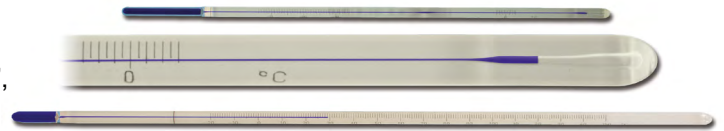


# Product data sheet

## LAB060 - ASTM SPIRIT FILLED LABORATORY THERMOMETERS

The following thermometers have been developed (product references 55/---/-) as spirit filled alternatives to the standard mercury filled ASTM thermometers. Those marked with an "S", ie "S5C", are exact equivalents to the ASTM Standard and are manufactured to E2251-14 "Liquid-in Glass ASTM

Thermometers with Low Hazard Precision Liquids", others are produced similar to the Standard. The thermometers marked \* are spirit filled thermometers from the original ASTM series and are still available. A range of IP equivalent thermometers are also being developed (product references 56/---/-). All these thermometers can be supplied with UKAS calibration certificate or statement of conformity on request. Please ask our sales team for information.



Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
1C	Partial Immersion	-20 to +150°C	1.0°C	327mm	76mm	55/001/2
1F	Partial Immersion	0 to +302°F	2.0°F	327mm	76mm	55/001/1
S5C	Cloud & Pour	-38 to +50°C	1.0°C	235mm	108mm	55/005/2
S5F	Cloud & Pour	-36 to +120°F	2.0°F	235mm	108mm	55/005/1
*6C (IP 2C)	Low Cloud & Pour	-80 to +20°C	1.0°C	235mm	76mm	58/002/2
*6F	Low Cloud & Pour	-112 to +70°F	2.0°F	235mm	76mm	59/006/1
9C	Low Pensky-Martens	-5 to +110°C	0.5°C	295mm	57mm	55/009/2
9F	Low Pensky-Martens	+20 to +230°F	1.0°F	295mm	57mm	55/009/1
S12C	Density Wide Range	-20 to +102°C	0.2°C	425mm	Total	55/012/2
S12F	Density Wide Range	+5 to +215°F	0.5°F	425mm	Total	55/012/1
13C	Loss on Heating	+155 to +170°C	0.5°C	160mm	Total	55/013/2#
14C	Wax Melting Point	+38 to +82°C	0.1°C	380mm	79mm	55/014/2
14F	Wax Melting Point	+100 to +180°F	0.2°F	380mm	79mm	55/014/1
S15C	Low Softening Point	-2 to +80°C	0.2°C	400mm	Total	55/015/2
S15F	Low Softening Point	-30 to +180°F	0.5°F	400mm	Total	55/015/1
16C	High Softening Point	+30 to +200°C	0.5°C	400mm	Total	55/016/2
16F	High Softening Point	+85 to +392°F	1.0°F	400mm	Total	55/016/1
17C	Saybolt Viscosity	+19 to +27°C	0.1°C	280mm	Total	55/017/2
17F	Saybolt Viscosity	+66 to +80°F	0.2°F	280mm	Total	55/017/1
S18C	Reid Vapour Pressure	+34 to +42°C	0.1°C	280mm	Total	55/018/2
S18F	Reid Vapour Pressure	+94 to +108°F	0.2°F	280mm	Total	55/018/1
19C	Saybolt Viscosity	+49 to +57°C	0.1°C	280mm	Total	55/019/2
19F	Saybolt Viscosity	+120 to +134°F	0.2°F	280mm	Total	55/019/1
20C	Saybolt Viscosity	+57 to +65°C	0.1°C	280mm	Total	55/020/2
20F	Saybolt Viscosity	+134 to +184°F	0.2°F	280mm	Total	55/020/1
21C	Saybolt Viscosity	+79 to +87°C	0.1°C	280mm	Total	55/021/2
21F	Saybolt Viscosity	+174 to +188°F	0.2°F	280mm	Total	55/021/1
S22C	Oxidation Stability	+95 to +103°C	0.1°C	280mm	Total	55/022/2
S22F	Oxidation Stability	+204 to +218°F	0.2°F	280mm	Total	55/022/1
23C	Engler Viscosity	+18 to +28°C	0.2°C	217mm	90mm	55/023/2
24C	Engler Viscosity	+39 to +54°C	0.2°C	242mm	90mm	55/024/2

# Product data sheet

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
25C	Engler Viscosity	+95 to +105°C	0.2°C	217mm	90mm	55/025/2
26C	Nitrocellulose Stability	+130 to +140°C	0.1°C	468mm	Total	55/026/2
27C	Turpentine Distillation	+147 to +182°C	0.5°C	306mm	76mm	55/027/2*1
28C	Kinematic Viscosity	+36.6 to +39.4°C	0.05°C	310mm	Total	55/028/2
28F	Kinematic Viscosity	+97.5 to +102.5°F	0.1°F	310mm	Total	55/028/1
29C	Kinematic Viscosity	+52.6 to +55.4°C	0.05°C	310mm	Total	55/029/2
29F	Kinematic Viscosity	+127.5 to +132.5°F	0.1°F	310mm	Total	55/029/1
30F	Kinematic Viscosity	+207.5 to +212.5°F	0.1°F	310mm	Total	55/030/1
33C	Low Aniline Point	-38 to +42°C	0.2°C	425mm	50mm	55/033/2
33F	Low Aniline Point	-36.5 to +107.5°F	0.2°F	425mm	50mm	55/033/1
34C	Medium Aniline Point	+25 to +105°C	0.2°C	425mm	50mm	55/034/2
34F	Medium Aniline Point	+77 to +221°F	0.5°F	425mm	50mm	55/034/1
35C	High Aniline Point	+90 to +170°C	0.2°C	425mm	50mm	55/035/2
35F	High Aniline Point	+194 to +338°F	0.5°F	425mm	50mm	55/035/1
36C	Titer Test	-2 to +68°C	0.2°C	410mm	45mm	55/036/2
37C	Solvents Distillation	-2 to +52°C	0.2°C	400mm	100mm	55/037/2
38C	Solvents Distillation	+24 to +78°C	0.2°C	400mm	100mm	55/038/2
39C	Solvents Distillation	+48 to +102°C	0.2°C	400mm	100mm	55/039/2
40C	Solvents Distillation	+72 to +126°C	0.2°C	400mm	100mm	55/040/2
41C	Solvents Distillation	+98 to +152°C	0.2°C	400mm	100mm	55/041/2
44C	Kinematic Viscosity	+18.6 to +21.4°C	0.05°C	310mm	Total	55/044/2
44F	Kinematic Viscosity	+66.5 to +71.5°F	0.1°F	310mm	Total	55/044/1
45C	Kinematic Viscosity	+23.6 to +26.4°C	0.05°C	310mm	Total	55/045/2
45F	Kinematic Viscosity	+74.5 to +79.5°F	0.1°F	310mm	Total	55/045/1
46C	Kinematic Viscosity	+48.6 to +51.4°C	0.05°C	310mm	Total	55/046/2
46F	Kinematic Viscosity	+119.5 to +124.5°F	0.1°F	310mm	Total	55/046/1
47C	Kinematic Viscosity	+58.6 to +61.4°C	0.05°C	310mm	Total	55/047/2
47F	Kinematic Viscosity	+137.5 to +142.5°F	0.1°F	310mm	Total	55/047/1
48C	Kinematic Viscosity	+80.6 to +83.4°C	0.05°C	310mm	Total	55/048/2
48F	Kinematic Viscosity	+177.5 to +182.5°F	0.1°F	310mm	Total	55/048/1
49C	Stormer Viscosity	+20 to +70°C	0.2°C	310mm	65mm	55/049/2
50F	Gas Colorimeter Inlet	+54 to +101°F	0.1°F	473mm	Total	55/050/1
51F	Gas Colorimeter Outlet	+69 to +116°F	0.1°F	473mm	Total	55/051/1
52C	Butadiene Boiling Point Range	+10 to +5°C	0.1°C	167mm	Total	55/052/2
54C	Congealing Point	+20 to +100.6°C	0.2°C	315mm	Total	55/054/2
54F	Congealing Point	+68 to +213°F	0.5°F	315mm	Total	55/054/1
S56C	Bomb Calorimeter	+19 to +35°C	0.02°C	600mm	Total	55/056/2
S56F	Bomb Calorimeter	+66 to +95°F	0.05°F	600mm	Total	55/056/1
57C	Tag Closed Tester Low Range	+20 to +50°C	0.5°C	292mm	57mm	55/057/2
57F	Tag Closed Tester Low Range	-4 to +122°F	1.0°F	292mm	57mm	55/057/1
S58C	Tank	-34 to +49°C	0.5°C	305mm	57mm	55/058/2
S58F	Tank	-30 to +120°F	1.0°F	305mm	57mm	55/058/1

\* Gallium filled

# Product data sheet

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
S59C	Tank	+18 to +82°C	0.5°C	305mm	57mm	55/059/2
S59F	Tank	0 to +180°F	1.0°F	305mm	57mm	55/059/1
61C	Petrolatum Melting Point	+32 to +127°C	0.2°C	385mm	79mm	55/061/2
61F	Petrolatum Melting Point	+90 to +260°F	0.5°F	385mm	79mm	55/061/1
S62C	Precision	+38 to +2°C	0.1°C	384mm	Total	55/062/2
S62F	Precision	+36 to +35°F	0.2°F	384mm	Total	55/062/1
S63C	Precision	-8 to +32°C	0.1°C	384mm	Total	55/063/2
S63F	Precision	+18 to +89°F	0.2°F	384mm	Total	55/063/1
S64C	Precision	+25 to +55°C	0.1°C	384mm	Total	55/064/2
S64F	Precision	+77 to +131°F	0.2°F	384mm	Total	55/064/1
S65C	Precision	+50 to +80°C	0.1°C	384mm	Total	55/065/2
S65F	Precision	+122 to +176°F	0.2°F	384mm	Total	55/065/1
S66C	Precision	+75 to +105°C	0.1°C	384mm	Total	55/066/2
S66F	Precision	+167 to +221°F	0.2°F	384mm	Total	55/066/1
S67C	Precision	+95 to +155°C	0.2°C	384mm	Total	55/067/2
S67F	Precision	+203 to +311°F	0.5°F	384mm	Total	55/067/1
68C	Precision	+145 to +205°C	0.2°C	384mm	Total	55/068/2*
68F	Precision	+293 to +401°F	0.5°F	384mm	Total	55/068/1*
71C	Oil in Wax	-37 to +21°C	0.5°C	360mm	76mm	55/071/2
71F	Oil in Wax	-35 to +70°F	1.0°F	360mm	76mm	55/071/1
72C	Kinematic Viscosity	-19.4 to -16.6°C	0.05°C	310mm	Total	55/072/2
72F	Kinematic Viscosity	-2.5 to +2.5°F	0.1°F	310mm	Total	55/072/1
73C	Kinematic Viscosity	-41.4 to -38.6°C	0.05°C	310mm	Total	55/073/2
73F	Kinematic Viscosity	-42.5 to -37.5°F	0.1°F	310mm	Total	55/073/1
75F	Coolant (Anti-Freeze) Freezing Point	-35 to +35°F	0.5°F	413mm	100mm	55/075/1
77F	Saybolt Viscosity	+245 to +265°F	0.5°F	280mm	Total	55/077/1
78F	Saybolt Viscosity	+295 to +315°F	0.5°F	280mm	Total	55/078/1
79F	Saybolt Viscosity	+345 to +365°F	0.5°F	280mm	Total	55/079/1#1
80F	Saybolt Viscosity	+395 to +415°F	0.5°F	280mm	Total	55/080/1#1
82C	Fuel Rating, Engine	-15 to +105°C	1.0°C	165mm	30mm	55/082/2
82F	Fuel Rating, Engine	0 to +220°F	2.0°F	165mm	30mm	55/082/1
83C	Fuel Rating, Air	+15 to +70°C	1.0°C	174mm	40mm	55/083/2
83F	Fuel Rating, Air	+60 to +160°F	1.0°F	174mm	40mm	55/083/1
84C	Fuel Rating, Orifice Tank	+25 to +80°C	1.0°C	387mm	249mm	55/084/2
84F	Fuel Rating, Orifice Tank	+75 to +175°F	1.0°F	387mm	249mm	55/084/1
85C	Fuel Rating, Surge	+40 to +150°C	1.0°C	314mm	181mm	55/085/2
85F	Fuel Rating, Surge	+100 to +300°F	2.0°F	314mm	181mm	55/085/1
86C	Fuel Rating, Mix	+95 to +175°C	1.0°C	170mm	35mm	55/086/2
86F	Fuel Rating, Mix	+200 to +350°F	2.0°F	170mm	35mm	55/086/1
87C	Fuel Rating, Coolant	+150 to +205°C	1.0°C	175mm	40mm	55/087/2*
87F	Fuel Rating, Coolant	+300 to +400°F	1.0°F	175mm	40mm	55/087/1*

\* Gallium filled


# Product data sheet

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
88C	Vegetable Oil Flash	+10 to +200°C	1.0°C	292mm	57mm	55/088/2 <sup>#</sup>
88F	Vegetable Oil Flash	+50 to +392°F	2.0°F	292mm	57mm	55/088/1 <sup>#</sup>
89C	Solidification Point	-20 to +10°C	0.1°C	375mm	76mm	55/089/2
90C	Solidification Point	0 to +30°C	0.1°C	375mm	76mm	55/090/2
S91C	Solidification Point	+20 to +50°C	0.1°C	375mm	76mm	55/091/2
92C	Solidification Point	+40 to +70°C	0.1°C	375mm	76mm	55/092/2
93C	Solidification Point	+60 to +90°C	0.1°C	375mm	76mm	55/093/2
94C	Solidification Point	+80 to +110°C	0.1°C	375mm	76mm	55/094/2
95C	Solidification Point	+100 to +130°C	0.1°C	375mm	76mm	55/095/2
96C	Solidification Point	+120 to +150°C	0.1°C	375mm	76mm	55/096/2
97C	Tank	-18 to +49°C	0.5°C	305mm	Total	55/097/2
97F	Tank	0 to +120°F	1.0°F	305mm	Total	55/097/1
98C	Tank	+16 to +82°C	0.5°C	305mm	Total	55/098/2
98F	Tank	+60 to +180°F	1.0°F	305mm	Total	55/098/1
99C	Weathering Test	-50 to +5°C	0.2°C	305mm	35mm	55/099/2
99F	Weathering Test	-58 to +41°F	0.5°F	305mm	35mm	55/099/1
100C	Solidification Point	+145 to +205°C	0.2°C	375mm	76mm	55/100/2 <sup>#1</sup>
102C	Solvents Distillation	+123 to +177°C	0.2°C	400mm	100mm	55/102/2
103C	Solvents Distillation	+148 to +202°C	0.2°C	400mm	100mm	55/103/2 <sup>*</sup>
104C	Solvents Distillation	+173 to +227°C	0.2°C	400mm	100mm	55/104/2 <sup>#1</sup>
108F	Saybolt Viscosity	+270 to +290°F	0.5°F	280mm	Total	55/108/1
109F	Saybolt Viscosity	+320 to +340°F	0.5°F	280mm	Total	55/109/1 <sup>#1</sup>
112C	Solidification Point of Benzene	+4 to +6°C	0.02°C	220mm	Total	55/112/2
113C	Bitumen Softening Point Wide Range	-1 to +175°C	0.5°C	410mm	Total	55/113/2
113F	Bitumen Softening Point Wide Range	+30 to +350°F	1.0°F	410mm	Total	55/113/1
S116C	Bomb Calorimeter	+18.9 to +25.1°C	0.01°C	614mm	Total	55/116/2
114C (IP14C)	Aviation Fuel Freezing Point	-80 to +20°C	0.5°C	305mm	Total	58/014/2 <sup>#2</sup>
S117C	Bomb Calorimeter	+23.9 to +30.1°C	0.01°C	614mm	Total	55/117/2
118C	Kinematic Viscosity	+28.6 to +31.4°C	0.05°C	310mm	Total	55/118/2
118F	Kinematic Viscosity	+83.5 to +88.5°F	0.1°F	310mm	Total	55/118/1
119C	Coolant (Anti-Freeze) Freezing Point	-38.3 to -30°C	0.1°C	425mm	100mm	55/119/2
119F	Coolant (Anti-Freeze) Freezing Point	-37 to -22°F	0.2°F	425mm	100mm	55/119/1
S120C	Kinematic Viscosity	+38.6 to +41.4°C	0.05°C	310mm	Total	55/120/2
121C	Kinematic Viscosity	+98.6 to +101.4°C	0.05°C	310mm	Total	55/121/2
122C	Brookfield Viscosity	-45 to -35°C	0.1°C	305mm	Total	55/122/2
123C	Brookfield Viscosity	-35 to -25°C	0.1°C	305mm	Total	55/123/2

<sup>#</sup>Gallium filled

# Product data sheet

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Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
124C	Brookfield Viscosity	-25 to -15°C	0.1°C	305mm	Total	55/124/2
125C	Brookfield Viscosity	-15 to -5°C	0.1°C	305mm	Total	55/125/2
126C	Kinematic Viscosity	-27.4 to -24.6°C	0.05°C	310mm	Total	55/126/2
126F	Kinematic Viscosity	-17.5 to -12.5°F	0.1°F	310mm	Total	55/126/1
127C	Kinematic Viscosity	-21.4 to -18.6°C	0.05°C	310mm	Total	55/127/2
128C	Kinematic Viscosity	-1.4 to +1.4°C	0.05°C	310mm	Total	55/128/2
128F	Kinematic Viscosity	+29.5 to +34.5°F	0.1°F	310mm	Total	55/128/1
129C	Kinematic Viscosity	+91.6 to +94.4°C	0.05°C	310mm	Total	55/129/2
129F	Kinematic Viscosity	+197.5 to +202.5°F	0.1°F	310mm	Total	55/129/1
S130C	Tank	-7 to +105°C	0.5°C	305mm	Total	55/130/2
130F	Tank	+20 to +220°F	1.0°F	305mm	Total	55/130/1
132C	Precision	148.6 to +151.4°C	0.05°C	310mm	Total	55/132/2 <sup>#1</sup>
133C	Precision	-38 to +2°C	0.1°C	384mm	76mm	55/133/2
135C	Fuel Rating Air - High	+38 to +93°C	1.0°C	171mm	40mm	55/135/2
135F	Fuel Rating Air - High	+100 to +200°F	1.0°F	171mm	40mm	55/135/1
136C	Aviation Fuel Density	-20 to +60°C	0.2°C	290mm	Total	55/136/2
136F	Aviation Fuel Density	-5 to +140°F	0.5°F	290mm	Total	55/136/1
137C	Oxidation Cell Test	+80 to +100°C	1.0°C	255mm	76mm	55/137/2

#1 Gallium filled

#2 Toluene filled

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