

VALOX € DR48 resin

17% € • , f „ ...† ‡

^ %Š < €• Ž • •

€ • , f

VALOX DR48 is a 17% glass reinforced, flame retardant injection moulding PBT resin. Applications: lamp sockets, connectors, switches, electrical housings and bases, bobbins, trimmers and electromotor housings.

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UL • –	E45329-236616		
–†/„ ...† ‡	€ • , f „ ...† ‡ , 17% –† ~™Š		
> œ•	ž Ÿ		
i	ž Ÿ		
¢ £	¤ ¥ ¦ §	¨ ©	ª « ¬
RoHS – –	RoHS – –		
œ® – °	± ² ³ ´		
µ ¶ ·	¸ ¹ º	» ¼ ½	¾ ¯ °
À Á	1.51	g/cm³	ASTM D792, ISO 1183
Â Ã Ä Å Æ Ā (266•C/5.0 kg)	90	g/10 min	ASTM D1238
Ç È É Ā Ą (MVR)			ISO 1133
250•C/2.16 kg	14.0	cm³/10min	ISO 1133
250•C/5.0 kg	40.0	cm³/10min	ISO 1133
265•C/5.0 kg	70.0	cm³/10min	ISO 1133
Ė Ę Ā ¹			ı ı – °
Ā Ā	0.50 Ā 0.80	%	ı ı – °
Ī Đ Ā Ā	0.60 Ā 0.90	%	ı ı – °
Ń Õ Ā			ISO 62
Ó Ô, 23•C	0.17	%	ISO 62
Ö Ø, 23•C, 50% RH	0.070	%	ISO 62
× Ø	¸ ¹ º	» ¼ ½	¾ ¯ °
Ù Ú × Ø (R Û Ü)	120		ISO 2039-2
Ý Þ × Ø (H 358/30)	218	MPa	ISO 2039-1
ß à ·	¸ ¹ º	» ¼ ½	¾ ¯ °
á â ã š			
--²	7100	MPa	ASTM D638
--	7000	MPa	ISO 527-2/1
ä å ...Ø			
æ ç ³	100	MPa	ASTM D638
æ ç	104	MPa	ISO 527-2/5
è é ⁴	100	MPa	ASTM D638
è é	104	MPa	ISO 527-2/5
â ê Ā			
æ ç ⁵	2.0	%	ASTM D638
æ ç	2.0	%	ISO 527-2/5
è é ⁶	2.0	%	ASTM D638
è é	2.0	%	ISO 527-2/5
ë ì ã š			

50.0 mm í î ⁷	5400	MPa	ASTM D790
-- ⁸	6100	MPa	ISO 178
ëì ï ð			
--	155	MPa	ISO 178
æç, 50.0 mm í î ⁹	130	MPa	ASTM D790
èé, 50.0 mm í î ¹⁰	130	MPa	ASTM D790
ñ ò ó ô (1000 Cycles, 1000 g, CS-17 ö ö)	16.0	mg	ì í - °
è é ë ì ï ð ¹¹	3.0	%	ISO 178
ø ù " "	, ¹ °	» ¼ ½	¾ ç - °
- ù μ	17	%	ASTM D229
ú û .	, ¹ °	» ¼ ½	¾ ç - °
ü ý þ ÿ ú û...Ø			
-30•C ¹²	4.0	kJ/m,	ISO 179/1eA
-30•C	5.0	kJ/m,	ISO 179/2C
23•C ¹³	5.0	kJ/m,	ISO 179/1eA, ISO 179/2C
ü ý þ ÿ ú û...Ø			
-30•C ¹⁴	20	kJ/m,	ISO 179/1eU
-30•C	24	kJ/m,	ISO 179/2U
23•C ¹⁵	25	kJ/m,	ISO 179/1eU
23•C	24	kJ/m,	ISO 179/2U
þ ÿ ú û...Ø			
-30•C	45	J/m	ASTM D256
0•C	45	J/m	ASTM D256
23•C	45	J/m	ASTM D256
-30•C ¹⁶	5.0	kJ/m,	ISO 180/1A
0•C ¹⁷	5.0	kJ/m,	ISO 180/1A
23•C ¹⁸	5.0	kJ/m,	ISO 180/1A
ÿ þ ú û			
-30•C	280	J/m	ASTM D4812
23•C	280	J/m	ASTM D4812
-30•C ¹⁹	20	kJ/m,	ISO 180/1U
23•C ²⁰	20	kJ/m,	ISO 180/1U
.	, ¹ °	» ¼ ½	¾ ç - °
÷ Ø			
0.45 MPa, , 3.20 mm	215	•C	ASTM D648
0.45 MPa, , 100 mm í î ²¹	215	•C	ISO 75-2/Be
0.45 MPa, , 64.0 mm í î ²²	210	•C	ISO 75-2/Bf
1.8 MPa, , 3.20 mm	190	•C	ASTM D648
1.8 MPa, , 100 mm í î ²³	185	•C	ISO 75-2/Ae
1.8 MPa, , 64.0 mm í î ²⁴	180	•C	ISO 75-2/Af
f- È Ø			
--	199	•C	ASTM D1525, ISO 306/B120j14 ²⁵
--	218	•C	ASTM D1525, ISO 306/A50j15 ²⁶
--	198	•C	ISO 306/B50
Ball Pressure Test (125•C)	Pass		IEC 60695-10-2
Å Å : -40 Î 40•C	2.8E-5	cm/cm/•C	ISO 11359-2
Å Å : 23 Î 80•C	3.5E-5	cm/cm/•C	ISO 11359-2
Å Å : 23 Î 150•C	2.6E-5	cm/cm/•C	ISO 11359-2
İ Đ : -40 Î 40•C	7.0E-5	cm/cm/•C	ISO 11359-2
İ Đ : 23 Î 80•C	9.5E-5	cm/cm/•C	ISO 11359-2

Ī Đ : 23 Ī 150•C	1.5E-4	cm/cm•C	ISO 11359-2
	0.19	W/m/K	ISO 8302
RTI Elec	120	•C	UL 746
RTI Imp	120	•C	UL 746
RTI	140	•C	UL 746
α .	1 °	» ¼ ½	¾ ĵ - °
α ž Ā	> 1.0E+15	ohms	IEC 60093
Ä É α ž Ā	1.0E+15	ohms cm	ASTM D257, IEC 60093
α ...Ø			
0.800 mm, in Oil	29	kV/mm	ASTM D149
1.60 mm, in Oil	23	kV/mm	ASTM D149
3.20 mm, in Oil	16	kV/mm	ASTM D149
0.800 mm,	29	kV/mm	IEC 60243-1
1.00 mm ²⁷	19	kV/mm	IEC 60243-1
1.60 mm,	23	kV/mm	IEC 60243-1
3.20 mm,	16	kV/mm	IEC 60243-1
α			
1 MHz	3.10		ASTM D150, IEC 60250
50 Hz	3.20		IEC 60250
60 Hz	3.20		IEC 60250
1 MHz	0.012		ASTM D150, IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
ó α! ²⁸	PLC 6		ASTM D495
" Ä ó# α \$%& (CTI)	PLC 3		UL 746
# α \$%&			IEC 60112
--	175	V	IEC 60112
' (-) B	150	V	IEC 60112
* α! Ÿ + & (HAI)	PLC 0		UL 746
* α β α! \$%Ä Ā (HVTR)	PLC 4		UL 746
, - Ÿ (HWI)	PLC 3		UL 746
. Ÿ	1 °	» ¼ ½	¾ ĵ - °
UL ž Ÿ / O			UL 94
0.890 mm	V-0		UL 94
3.00 mm	5VA		UL 94
1 , 2 Ÿ & (1.00 mm)	960	•C	IEC 60695-2-12
3 4 5 &	31	%	ISO 4589-2
ù ä 6 7	1 °	» ¼ ½	¾ ĵ - °
Ä Ä 8 Ø (260•C, 1500 sec^-1)	105	Pa s	ISO 11443
± ²	1 °	» ¼ ½	
9: Ø	110 Ī 120	•C	
9: ; <	2.0 Ī 4.0	hr	
= > ? @ A Ò 6 B Š	0.020	%	
‡ C Ø	40.0 Ī 60.0	•C	
‡ DE Í Ø	230 Ī 245	•C	
‡ D Í Ø	240 Ī 255	•C	
‡ DF Í Ø	245 Ī 265	•C	
² G Ø	240 Ī 260	•C	
œ@(ÄÄ) Ø	250 Ī 270	•C	
ã H Ø	40.0 Ī 100	•C	
l ±			
1. Tensile Bar			
2. 5.0 mm/min			

3.	J 1, 5.0 mm/min
4.	J 1, 5.0 mm/min
5.	J 1, 5.0 mm/min
6.	J 1, 5.0 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	1.3 mm/min
11.	2 mm/min
12.	80*10*4 sp=62mm
13.	80*10*4 sp=62mm
14.	80*10*4 sp=62mm
15.	80*10*4 sp=62mm
16.	80*10*4
17.	80*10*4
18.	80*10*4
19.	80*10*4
20.	80*10*4
21.	120*10*4 mm
22.	80*10*4 mm
23.	120*10*4 mm
24.	80*10*4 mm
25.	K L B (120•C/h), 2 (50N)
26.	ÆÃ A (50•C/h), 2 (50N)
27.	Short-Time
28.	M 3