-##	RBLW###X#-##	
HSLW###R#-##		

Table 4

The number sign (#) designations in the extruded silicone part numbers listed in Table 4 are wildcards for thickness, width, roll length, liner type and certification designations. (See figures 1 -6 for an explanation of wild card designations) These values do not affect the chemical composition of the product nor the products compliance to Directive 2002/95/EC on RoHS.

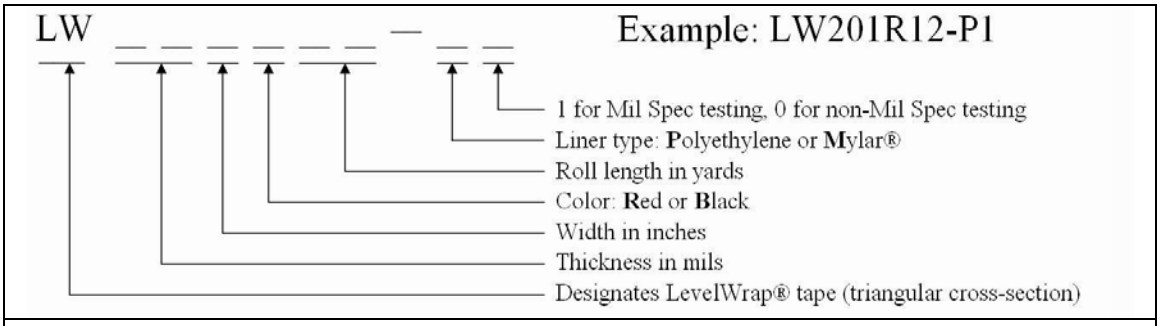

Figure 1

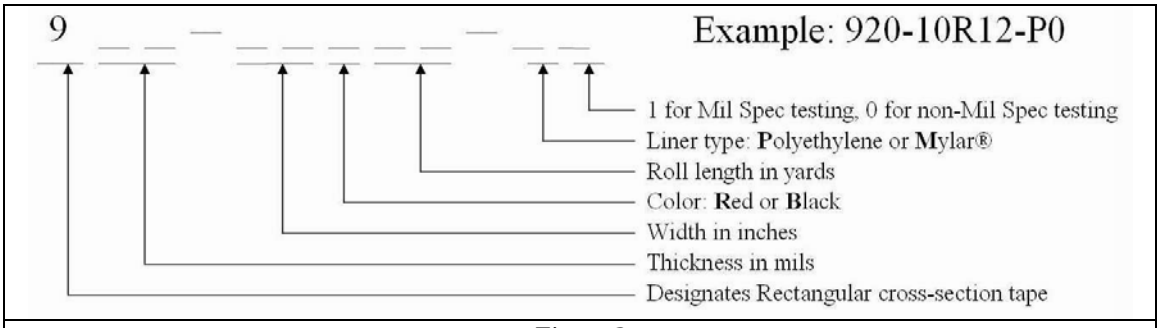

Figure 2

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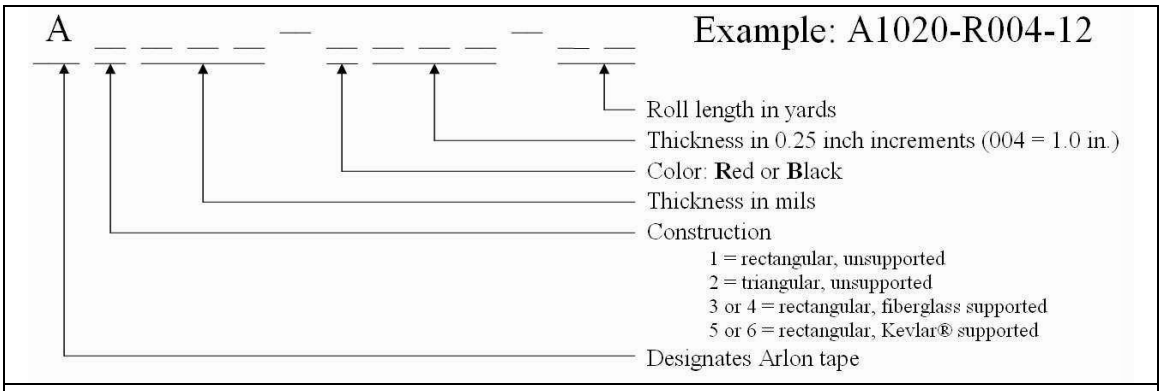

Figure 3

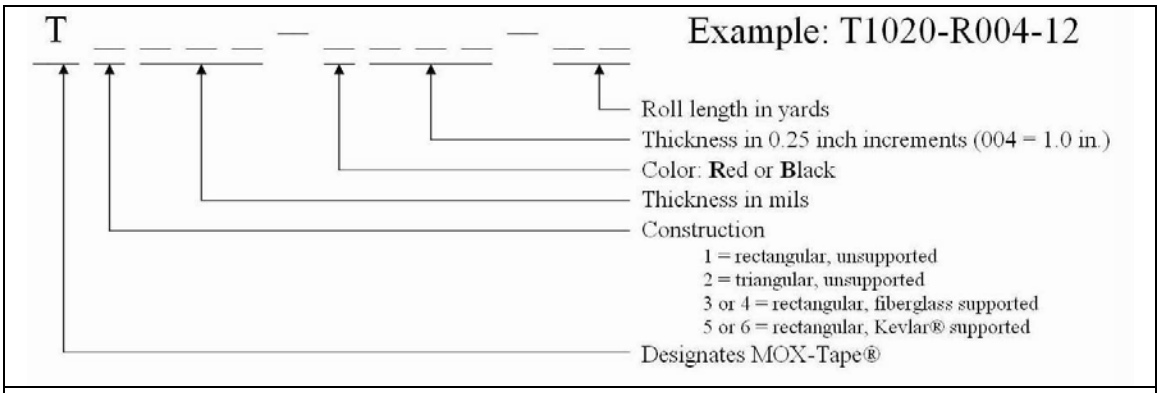

Figure 4

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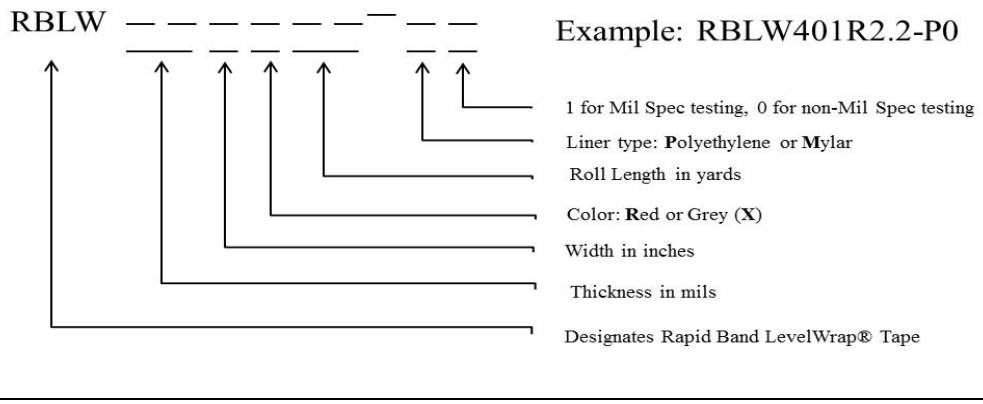

Figure 5

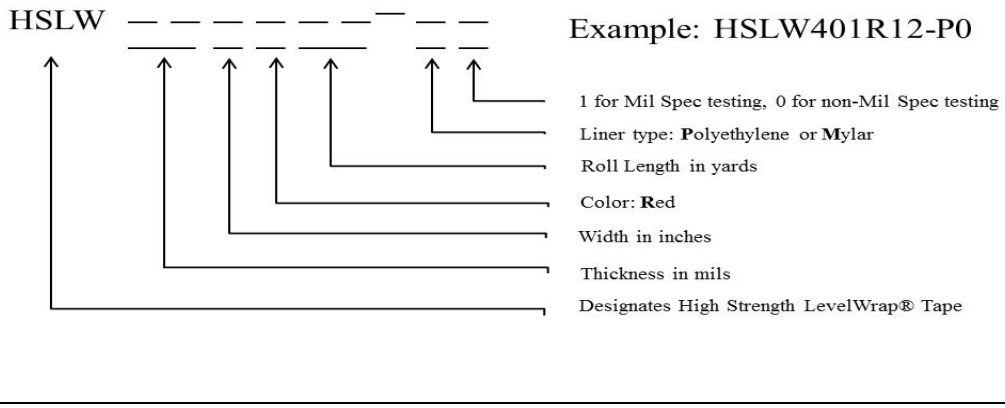

Figure 6

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