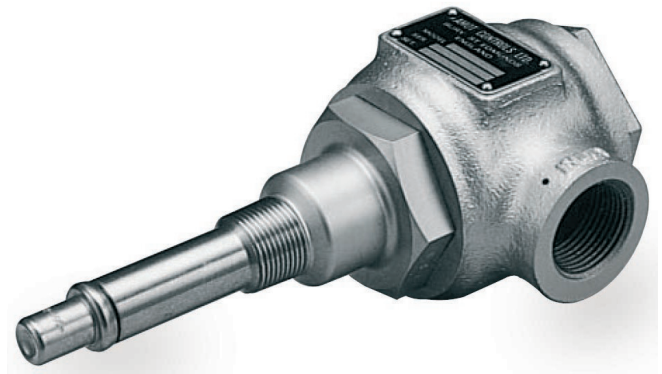


Temperature Regulating Valve

Model 2470B

Typical applications

- Engine and compressor cooling systems
- Co-generation heat recovery systems
- Lube oil systems
- Two-way regulating of cooling circuits



Model 2470B

Key features and benefits

- Tamper-proof temperature settings
- Simple operation
- Remote sensing capabilities
- Virtually no maintenance

Temperature Regulating Valve - Model 2470B

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Temperature Regulating Valve - Model 2470B

Overview

The 2470 is a two-way temperature regulating valve with remote sensing to modulate or shut off flow resulting from temperature changes. It can be used to sense the regulating medium or another fluid.

The 2470 valve uses a highly reliable expanding wax element encased in a bronze retaining cup, which produces exceptional valve travel per unit of temperature change.

Where additional element insertion length is required, extensions can be added as shown in the How to Order tables on pages 5 and 6. Stainless steel wells are also available for use in corrosive environments or where fluid containment is necessary, as shown on page 7.

Operation

Model 2470B(-)1(---)

Opens with a rise in temperature above the set point and will close on falling temperature. With a valve seat of Nitrile rubber this unit, when fully opened, will withstand 8.6 bar (125 psi) water pressure without leaking.

To obtain maximum life from the temperature elements the valve must not be operated continuously at more than 30°C (50°F) above the opening point. If it is necessary to operate at a continuous over temperature, consult the factory for alternative elements.

Model 2470B(-)2(---)

Closes with a rise in temperature above the set point and will open on falling temperature. With a valve seat of bronze metal this unit, when fully closed, will withstand 3.4 bar (50 psi) saturated steam or 5.5 bar (80 psi) water pressure without leaking.

To obtain maximum life from the temperature elements the valve must not be operated continuously at more than 18°C (30°F) above the opening point. If it is necessary to operate at a continuous over temperature, consult the factory for alternative elements.

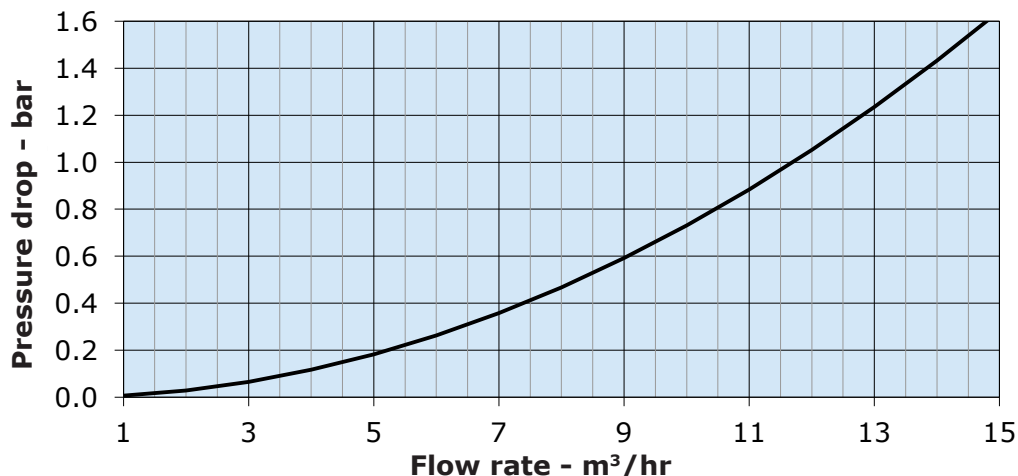
Model 2470B(-)3(---)

Closes with a rise in temperature above the set point and will open on falling temperature. With a valve seat of Nitrile rubber this unit, when fully closed, will withstand 8.6 bar (125 psi) water pressure without leaking.

To obtain maximum life from the temperature elements the valve must not be operated continuously at more than 18°C (30°F) above the opening point. If it is necessary to operate at a continuous over temperature, consult the factory for alternative elements.

Valve Characteristics

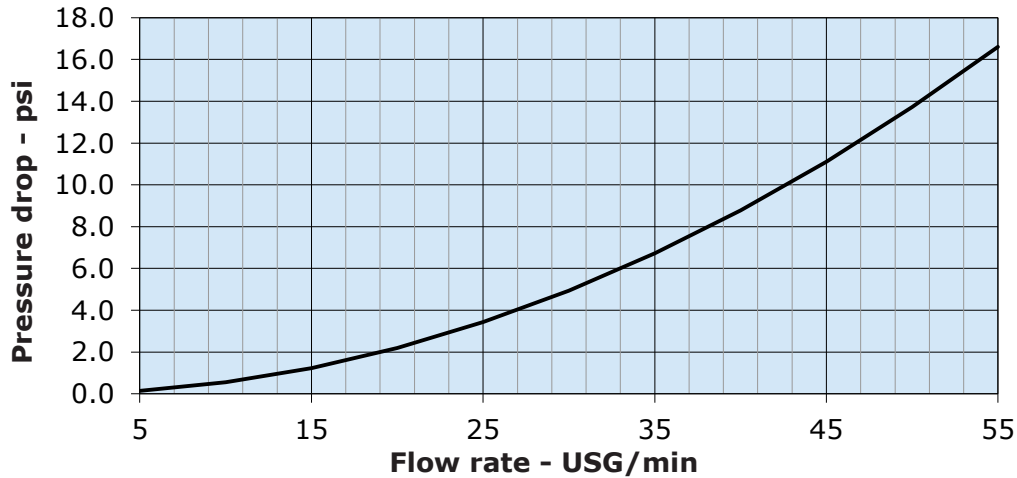
Flow rate (Metric units)



Temperature Regulating Valve - Model 2470B

Valve Characteristics Continued

Flow rate (English units)



Available temperature ranges

Code	WITH thermowell				WITHOUT thermowell			
	Open on rising		Close on rising		Open on rising		Close on rising	
	°C	°F	°C	°F	°C	°F	°C	°F
A	27	80	35	95	21	70	29	85
B	35	95	46	115	29	85	41	105
C	43	110	52	125	38	100	46	115
D	49	120	60	140	43	110	54	130
E	54	130	66	150	49	120	60	140
F	60	140	71	160	54	130	66	150
G	66	150	77	170	60	140	71	160
H	74	165	82	180	68	155	77	170
K	79	175	88	190	74	165	82	180
M	82	180	91	195	77	170	85	185
N	91	195	99	210	85	185	93	200
P	99	210	107	225	93	200	102	215
R	102	215	113	234	96	205	107	225
S	107	225	118	245	102	215	113	235
T	113	235	127	260	107	225	121	250

Temperature Regulating Valve - Model 2470B

How to Order

Ordering from Americas and Canada

Use the table below to select the unique specification of your 2470 Temperature Regulating Valve if ordering from the US or Canada facilities.

Example	2470B	1	1	E	0	Code description		Comments
						Basic model (A)		
Basic model (A)	2470B					Cast iron body		
						Threads and material (B)		
						Port A	Installation B	Housing material
Threads and material (B)		1				1" NPT	¾" NPT	Cast iron
		2				1" NPT	¾" NPT	Bronze
		3				1" BSP (PL)	¾" BSP (TR)	Cast iron
						Function (C)		
Function (C)		1				Opens on rising temp		Rubber seat
		2				Closes on rising temp		Metal seat
		3				Closes on rising temp		Rubber seat
						Temperature range (D)		
Temperature range (D)			*			For temperature ranges available, refer to the available temperature ranges table on page 4.		
						Element extension (E) - installed depth		
						mm	Inches	
Element extension (E)		0				50	2"	No thermal well
		3				87	3 7/16"	
		4				100	3 15/16"	
		5				113	4 7/16"	
		6				125	4 15/16"	
		7				138	5 7/16"	No thermal well
						Well calibration (F)		
Well calibration (F)		-				Not fitted with a thermal well		Blank, no suffix
		N				Not fitted with a thermal well		N suffix or blank
		V				Calibrated in a well		

Temperature Regulating Valve - Model 2470B

How to Order

Ordering from Europe and Asia-PAC

Use the table below to select the unique specification of your 2470 Temperature Regulating Valve if ordering from the Europe or Asia facilities.

Example	2470B	3	1	T	4	1	-AA	Code description	Comments	
								Basic model (A)		
Basic model (A)	2470B							Cast iron body		
								Threads and material (B)		
								Port A	Installation B	Housing material
Threads and material (B)	1							1" NPT	3/4" NPT	Cast iron
	3							1" BSP (PL)	3/4" BSP (TR)	
								Function (C)		
Function (C)	1							Opens on rising temp	Rubber seat	
	3							Closes on rising temp		
								Temperature range (D)		
Temperature range (D)			*					For temperature ranges available, refer to the available temperature ranges table on page 4.		
								Element extension (E) - installed depth		
								mm	Inches	
Element extension (E)	0							50	2"	No thermal well
	3							87	3 7/16"	
	4							100	3 15/16"	
								Thermal well code (F)		
Thermal well code (F)	N							Not fitted		
	1							1" BSP (TR)		
	2							1" NPT		
	V							Calibrated in a well, not fitted		
								Customer special requirements (G)		
Customer special requirements (G)	-AA							Standard	May be omitted	
	-***							Made-to-order		

Temperature Regulating Valve - Model 2470B

Stainless Steel Wells (refer to dimensions diagram on page 8)

Models 3250L and 40380L stainless steel wells are available for the 2470 thermostatic valve. If valves and wells are ordered at the same time, they will be assembled at the factory using AMOT 40081 heat transfer compound.

When ordered separately, AMOT 40081 heat transfer compound should be ordered and inserted in the well before installing the 2470 valve.

Sufficient compound should be used to fully cover the valve element extension.

Excess pressure due to compound expansion will be vented via the small relief hole in the 3250L well. If compound is not used, an excessive temperature lag between the sensed fluid and valve operating point may be experienced.

Element extension code (E)	Dimensions				Well part no.	
	Installed depth ("L")		Well depth ("M")		NPT	BSP (TR)
	mm	Inches	mm	Inches		
0	50	2"	-	-	-	-
3	87	3 7/16"	100	3 15/16"	3250L014	40380L014
4	100	3 15/16"	113	4 7/16"	3250L015	40380L015
5	113	4 7/16"	125	4 15/16"	3250L016	40380L016
6	125	4 15/16"	138	5 7/16"	3250L017	40380L017
7	138	5 7/16"	-	-	-	-

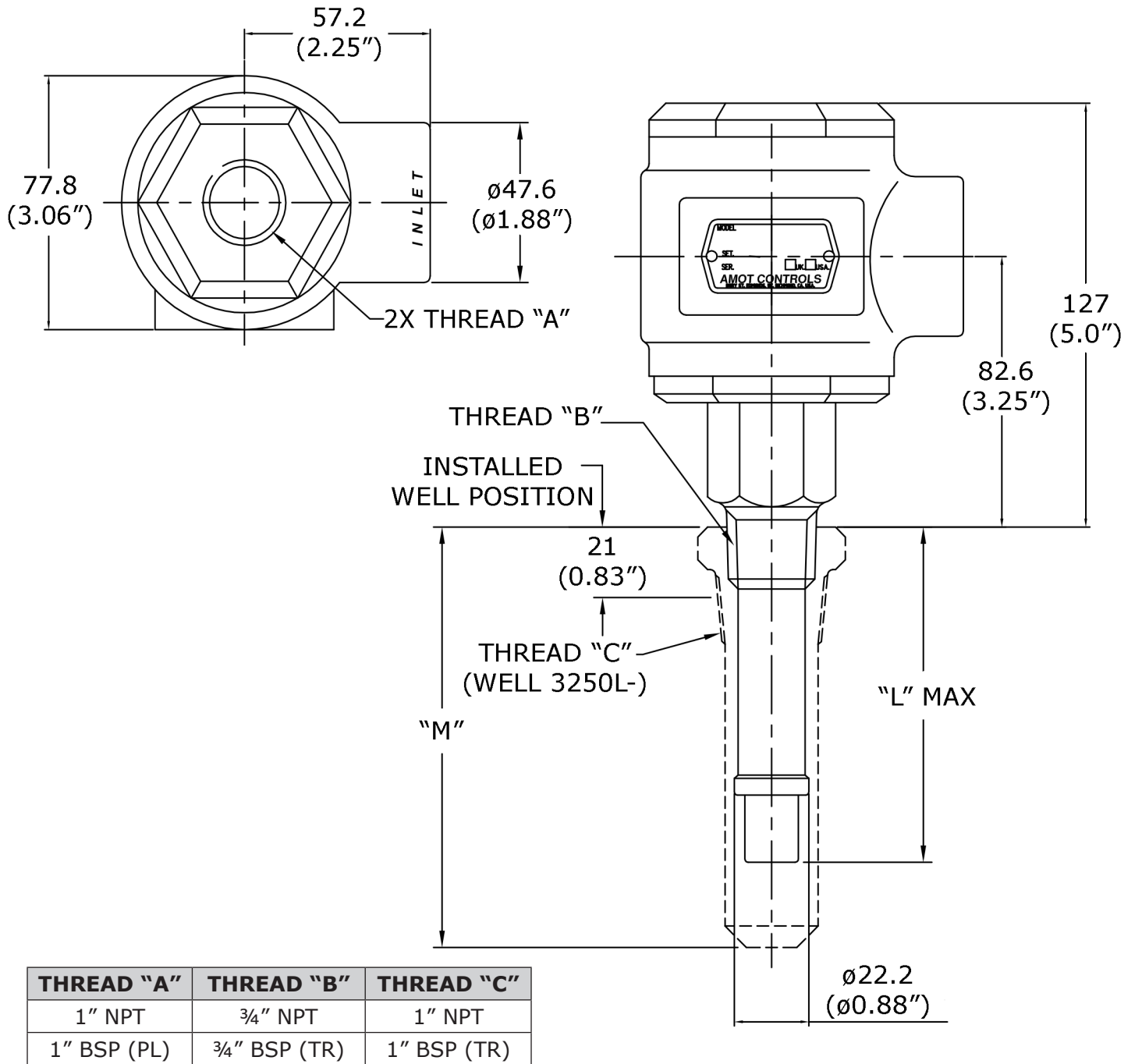
Specification

	Metric units	English units
Standard materials		
Body material	Cast iron	
Internal parts	Bronze	
Temperature element and extensions	Brass	
Adapter assembly	Stainless steel	
Dynamic seal	EPR	
Maximum pressure on element	55.2 bar	800 psi
Maximum pressure on well	275.8 bar	4000 psi
Flow coefficient	Kv = 11.7	Cv = 13.5
Maximum shutoff pressure	2470B(-)1(---)	8.6 bar Liquid / 125 psi Liquid
	2470B(-)2(---)	3.4 bar Steam / 50 psi Steam
		5.5 bar Liquid / 80 psi Liquid
2470B(-)3(---)	8.6 bar Liquid / 125 psi Liquid	
Net weight	2.1 kg	4.6 lb

Temperature Regulating Valve - Model 2470B

Dimensions

Dimensions - mm (inches)



Temperature Regulating Valve - Model 2470B

Maintenance and Service Parts *(refer to diagrams on page 10)*

Over time, exposure to foreign chemicals and particulate matter as well as prolonged operation at extreme conditions may reduce the effectiveness of the valve. At such time, AMOT Temperature Regulating Valves can be restored to original performance by replacing the service parts. Service parts for AMOT Temperature Regulating Valves include a temperature element and seals required for normal maintenance. Please order service parts using the part numbers, quantities and descriptions given in the service parts table below.

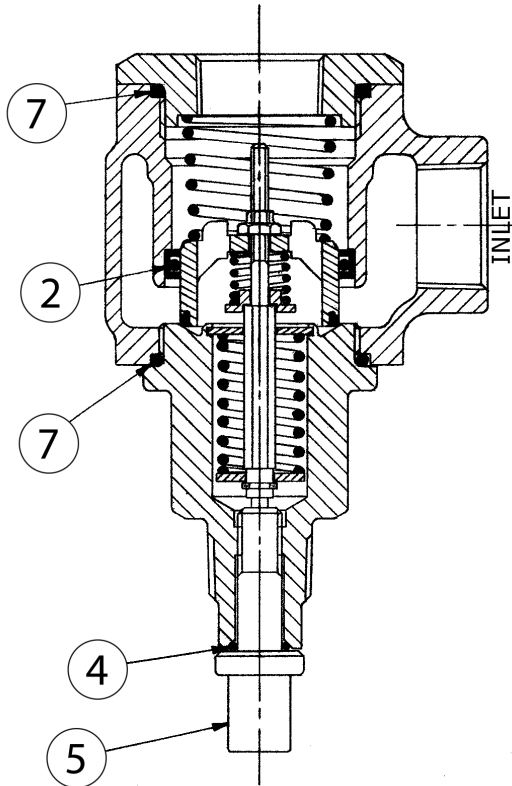
Periodic inspection and cleaning is the only maintenance that these units should require.

AMOT designs and tests all its products to ensure that high quality standards are met. For good product life, carefully follow AMOT's installation and maintenance instructions; failure to do so could result in damage to the equipment being protected or controlled.

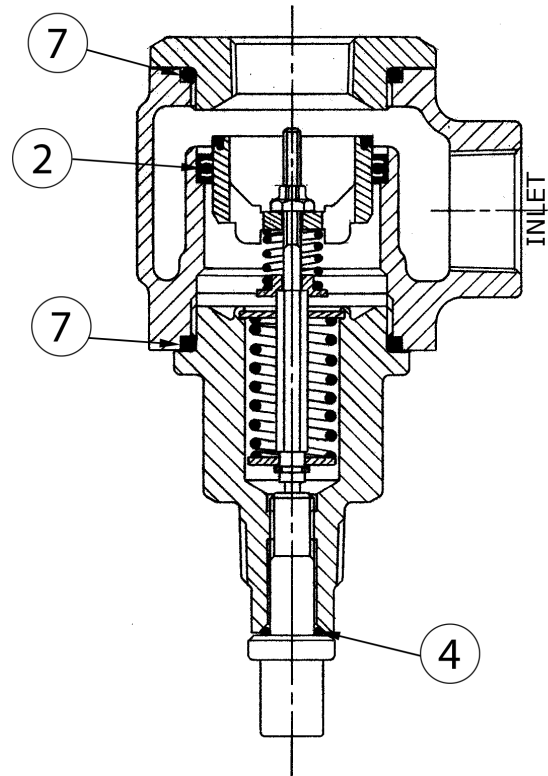
Service parts				
Ref no.	Part no.	Qty.	AMOT part description	Valve part number code restrictions
2	11142L001	1	O-RING, EPR	Function (C) = 1, 3
	727	1	O-RING, EPR	Function (C) = 2
4	1462	1	O-RING, BUNA N	NONE
5	9654X075	1	TEMPERATURE ELEMENT	Temperature range (D) = A
	9654X085	1		Temperature range (D) = B, Function (C) = 1
	9654X095	1		Temperature range (D) = B, Function (C) = 2, 3
	9654X110	1		Temperature range (D) = C
	9654X120	1		Temperature range (D) = D
	9654X130	1		Temperature range (D) = E
	9654X140	1		Temperature range (D) = F
	9654X150	1		Temperature range (D) = G
	9654X160	1		Temperature range (D) = H
	9654X170	1		Temperature range (D) = K
	9654X175	1		Temperature range (D) = M
	9654X190	1		Temperature range (D) = N
	9654X205	1		Temperature range (D) = P
	9654X215	1		Temperature range (D) = R
	9654X225	1		Temperature range (D) = S
9654X235	1	Temperature range (D) = T		
7	552	2	O-RING, BUNA N	NONE
13	1462	1	O-RING, BUNA N	Element extension (E) = 3, 4, 5, 6, 7
-	ISB-2470-001	1	2470B INSTALLATION AND SERVICE BULLETIN	NONE

Temperature Regulating Valve - Model 2470B

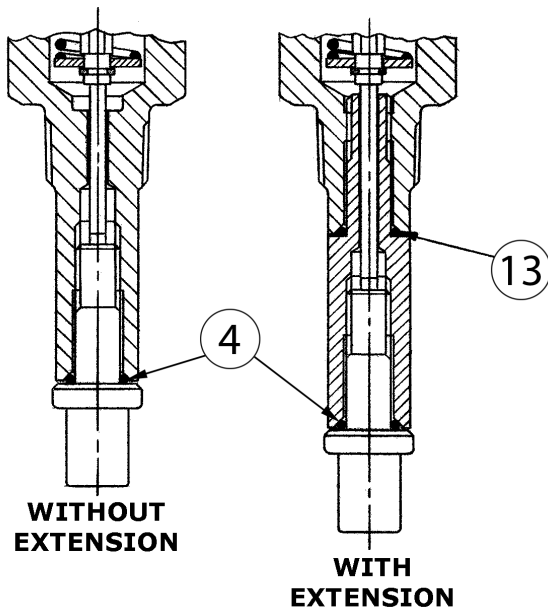
Maintenance and Service Parts Continued



MODEL 2470B(-)1(---)
OPEN ON RISING TEMPERATURE

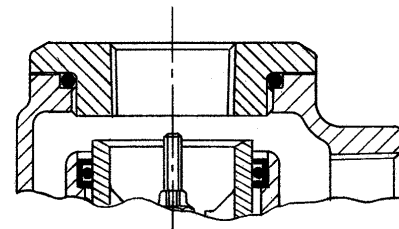


MODEL 2470B(-)3(---)
CLOSED ON RISING TEMPERATURE
RUBBER SEAT



WITHOUT
EXTENSION

WITH
EXTENSION



MODEL 2470B(-)2(---)
CLOSED ON RISING TEMPERATURE
METAL SEAT

Temperature Regulating Valve - Model 2470B

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WARNING

This product can expose you to chemicals including Lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.