

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

CLASSIFICATION ORDER 1870

NOVEMBER 6, 2007

PROJECT Y- 7234

The following classification changes will be effected by this order:

	<u>Class</u>	<u>Subclass</u>	<u>Art Unit</u>	<u>Ex'r Search Room</u>
Abolished:	None			
Established:				
E-Subclasses:	374	E1.001-E1.009, E1.01, E1.011-E1.019, E1.02, E1.021-E1.026, E3.001- E3.009, E5.001-E5.009, E5.01, E5.011-E5.019, E5.02, E5.021- E5.029, E5.03, E5.031-E5.039, E5.04, E5.041-E5.044, E7.001-E7.009, E7.01, E7.011-E7.019, E7.02, E7.021-E7.029, E7.03, E7.031-E7.039, E7.04, E7.041-E7.043, E9.001, E11.001-E11.009, E11.01, E11.011-E11.019, E11.02, E11.021-E11.024, E13.001- E13.009, E13.01, E13.011- E13.013, E15.001, E15.002, E17.001-E17.009, E17.01, E17.011-E17.015, E19.001	2859	OS0001

No other classes were impacted by this order.

This order includes the following:

- A. CLASSIFICATION MANUAL CHANGES
- D. DEFINITION CHANGES AND NEW OR ADDITIONAL DEFINITIONS

CLASSIFICATION ORDER 1870

NOVEMBER 6, 2007

PROJECT Y-7234

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1	THERMAL CALIBRATION SYSTEM	43	DETERMINATION OF INHERENT THERMAL PROPERTY (E.G., HEAT FLOW COEFFICIENT)
2	.By thermal radiation emitting device (e.g., blackbody cavity)		
3	.By immersion in liquid having controlled temperature	44	.Thermal conductivity
4	LEAK OR FLAW DETECTION	45	THERMAL TESTING OF A NONTHERMAL QUANTITY
5	.With heating or cooling of specimen for test	46	.With loading of specimen (e.g., stress or strain)
6	DISTANCE OR ANGLE	47	..Cyclic
7	.Thickness, erosion, or deposition	48	...Torsional
8	FLAMMABILITY TESTING	49	..Tensile
9	EMISSIVITY DETERMINATION	50	...With detail of heating or cooling structure
10	DIFFERENTIAL THERMAL ANALYSIS	51	..Compressional
11	.Detail of electrical heating control	52	..Bending or flexing
12	.Detail of sample holder or support therefor	53	.Of cure or hardenability
13	..Formed by thermoelectric element	54	.Of fluid volume
14	THERMAL GRAVIMETRIC ANALYSIS	55	.Expansion or contraction characteristics (e.g., dilatometry)
15	BY APPLYING KNOWN THERMAL GRADIENT (E.G., INDICATION OF RESPONSE BY LOCATION)	56	..Including electrical sensor
16	TRANSFORMATION POINT DETERMINATION (E.G., DEW POINT, BOILING POINT)	57	.Of susceptibility to thermally induced deterioration, flaw, or failure
17	.By change in optical property (e.g., transmission)	100	TEMPERATURE MEASUREMENT (E.G., THERMOMETER)
18	..By reflection (e.g., polished surface)	101	.Composite temperature-related parameter
19	...Sensed by instrument (e.g., photocell)	102	..Time-temperature relationship (e.g., integral, deterioration, change)
20	....Controlling heating or cooling	103	...Time-temperature integration performed by particular circuit arrangement
21	.By electrical condition of specimen	104	...Peak (maximum or minimum) with respect to time
22	.By change in motion of movable element	105	....Indicating tube with sensing material return prevention
23	..Driven element	106	....Permanent visual indication (i.e., irreversible)
24	.By change in pressure of flow rate	107	...Rate of change
25	.By thermal arrest (e.g., time-temperature curve)	108	...Degree-days
26	..Of molten metal (e.g., carbon content)	109	..Climate related (e.g., wind-chill factor, discomfort index)
27	.Between gaseous and liquid states	110	..Plural spaced temperature function
28	..Dew point	111	...Highest or lowest of spaced temperatures
29	HEAT FLUX MEASUREMENT	112	...Difference or gradient
30	.By differential temperature measurement along undisturbed thermal gradient	113	...By thermoelements connected in series opposition
31	CALORIMETRY	114	...By current modifying elements in circuit (e.g., bridge)
32	.Total radiant energy or power measurement	115	...Space average
33	.With control of heat added to or lost from a sample container (e.g., isothermal calorimetry)	116	...By single sensor (e.g., elongate or with plural fluid intakes)
34	..With controlled adiabatic shield	117	.By a vibratory effect (e.g., resonant frequency, acoustical)
35	.Heat absorbing high temperature gas probe (e.g., enthalpy or fluid cooled probe)	118	..Resonant frequency by fluid flow
36	.Heat value of combustion (e.g., 'calorific value')	119	..Vibration velocity (e.g., echo timing)
37	..Having specified control of input of mixture	120	.In spaced noncontact relationship to specimen
38	..Having bomb or cartridge ignition chamber	121	..By thermally emitted radiation
39	.Gain or loss of heat by heat utilizing load in path of heat exchange fluid	122	...By microwave arrangement
40	..Determined by combining flow rate and temperature signals of heat exchange fluid		
41	...Signals combined electrically		
42	.Throttling calorimeter (e.g., steam quality)		

	TEMPERATURE MEASUREMENT (E.G., THERMOMETER)	160	..Melting or softening
	..In spaced noncontact relationship to specimen	161	..Change of optical property
	..By thermally emitted radiation	162	...Color
123	...Transparent material measurement or compensation (e.g., spectral line, gas, particulate suspension)	163	..By electrical or magnetic heat sensor
	...With scanning or temperature distribution display	164	..With preheated sensing probe
124	...With fluid flow purging device	165	..With heat exchanger or conductor
125	...Having emissivity compensating or specified radiating surface	166	..At plural zones
126	...Having significant frequency limitation or relationship (e.g., peak, ratio)	167	...Scanning
127	...Having significant signal handling circuitry (e.g., linearizing, emissivity compensation)	168	..With self-rebalancing arrangement (e.g., servo-potentiometer, thermal link)
128	...Comparison with radiation reference standard	169	..With thermal lag compensation
129	...Optical system structure (e.g., lens)	170	..Digital output
130	...With radiation conducting element	171	...With digital linearizing circuitry
131	...Sensor or mounting temperature control	172	..With compensation for sensor nonlinearity or lead impedance
132	...Ambient temperature compensated (e.g., dummy sensor)	173	...By feedback in amplifier circuit or with constant current source in circuit
133	..Extrapolation (e.g., simulation, heat flow)	174	..By conductive fluid or work function within sensor (e.g., ionization)
134	..By fluid flow within or to sensor (e.g., convection, heat transfer, differential pressure)	175	..Thermal noise generated in conductor
135	..Geophysical (e.g., well bore, underwater)	176	..Including sensor having hysteresis or cryogenic property (e.g., ferromagnetism, superconductivity)
136	..Temperature distribution or profile	177	...Ferroelectric
137	..With fluid flow deflector	178	..By barrier layer sensing element (e.g., semiconductor junction)
138	..Of molten metal	179	..By thermoelectric potential generator (e.g., thermocouple)
139	..Lance (e.g., consumable)	180	...Specimen is part of thermoelectric circuit
140	..Combined with diverse art device	181	...Reference junction compensation
141	..With other measuring device	182	...Reference junction temperature control
142	...Pressure	183	..By current modifying sensor
143	..With combustion engine	184	...Reactive element (e.g., capacitive)
144	...Cooling system	185	...Detail of resistive sensor
145	...Radiator cap mounted thermometer	186	..With specified recording arrangement
146	..With fluid carrying conduit (e.g., shower pipe)	187	..Mechanical (e.g., expansion or contraction of materials)
147	...Sensor within conduit	188	..Having electrical indication
148	..With cooking compartment or door thereof (e.g., oven)	189	..Plural zones (e.g., indoor-outdoor)
149	..With bottle (e.g., nursing)	190	..Indicating tube type
150	..With confection or infant pacifier	191	...With optical element (e.g., magnifying)
151	..With electrical component (e.g., transformer)	192	...With holder for shaking
152	..With roll or rotary specimen or support	193	...Having specified cross section
153	...With coupling between rotating sensor and stationary electrical circuitry	194	...With support or housing
154	..With percing element	195	..With detail of motion transmitting mechanism
155	..With float	196	..One sensing element within another
156	..With sampling cup	197	..With compensation
157	..With removable cover for sensor (e.g., disposable sheath)	198	..With adjustment
158	..Nonelectrical, nonmagnetic, or nonmechanical temperature responsive property	199	...Mechanical loading of sensor
159		200	...Adjustment of limit stop
		201	..Expanding fluid

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	TEMPERATURE MEASUREMENT (E.G., THERMOMETER)		of flow of the medium if such, by integration during a certain time-interval (EPO)
	.Mechanical (e.g., expansion or contraction of materials)	* E17.01	....Indicating product of flow and temperature difference directly (EPO)
	..Expanding fluid		
202	...With distinct pressure transmitting fluid	* E17.011	.....Using mechanical means for both measurements (EPO)
203	...Bourdon tube or bellows	* E17.012	.....Using electrical or magnetic means for both measurements (EPO)
204	..Multiple distinct sensing elements	* E17.013	.....Using electrical or magnetic means for one measurement and mechanical means for the other (EPO)
205	..Compound sensing element (e.g., bimetallic)		
206	...Coil		
207	....Helix		
208	HOUSING, SUPPORT, OR ADJUNCT	* E17.014	.....Where the indicating-instrument is driven electrically or magnetically by the temperature-measurement device and mechanically by the flow-measurement device (EPO)
209	.Removable probe cover		
210	MISCELLANEOUS		
*			
*	E-SUBCLASSES		
*			
	The following subclasses beginning with the letter E are E-subclasses. Each E-subclass corresponds in scope to a classification in a foreign classification system, for example, the European Classification system (ECLA). The foreign classification equivalent to an E-subclass is identified in the subclass definition. In addition to U.S. documents classified in E-subclasses by U.S. examiners, documents are regularly classified in E-subclasses according to the classification practices of any foreign Offices identified in parentheses at the end of the title. For example, "(EPO)" at the end of a title indicates both European and U.S. patent documents, as classified by the EPO, are regularly added to the subclass. E-subclasses may contain subject matter outside the scope of this class. Consult the E-subclass definitions, or the documents themselves, to clarify or interpret titles.	* E17.015	...Across a radiating surface, combined with ascertainment of the heat transmission coefficient (EPO)
		* E15.001	TESTING OR CALIBRATING OF THERMOMETERS (EPO)
		* E15.002	.Calibrated temperature sources, temperature standards therefor (EPO)
		* E7.001	MEASURING TEMPERATURE BASED ON THE USE OF ELECTRIC OR MAGNETIC ELEMENTS DIRECTLY SENSITIVE TO HEAT (EPO)
		* E7.002	.Using pyroelectric elements (EPO)
		* E7.003	.Using superconductive elements (EPO)
		* E7.004	.Using thermoelectric elements, e.g., thermocouples, etc. (EPO)
		* E7.005	..Provided with specially adapted connectors (EPO)
		* E7.006	..Expendable thermocouples (EPO)
		* E7.007	..Arrangements for signaling rupture or disconnection of the thermocouple (EPO)
		* E7.008	..Using microstructures, e.g., made of silicon, etc. (EPO)
		* E7.009	..The object to be measured not forming one of the thermo-electric materials (EPO)
		* E7.01	...The thermo-electric materials being arranged one within the other with the junction at one end exposed to the object, e.g., sheathed type, etc. (EPO)
* E19.001	TESTING OR CALIBRATING CALORIMETERS (EPO)		
* E17.001	MEASURING QUANTITY OF HEAT (EPO)		
* E17.002	.For measuring the power of light beams, e.g., laser beams, etc. (EPO)		
* E17.003	.Microcalorimeters, e.g., using silicon microstructures, etc. (EPO)	* E7.011	..The object to be measured forming one of the thermo-electric materials, e.g. pointed type, etc. (EPO)
* E17.004	.Calorimeters using transport of an indicating substances, e.g., evaporation calorimeters, etc. (EPO)	* E7.012	..Arrangements for compensating for auxiliary variables, e.g., length of lead, etc. (EPO)
* E17.005	..Where evaporation, sublimation or condensation caused by heating or cooling, is measured (EPO)	* E7.013	...Arrangements with respect to the cold junction, e.g., preventing influence of temperature of surrounding air, etc. (EPO)
* E17.006	.Calorimeters using compensation methods (EPO)		
* E17.007	.Measuring quantity of heat conveyed by flowing mediums, e.g., in heating systems, etc. (EPO)		
* E17.008	..Based upon measurement of temperature difference (EPO)		
* E17.009	...Between an inlet and an outlet point, combined with measurement of rate		

Title Change
* Newly Established Subclass

@ Indent Change
& Position Change

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	MEASURING TEMPERATURE BASED ON THE USE OF ELECTRIC OR MAGNETIC ELEMENTS DIRECTLY SENSITIVE TO HEAT (EPO)		stationary value of temperature (EPO)
	..Using thermoelectric elements, e.g., thermocouples, etc. (EPO)	* E7.043	..Thermal management of integrated systems (EPO)
	..Arrangements for compensating for auxiliary variables, e.g., length of lead, etc. (EPO)	* E3.001	THERMOMETERS GIVING RESULTS OTHER THAN MOMENTARY VALUE OF TEMPERATURE (EPO)
	...Arrangements with respect to the cold junction, e.g., preventing influence of temperature of surrounding air, etc. (EPO)	* E3.002	..Circuits arrangements for indicating a predetermined temperature (EPO)
* E7.014	....Circuits for cold-junction compensation (EPO)	* E3.003	..Giving means values; giving integrated values (EPO)
* E7.015	..Arrangements for modifying the output characteristic, e.g., linearizing, etc. (EPO)	* E3.004	..In respect of time (EPO)
* E7.016	...Particular circuit arrangements (EPO)	* E3.005	..In respect of space (EPO)
* E7.017	..Particular circuit arrangements (EPO)	* E3.006	..Giving differences of values; giving differentiated values (EPO)
* E7.018	..Using resistive elements (EPO)	* E3.007	..In respect of time, e.g., reacting only to a quick change of temperature etc. (EPO)
* E7.019	..The element being an electrolyte (EPO)	* E3.008	...Based upon expansion or contraction of materials (EPO)
* E7.02	...In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO)	* E3.009	..In respect of space (EPO)
* E7.021	..The element being a linear resistance, e.g., platinum resistance thermometer, etc. (EPO)	* E9.001	MEASURING TEMPERATURE BASED ON MOVEMENTS CAUSED BY REDISTRIBUTION OF WEIGHT, E.G., TILTING THERMOMETER, ETC. (EPO)
* E7.022	...Characterized by the use of the resistive element (EPO)	* E5.001	MEASURING TEMPERATURE BASED ON THE EXPANSION OR CONTRACTION OF A MATERIAL (EPO)
* E7.023	...Using microstructures (EPO)	* E5.002	..The material being a liquid (EPO)
* E7.024	...In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO)	* E5.003	..Manufacturing of this particular type of thermometer (EPO)
* E7.025	....In an oscillator circuit (EPO)	* E5.004	..Details (EPO)
* E7.026	....In a potentiometer circuit (EPO)	* E5.005	...Arrangements for driving back the liquid column (EPO)
* E7.027	....For modifying the output characteristic, e.g., linearizing, etc. (EPO)	* E5.006	...Capillary tubes (EPO)
* E7.028	..The element being a non-linear resistance, e.g., thermistor, etc. (EPO)	* E5.007	...Containers for the liquid (EPO)
* E7.029	...Characterized by the shape of the resistive element (EPO)	* E5.008	...Selection of liquid compositions (EPO)
* E7.03	...Using microstructures, e.g., silicon spreading resistance, etc. (EPO)	* E5.009	..The liquid displacing a further liquid column or a solid body (EPO)
* E7.031	...In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO)	* E5.01	..With electric contacts (EPO)
* E7.032	....In an oscillator circuit (EPO)	* E5.011	..With electric conversion means for final indication (EPO)
* E7.033	....For modifying the output characteristic, e.g., linearizing, etc. (EPO)	* E5.012	..With provision for expansion indicating over not more than a few degrees, e.g., clinical thermometer, etc. (EPO)
* E7.034	..Using thermal noise of resistances or conductors (EPO)	* E5.013	...With means for indicating a maximum, e.g., a constriction in the capillary tube, etc. (EPO)
* E7.035	..Using semiconducting elements having PN junctions (EPO)	* E5.014	..With means for indicating a maximum or a minimum or both (EPO)
* E7.036	..Using microstructures, e.g., made of silicon, etc. (EPO)	* E5.015	..With provision for measuring the difference between two temperatures (EPO)
* E7.037	..Using capacitative elements (EPO)	* E5.016	..With provision for adjusting zero point of scale, e.g., Beckmann thermometer, etc. (EPO)
* E7.038	..The dielectric constant of which is temperature dependant (EPO)	* E5.017	..The material being a gas (EPO)
* E7.039	..Using magnetic elements, e.g., magnets, coils, etc. (EPO)	* E5.018	..The gas displacing a liquid column (EPO)
* E7.04	..The variations of temperature influencing the magnetic permeability (EPO)		
* E7.041	..Using ionization of gases (EPO)		
* E7.042	..Circuits for reducing thermal inertia; Circuits for predicting the		

Title Change
* Newly Established Subclass

@ Indent Change
& Position Change

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- MEASURING TEMPERATURE BASED ON THE EXPANSION OR CONTRACTION OF A MATERIAL (EPO)
- * E5.019 .The material being a fluid contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the material (EPO)
 - * E5.02 ..Selection of fluid compositions (EPO)
 - * E5.021 ..Using a fluid container connected to the deformable body by means of a capillary tube (EPO)
 - * E5.022 ..The body being a tubular spring, e.g., Bourdon tube, etc. (EPO)
 - * E5.023 ...Of spiral formation (EPO)
 - * E5.024 ...Of helical formation (EPO)
 - * E5.025 ..The body being a bellows (EPO)
 - * E5.026 ..The body being a capsule (EPO)
 - * E5.027 ..The body being a cylinder and piston (EPO)
 - * E5.028 ..With electric conversion means for final indication (EPO)
 - * E5.029 ...Using electrical contact making or breaking devices (EPO)
 - * E5.03 .The material being a solid (EPO)
 - * E5.031 ..Using materials with a configuration memory e.g., Ni-Ti alloys, etc. (EPO)
 - * E5.032 ..Using microstructures, e.g., made of silicon, etc. (EPO)
 - * E5.033 ..Arranged for free expansion or contraction (EPO)
 - * E5.034 ...With electrical conversion means for final indication (EPO)
 - * E5.035 ..Consisting of pivotally-connected elements (EPO)
 - * E5.036 ..Constrained so that expansion or contraction causes a deformation of the solid (EPO)
 - * E5.037 ...The solid body being formed of compounded strips or plates, e.g., bimetallic strip, etc. (EPO)
 - * E5.038Details of the compounds system (EPO)
 - * E5.039Selection of composition of the components of the system (EPO)
 - * E5.04Shape of the system (EPO)
 - * E5.041Specially adapted for indicating or recording (EPO)
 - * E5.042With electric transmission means for final indication (EPO)
 - * E5.043 ...The solid body being constrained at more than one point, e.g., rod, plate, diaphragm, etc. (EPO)
 - * E5.044The body being a flexible wire or ribbon (EPO)
- E11.001 MEASURING TEMPERATURE BASED UPON PHYSICAL OR CHEMICAL CHANGES NOT COVERED BY ANY OF THE PRECEDING SUBCLASSES (EPO)
- * E11.002 .Using absorption or generation of gas, e.g., hydrogen, etc. (EPO)
 - * E11.003 .Using measurement of the effect of a material on microwaves or longer electromagnetic waves, e.g., measuring temperature via microwaves emitted by the object, etc. (EPO)
 - * E11.004 .Using evaporation or sublimation, e.g., by observing boiling, etc. (EPO)
 - * E11.005 ..From material contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the vapor (EPO)
 - * E11.006 .Using melting, freezing, or softening (EPO)
 - * E11.007 ..Of disposable test bodies, e.g., cone, etc. (EPO)
 - * E11.008 .Using sintering (EPO)
 - * E11.009 .Using measurement of acoustic effects (EPO)
 - * E11.01 ..Of the velocity of propagation of sound (EPO)
 - * E11.011 ..Of resonant frequencies (EPO)
 - * E11.012 ...Using surface acoustic wave (SAW) (EPO)
 - * E11.013 .Using measurements of density (EPO)
 - * E11.014 .Using measurement of the effect of a material on X-radiation, gamma radiation or particle radiation (EPO)
 - * E11.015 .Using changes in transmission, scattering or fluorescence in optical fibers (EPO)
 - * E11.016 ..At discrete locations in the fiber, e.g., by means of Bragg gratings, etc. (EPO)
 - * E11.017 ...Using changes in fluorescence, e.g., at the distal end of the fiber, etc. (EPO)
 - * E11.018 .Using change of color or translucency (EPO)
 - * E11.019 ..Using change in reflectance (EPO)
 - * E11.02 ..Of inorganic materials (EPO)
 - * E11.021 ..Of organic materials (EPO)
 - * E11.022 ...liquid crystals (EPO)
 - * E11.023 ..Of materials which change translucency (EPO)
 - * E11.024 .Using thermo-luminescent materials (EPO)
- E13.001 ADAPTATIONS OF THERMOMETERS FOR SPECIFIC PURPOSES (EPO)
- * E13.002 .For measuring body temperature (EPO)
 - * E13.003 ..Infrared clinical thermometers, e.g., tympanic, etc. (EPO)
 - * E13.004 .For cryogenic purposes (EPO)
 - * E13.005 ..Using microstructures, e.g., made of silicon, etc. (EPO)
 - * E13.006 .For measuring temperature of moving fluids or granular materials capable of flow (EPO)
 - * E13.007 ..Suction thermometers (EPO)
 - * E13.008 .For measuring temperature of moving solid bodies (EPO)
 - * E13.009 ..In linear movement (EPO)
 - * E13.01 ..In rotary movement (EPO)

Title Change
* Newly Established Subclass

@ Indent Change
& Position Change

- ADAPTATIONS OF THERMOMETERS FOR SPECIFIC PURPOSES (EPO) FOREIGN ART COLLECTION

- * E13.011 .For measuring temperature within piled or stacked materials (EPO) FOR 000 CLASS-RELATED FOREIGN DOCUMENTS
- * E13.012 .Combined with sampling devices for measuring temperatures of samples of materials (EPO)
- * E13.013 ..For siderurgical purposes (EPO)
- * E1.001 DETAILS OF THERMOMETERS NOT SPECIALLY ADAPTED FOR PARTICULAR TYPES OF THERMOMETER (EPO)
- * E1.002 .Special applications of indicating or recording means, e.g., for remote indications, etc. (EPO)
- * E1.003 ..Recording (EPO)
- * E1.004 ..For remote (EPO)
- * E1.005 ..Arrangements for monitoring a plurality of temperatures, e.g., by multiplexing, etc. (EPO)
- * E1.006 ..Arrangements for numerical indication (EPO)
- * E1.007 ..Scales (EPO)
- * E1.008 ...Temperature indication combined with the indication of another variable (EPO)
- * E1.009 ...Arrangements for facilitating reading, e.g., illumination, magnifying glass, etc. (EPO)
- * E1.01Of liquid column thermometers (EPO)
- * E1.011 .Protective devices, e.g., casings, etc. (EPO)
- * E1.012 ..For clinical thermometers, e.g., contamination preventing sleeves, etc. (EPO)
- * E1.013 ...For tympanic thermometers (EPO)
- * E1.014 ..For preventing chemical attack (EPO)
- * E1.015 ...For siderurgical use (EPO)
- * E1.016 ..For preventing damage due to heat overloading (EPO)
- * E1.017 ...For siderurgical use (EPO)
- * E1.018 .Supports; Fastening devices; mounting thermometers in particular locations (EPO)
- * E1.019 ..For measuring surface temperatures, e.g., of pipe walls, etc. (EPO)
- * E1.02 ..Arrangements for moving thermometers to or from a measuring position (EPO)
- * E1.021 .Special arrangements for conducting heat from the object to the sensitive element (EPO)
- * E1.022 ..For reducing thermal inertia (EPO)
- * E1.023 .Compensating for effects of temperature changes other than those to be measured, e.g., changes in ambient temperature, etc. (EPO)
- * E1.024 ..By means of fluid contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the fluid (EPO)
- * E1.025 ..By means of compounded strips or plates, e.g., by bimetallic strips, etc. (EPO)
- * E1.026 .Compensating for effects of pressure changes (EPO)
- *****

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D. CHANGES TO THE DEFINITIONS

Class 374 – THERMAL MEASURING AND TESTING

Definitions Established

E-SUBCLASSES

The E-subclasses in U.S. Class 374 provide for calorimetric devices and methods and devices and methods for testing or calibrating calorimetric devices. They also provide for thermometers, details and adaptations of thermometers, and devices and methods for testing or calibrating thermometers.

E1.001 DETAILS OF THERMOMETERS NOT SPECIALLY ADAPTED FOR PARTICULAR TYPES OF THERMOMETER (EPO):

This main subclass provides for thermometer details of general utility. This subclass is substantially the same in scope as ECLA classification G01K1/00.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E7.042, for circuits for reducing thermal inertia.

E1.002 Special applications of indicating or recording means, e.g., for remote indications, etc. (EPO):

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/02.

E1.003 Recording (EPO):

This subclass is indented under subclass E1.002. This subclass is substantially the same in scope as ECLA classification G01K1/02B.

E1.004 For remote (EPO):

This subclass is indented under subclass E1.002. This subclass is substantially the same in scope as ECLA classification G01K1/02C.

E1.005 Arrangements for monitoring a plurality of temperatures, e.g., by multiplexing, etc. (EPO):

This subclass is indented under subclass E1.002. This subclass is substantially the same in scope as ECLA classification G01K1/02D.

E1.006 Arrangements for numerical indication (EPO):

This subclass is indented under subclass E1.002. This subclass is substantially the same in scope as ECLA classification G01K1/02F.

E1.007 Scales (EPO):

This subclass is indented under subclass E1.002. This subclass is substantially the same in scope as ECLA classification G01K1/04.

E1.008 Temperature indication combined with the indication of another variable (EPO):

This subclass is indented under subclass E1.007. This subclass is substantially the same in scope as ECLA classification G01K1/04B.

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D. CHANGES TO THE DEFINITIONS**E1.009 Arrangements for facilitating reading, e.g., illumination, magnifying glass, etc. (EPO):**

This subclass is indented under subclass E1.007. This subclass is substantially the same in scope as ECLA classification G01K1/06.

E1.01 Of liquid column thermometers (EPO):

This subclass is indented under subclass E1.009. This subclass is substantially the same in scope as ECLA classification G01K1/06B.

E1.011 Protective devices, e.g., casings, etc. (EPO):

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/08.

E1.012 For clinical thermometers, e.g., contamination preventing sleeves, etc. (EPO):

This subclass is indented under subclass E1.011. This subclass is substantially the same in scope as ECLA classification G01K1/08B.

E1.013 For tympanic thermometers (EPO):

This subclass is indented under subclass E1.012. This subclass is substantially the same in scope as ECLA classification G01K1/08B2.

E1.014 For preventing chemical attack (EPO):

This subclass is indented under subclass E1.011. This subclass is substantially the same in scope as ECLA classification G01K1/10.

E1.015 For siderurgical use (EPO):

This subclass is indented under subclass E1.014. This subclass is substantially the same in scope as ECLA classification G01K1/10B.

E1.016 For preventing damage due to heat overloading (EPO):

This subclass is indented under subclass E1.011. This subclass is substantially the same in scope as ECLA classification G01K1/12.

E1.017 For siderurgical use (EPO):

This subclass is indented under subclass E1.016. This subclass is substantially the same in scope as ECLA classification G01K1/12B.

E1.018 Supports; Fastening devices; Mounting thermometers in particular locations (EPO):

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/14.

E1.019 For measuring surface temperatures, e.g., of pipe walls, etc. (EPO):

This subclass is indented under subclass E1.018. This subclass is substantially the same in scope as ECLA classification G01K1/14B.

E1.02 Arrangements for moving thermometers to or from a measuring position (EPO):

This subclass is indented under subclass E1.018. This subclass is substantially the same in scope as ECLA classification G01K1/14C.

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D. CHANGES TO THE DEFINITIONS**E1.021 Special arrangements for conducting heat from the object to the sensitive element (EPO):**

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/16.

E1.022 For reducing thermal inertia (EPO):

This subclass is indented under subclass E1.021. This subclass is substantially the same in scope as ECLA classification G01K1/18.

E1.023 Compensating for effects of temperature changes other than those to be measured, e.g., changes in ambient temperature, etc. (EPO):

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/20.

E1.024 By means of fluid contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the fluid (EPO):

This subclass is indented under subclass E1.023. This subclass is substantially the same in scope as ECLA classification G01K1/22

E1.025 By means of compounded strips or plates, e.g., by bimetallic strips, etc. (EPO):

This subclass is indented under subclass E1.023. This subclass is substantially the same in scope as ECLA classification G01K1/24.

E1.026 Compensating for effects of pressure changes (EPO):

This subclass is indented under subclass E1.001. This subclass is substantially the same in scope as ECLA classification G01K1/26.

E3.001 THERMOMETERS GIVING RESULTS OTHER THAN MOMENTARY VALUE OF TEMPERATURE (EPO):

This main subclass provides for thermometers which indicate a specific temperature or a relative temperature. This subclass is substantially the same in scope as ECLA classification G01K3/00.

E3.002 Circuits arrangements for indicating a predetermined temperature (EPO):

This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification G01K3/00C.

E3.003 Giving means values; giving integrated values (EPO):

This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification G01K3/02.

E3.004 In respect of time (EPO):

This subclass is indented under subclass E3.003. This subclass is substantially the same in scope as ECLA classification G01K3/04.

E3.005 In respect of space (EPO):

This subclass is indented under subclass E3.003. This subclass is substantially the same in scope as ECLA classification G01K3/0.

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D. CHANGES TO THE DEFINITIONS**E3.006 Giving differences of values; giving differentiated values (EPO):**

This subclass is indented under subclass E3.001. This subclass is substantially the same in scope as ECLA classification G01K3/08.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E7.004, for similar subject matter using thermoelectric elements.

E3.007 In respect of time, e.g., reacting only to a quick change of temperature, etc. (EPO):

This subclass is indented under subclass E3.006. This subclass is substantially the same in scope as ECLA classification G01K3/10.

E3.008 Based upon expansion or contraction of materials (EPO):

This subclass is indented under subclass E3.007. This subclass is substantially the same in scope as ECLA classification G01K3/12.

E3.009 In respect of space (EPO):

This subclass is indented under subclass E3.006. This subclass is substantially the same in scope as ECLA classification G01K3/14.

E5.001 MEASURING TEMPERATURE BASED ON THE EXPANSION OR CONTRACTION OF A MATERIAL (EPO):

This main subclass provides for temperature indicators responsive to the expansion or contraction of a material caused by a temperature change. This subclass is substantially the same in scope as ECLA classification G01K5/00.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E3.001, for temperature indicators giving other than momentary value of temperature.

E11.004, for temperature indicators of vapor arising from a liquid.

E5.002 The material being a liquid (EPO):

This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification G01K5/02.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E5.019, for similar subject matter wherein the material is contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the material.

E5.003 Manufacturing of this particular type of thermometer (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/02B.

E5.004 Details (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/04.

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D. CHANGES TO THE DEFINITIONS**E5.005 Arrangements for driving back the liquid column (EPO):**

This subclass is indented under subclass E5.004. This subclass is substantially the same in scope as ECLA classification G01K5/06.

E5.006 Capillary tubes (EPO):

This subclass is indented under subclass E5.004. This subclass is substantially the same in scope as ECLA classification G01K5/08.

E5.007 Containers for the liquid (EPO):

This subclass is indented under subclass E5.004. This subclass is substantially the same in scope as ECLA classification G01K5/10.

E5.008 Selection of liquid compositions (EPO):

This subclass is indented under subclass E5.004. This subclass is substantially the same in scope as ECLA classification G01K5/12.

E5.009 The liquid displacing a further liquid column or a solid body (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/14.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E5.014, for maximum or minimum indication.

E5.01 With electric contacts (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/16.

E5.011 With electric conversion means for final indication (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/18.

E5.012 With provision for expansion indicating over not more than a few degrees, e.g., clinical thermometer, etc. (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/22.

E5.013 With means for indicating a maximum, e.g., a constriction in the capillary tube, etc. (EPO):

This subclass is indented under subclass E5.012. This subclass is substantially the same in scope as ECLA classification G01K5/22B.

E5.014 With means for indicating a maximum or a minimum or both (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/20.

E5.015 With provision for measuring the difference between two temperatures (EPO):

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/24.

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D. CHANGES TO THE DEFINITIONS**E5.016 With provision for adjusting zero point of scale, e.g., Beckmann thermometer, etc. (EPO):**

This subclass is indented under subclass E5.002. This subclass is substantially the same in scope as ECLA classification G01K5/26.

E5.017 The material being a gas (EPO):

This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification G01K5/28.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E5.019, for similar subject matter in which the material is contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the material.

E5.018 The gas displacing a liquid column (EPO):

This subclass is indented under subclass E5.017. This subclass is substantially the same in scope as ECLA classification G01K5/30.

E5.019 The material being a fluid contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the material (EPO):

This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification G01K5/32.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E11.005, for similar subject matter in which the pressure is developed by evaporation.

E5.02 Selection of fluid compositions (EPO):

This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/32B.

E5.021 Using a fluid container connected to the deformable body by means of a capillary tube (EPO):

This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/32D.

E5.022 The body being a tubular spring, e.g., Bourdon tube, etc. (EPO):

This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/36.

E5.023 Of spiral formation (EPO):

This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification G01K5/38.

E5.024 Of helical formation (EPO):

This subclass is indented under subclass E5.022. This subclass is substantially the same in scope as ECLA classification G01K5/40.

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D. CHANGES TO THE DEFINITIONS

- E5.025 The body being a bellows (EPO):**
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/42.
- E5.026 The body being a capsule (EPO):**
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/34.
- E5.027 The body being a cylinder and piston (EPO):**
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/44.
- E5.028 With electric conversion means for final indication (EPO):**
This subclass is indented under subclass E5.019. This subclass is substantially the same in scope as ECLA classification G01K5/46.
- E5.029 Using electrical contact making or breaking devices (EPO):**
This subclass is indented under subclass E5.028. This subclass is substantially the same in scope as ECLA classification G01K5/46B.
- E5.03 The material being a solid (EPO):**
This subclass is indented under subclass E5.001. This subclass is substantially the same in scope as ECLA classification G01K5/48.
- E5.031 Using materials with a configuration memory, e.g., Ni-Ti alloys, etc. (EPO):**
This subclass is indented under subclass E5.03. This subclass is substantially the same in scope as ECLA classification G01K5/48B.
- E5.032 Using microstructures, e.g., made of silicon, etc. (EPO):**
This subclass is indented under subclass E5.03. This subclass is substantially the same in scope as ECLA classification G01K5/48M.
- E5.033 Arranged for free expansion or contraction (EPO):**
This subclass is indented under subclass E5.03. This subclass is substantially the same in scope as ECLA classification G01K5/50.
- E5.034 With electrical conversion means for final indication (EPO):**
This subclass is indented under subclass E5.033. This subclass is substantially the same in scope as ECLA classification G01K5/52.
- E5.035 Consisting of pivotally-connected elements (EPO):**
This subclass is indented under subclass E5.03. This subclass is substantially the same in scope as ECLA classification G01K5/54.
- E5.036 Constrained so that expansion or contraction causes a deformation of the solid (EPO):**
This subclass is indented under subclass E5.03. This subclass is substantially the same in scope as ECLA classification G01K5/56.

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D. CHANGES TO THE DEFINITIONS**E5.037 The solid body being formed of compounded strips or plates, e.g., bimetallic strip, etc. (EPO):**

This subclass is indented under subclass E5.036. This subclass is substantially the same in scope as ECLA classification G01K5/62.

E5.038 Details of the compounds system (EPO):

This subclass is indented under subclass E5.037. This subclass is substantially the same in scope as ECLA classification G01K5/64.

E5.039 Selection of composition of the components of the system (EPO):

This subclass is indented under subclass E5.038. This subclass is substantially the same in scope as ECLA classification G01K5/66.

E5.04 Shape of the system (EPO):

This subclass is indented under subclass E5.038. This subclass is substantially the same in scope as ECLA classification G01K5/68.

E5.041 Specially adapted for indicating or recording (EPO):

This subclass is indented under subclass E5.037. This subclass is substantially the same in scope as ECLA classification G01K5/70.

E5.042 With electric transmission means for final indication (EPO):

This subclass is indented under subclass E5.041. This subclass is substantially the same in scope as ECLA classification G01K5/72.

E5.043 The solid body being constrained at more than one point, e.g., rod, plate, diaphragm, etc. (EPO):

This subclass is indented under subclass E5.036. This subclass is substantially the same in scope as ECLA classification G01K5/58.

E5.044 The body being a flexible wire or ribbon (EPO):

This subclass is indented under subclass E5.043. This subclass is substantially the same in scope as ECLA classification G01K5/60.

E7.001 MEASURING TEMPERATURE BASED ON THE USE OF ELECTRIC OR MAGNETIC ELEMENTS DIRECTLY SENSITIVE TO HEAT (EPO):

This main subclass provides for devices or methods for measuring temperatures using sensing elements having an electrical or magnetic property which is varied by heat. This subclass is substantially the same in scope as ECLA classification G01K7/00.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E3.001, for temperature indicators giving results other than momentary value of temperature.

E7.002 Using pyroelectric elements (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/00C.

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D. CHANGES TO THE DEFINITIONS**E7.003 Using superconductive elements (EPO):**

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/00D.

E7.004 Using thermoelectric elements, e.g., thermocouples, etc. (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/02.

E7.005 Provided with specially adapted connectors (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02D.

E7.006 Expendable thermocouples (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02F.

E7.007 Arrangements for signaling rupture or disconnection of the thermocouple (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02G.

E7.008 Using microstructures, e.g., made of silicon, etc. (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02M.

E7.009 The object to be measured not forming one of the thermo-electric materials (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/04.

E7.01 The thermo-electric materials being arranged one within the other with the junction at one end exposed to the object, e.g., sheathed type, etc. (EPO):

This subclass is indented under subclass E7.009. This subclass is substantially the same in scope as ECLA classification G01K7/06.

E7.011 The object to be measured forming one of the thermo-electric materials, e.g., pointed type, etc. (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/08.

E7.012 Arrangements for compensating for auxiliary variables, e.g., length of lead, etc. (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/10.

E7.013 Arrangements with respect to the cold junction, e.g., preventing influence of temperature of surrounding air, etc. (EPO):

This subclass is indented under subclass E7.012. This subclass is substantially the same in scope as ECLA classification G01K7/12.

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D. CHANGES TO THE DEFINITIONS**E7.014 Circuits for cold-junction compensation (EPO):**

This subclass is indented under subclass E7.013. This subclass is substantially the same in scope as ECLA classification G01K7/13.

E7.015 Arrangements for modifying the output characteristic, e.g., linearizing, etc. (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/14.

E7.016 Particular circuit arrangements (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02C.

E7.017 Particular circuit arrangements (EPO):

This subclass is indented under subclass E7.004. This subclass is substantially the same in scope as ECLA classification G01K7/02C.

E7.018 Using resistive elements (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/16.

E7.019 The element being an electrolyte (EPO):

This subclass is indented under subclass E7.018. This subclass is substantially the same in scope as ECLA classification G01K7/26.

E7.02 In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO):

This subclass is indented under subclass E7.019. This subclass is substantially the same in scope as ECLA classification G01K7/28.

E7.021 The element being a linear resistance, e.g., platinum resistance thermometer, etc., (EPO):

This subclass is indented under subclass E7.018. This subclass is substantially the same in scope as ECLA classification G01K7/18.

E7.022 Characterized by the use of the resistive element (EPO):

This subclass is indented under subclass E7.021. This subclass is substantially the same in scope as ECLA classification G01K7/18B.

E7.023 Using microstructures (EPO):

This subclass is indented under subclass E7.021. This subclass is substantially the same in scope as ECLA classification G01K7/18M.

E7.024 In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO):

This subclass is indented under subclass E7.021. This subclass is substantially the same in scope as ECLA classification G01K7/20.

E7.025 In an oscillator circuit (EPO):

This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification G01K7/20B.

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D. CHANGES TO THE DEFINITIONS**E7.026 In a potentiometer circuit (EPO):**

This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification G01K7/20C.

E7.027 For modifying the output characteristic, e.g., linearizing, etc. (EPO):

This subclass is indented under subclass E7.024. This subclass is substantially the same in scope as ECLA classification G01K7/21.

E7.028 The element being a non-linear resistance, e.g., thermistor, etc. (EPO):

This subclass is indented under subclass E7.018. This subclass is substantially the same in scope as ECLA classification G01K7/22.

E7.029 Characterized by the shape of the resistive element (EPO):

This subclass is indented under subclass E7.028. This subclass is substantially the same in scope as ECLA classification G01K7/22B.

E7.03 Using microstructures, e.g., silicon spreading resistance, etc. (EPO):

This subclass is indented under subclass E7.028. This subclass is substantially the same in scope as ECLA classification G01K7/22M.

E7.031 In a specially-adapted circuit, e.g., bridge circuit, etc. (EPO):

This subclass is indented under subclass E7.028. This subclass is substantially the same in scope as ECLA classification G01K7/24.

E7.032 In an oscillator circuit (EPO):

This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification G01K7/24B.

E7.033 For modifying the output characteristic, e.g., linearizing, etc. (EPO):

This subclass is indented under subclass E7.031. This subclass is substantially the same in scope as ECLA classification G01K7/25.

E7.034 Using thermal noise of resistances or conductors (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/30.

E7.035 Using semiconducting elements having PN junctions (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/01.

E7.036 Using microstructures, e.g., made of silicon, etc. (EPO):

This subclass is indented under subclass E7.035. This subclass is substantially the same in scope as ECLA classification G01K7/01M.

E7.037 Using capacitive elements (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/34.

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D. CHANGES TO THE DEFINITIONS**E7.038 The dielectric constant of which is temperature dependant (EPO):**

This subclass is indented under subclass E7.037. This subclass is substantially the same in scope as ECLA classification G01K7/34B.

E7.039 Using magnetic elements, e.g., magnets, coils, etc. (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/36.

E7.04 The variations of temperature influencing the magnetic permeability (EPO):

This subclass is indented under subclass E7.039. This subclass is substantially the same in scope as ECLA classification G01K7/38.

E7.041 Using ionization of gases (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/40.

E7.042 Circuits for reducing thermal inertia; Circuits for predicting the stationary value of temperature (EPO):

This subclass is indented under subclass E7.001. This subclass is substantially the same in scope as ECLA classification G01K7/42.

E7.043 Thermal management of integrated systems (EPO):

This subclass is indented under subclass E7.042. This subclass is substantially the same in scope as ECLA classification G01K7/42M.

E9.001 MEASURING TEMPERATURE BASED ON MOVEMENTS CAUSED BY REDISTRIBUTION OF WEIGHT, E.G., TILTING THERMOMETER, ETC. (EPO):

This main subclass provides for temperature indicators responsive to a redistribution of weight caused by a change of temperature. This subclass is substantially the same in scope as ECLA classification G01K9/00.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E3.001, for temperature indicators not giving momentary value of temperature.

E11.001 MEASURING TEMPERATURE BASED UPON PHYSICAL OR CHEMICAL CHANGES NOT COVERED BY ANY OF THE PRECEDING SUBCLASSES (EPO):

This main subclass provides for temperature indicators responsive to a physical or chemical change caused by a temperature change and not provided for in any of the preceding subclasses. This subclass is substantially the same in scope as ECLA classification G01K11/00.

E11.002 Using absorption or generation of gas, e.g., hydrogen, etc. (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/00B.

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D. CHANGES TO THE DEFINITIONS**E11.003 Using measurement of the effect of a material on microwaves or longer electromagnetic waves, e.g., measuring temperature via microwaves emitted by the object, etc. (EPO):**

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/00D.

E11.004 Using evaporation or sublimation, e.g., by observing boiling, etc. (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/02.

E11.005 From material contained in a hollow body having parts which are deformable or displaceable under the pressure developed by the vapor (EPO):

This subclass is indented under subclass E11.004. This subclass is substantially the same in scope as ECLA classification G01K11/04.

E11.006 Using melting, freezing, or softening (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/06.

E11.007 Of disposable test bodies, e.g., cone, etc. (EPO):

This subclass is indented under subclass E11.006. This subclass is substantially the same in scope as ECLA classification G01K11/08.

E11.008 Using sintering (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/10.

E11.009 Using measurement of acoustic effects (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/22.

E11.01 Of the velocity of propagation of sound (EPO):

This subclass is indented under subclass E11.009. This subclass is substantially the same in scope as ECLA classification G01K11/24.

E11.011 Of resonant frequencies (EPO):

This subclass is indented under subclass E11.009. This subclass is substantially the same in scope as ECLA classification G01K11/26.

E11.012 Using surface acoustic wave (SAW) (EPO):

This subclass is indented under subclass E11.011. This subclass is substantially the same in scope as ECLA classification G01K11/26M.

E11.013 Using measurements of density (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/28.

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D. CHANGES TO THE DEFINITIONS**E11.014 Using measurement of the effect of a material on X-radiation, gamma radiation or particle radiation (EPO):**

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/30.

E11.015 Using changes in transmission, scattering or fluorescence in optical fibers (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/32.

E11.016 At discrete locations in the fiber, e.g., by means of Bragg gratings, etc. (EPO):

This subclass is indented under subclass E11.015. This subclass is substantially the same in scope as ECLA classification G01K11/32B.

E11.017 Using changes in fluorescence, e.g., at the distal end of the fiber, etc. (EPO):

This subclass is indented under subclass E11.016. This subclass is substantially the same in scope as ECLA classification G01K11/32B2.

E11.018 Using change of color or translucency (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/12.

E11.019 Using change in reflectance (EPO):

This subclass is indented under subclass E11.018. This subclass is substantially the same in scope as ECLA classification G01K11/12R.

E11.02 Of inorganic materials (EPO):

This subclass is indented under subclass E11.018. This subclass is substantially the same in scope as ECLA classification G01K11/14.

E11.021 Of organic materials (EPO):

This subclass is indented under subclass E11.018. This subclass is substantially the same in scope as ECLA classification G01K11/16.

E11.022 Liquid crystals (EPO):

This subclass is indented under subclass E11.021. This subclass is substantially the same in scope as ECLA classification G01K11/16B.

E11.023 Of materials which change translucency (EPO):

This subclass is indented under subclass E11.018. This subclass is substantially the same in scope as ECLA classification G01K11/18.

E11.024 Using thermo-luminescent materials (EPO):

This subclass is indented under subclass E11.001. This subclass is substantially the same in scope as ECLA classification G01K11/20.

E13.001 ADAPTATIONS OF THERMOMETERS FOR SPECIFIC PURPOSES (EPO):

This main subclass provides for temperature indicating devices designed for specific uses or environments. This subclass is substantially the same in scope as ECLA classification G01K13/00.

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D. CHANGES TO THE DEFINITIONS**E13.002 For measuring body temperature (EPO):**

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/00B.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E7.041, for prediction aspects.

E13.003 Infrared clinical thermometers, e.g., tympanic, etc. (EPO):

This subclass is indented under subclass E13.002. This subclass is substantially the same in scope as ECLA classification G01K13/00B2.

E13.004 For cryogenic purposes (EPO):

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/00C.

E13.005 Using microstructures, e.g., made of silicon, etc. (EPO):

This subclass is indented under subclass E13.004. This subclass is substantially the same in scope as ECLA classification G01K13/00C2.

E13.006 For measuring temperature of moving fluids or granular materials capable of flow (EPO):

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/02.

E13.007 Suction thermometers (EPO):

This subclass is indented under subclass E13.006. This subclass is substantially the same in scope as ECLA classification G01K13/02B.

E13.008 For measuring temperature of moving solid bodies (EPO):

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/04.

E13.009 In linear movement (EPO):

This subclass is indented under subclass E13.008. This subclass is substantially the same in scope as ECLA classification G01K13/06.

E13.01 In rotary movement (EPO):

This subclass is indented under subclass E13.008. This subclass is substantially the same in scope as ECLA classification G01K13/08.

E13.011 For measuring temperature within piled or stacked materials (EPO):

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/10.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E1.021, for measuring temperature within piled or stacked materials by special arrangements for conducting heat from the object to the sensitive heat element.

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D. CHANGES TO THE DEFINITIONS**E13.012 Combined with sampling devices for measuring temperatures of samples of materials (EPO):**

This subclass is indented under subclass E13.001. This subclass is substantially the same in scope as ECLA classification G01K13/12.

E13.013 For siderurgical purposes (EPO):

This subclass is indented under subclass E13.012. This subclass is substantially the same in scope as ECLA classification G01K13/12B.

E15.001 TESTING OR CALIBRATING OF THERMOMETERS (EPO):

This main subclass provides for devices or methods for testing or calibrating temperature measuring devices. This subclass is substantially the same in scope as ECLA classification G01K15/00.

E15.002 Calibrated temperature sources, temperature standards therefor (EPO):

This subclass is indented under subclass E15.001. This subclass is substantially the same in scope as ECLA classification G01K15/00B.

SEE OR SEARCH THIS CLASS, SUBCLASS:

E7.013, for arrangements with respect to the cold junction of thermo-electric elements.

E17.001 MEASURING QUANTITY OF HEAT (EPO):

This main subclass provides for devices or methods for measuring the amount of heat produced or absorbed by chemical reactions or by physical changes or for measuring heat capacity. This subclass is substantially the same in scope as ECLA classification G01K17/00.

SEE OR SEARCH THIS CLASS, SUBCLASSES:

E3.001 to E11.001, for measuring temperature by calorimetry.

E17.002 For measuring the power of light beams, e.g., laser beams, etc. (EPO):

This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification G01K17/00B.

E17.003 Microcalorimeters, e.g., using silicon microstructures, etc. (EPO):

This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification G01K17/00M.

E17.004 Calorimeters using transport of an indicating substances, e.g., evaporation calorimeters, etc. (EPO):

This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification G01K17/02.

E17.005 Where evaporation, sublimation or condensation caused by heating or cooling, is measured (EPO):

This subclass is indented under subclass E17.004. This subclass is substantially the same in scope as ECLA classification G01K17/02B.

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D. CHANGES TO THE DEFINITIONS**E17.006 Calorimeters using compensation methods (EPO):**

This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification G01K17/04.

Note. This subclass covers calorimetry in which the absorbed or released quantity of heat to be measured is compensated by a measured quantity of heating or cooling.

E17.007 Measuring quantity of heat conveyed by flowing mediums, e.g., in heating systems, etc. (EPO):

This subclass is indented under subclass E17.001. This subclass is substantially the same in scope as ECLA classification G01K17/06.

Note. This subclass covers, for example, the measurement of the quantity of heat in a transporting medium, delivered to or consumed in an expenditure device.

E17.008 Based upon measurement of temperature difference (EPO):

This subclass is indented under subclass E17.007. This subclass is substantially the same in scope as ECLA classification G01K17/08.

E17.009 Between an inlet and an outlet point, combined with measurement of rate of flow of the medium if such, by integration during a certain time-interval (EPO):

This subclass is indented under subclass E17.008. This subclass is substantially the same in scope as ECLA classification G01K17/10.

E17.01 Indicating product of flow and temperature difference directly (EPO):

This subclass is indented under subclass E17.009. This subclass is substantially the same in scope as ECLA classification G01K17/12.

E17.011 Using mechanical means for both measurements (EPO):

This subclass is indented under subclass E17.01. This subclass is substantially the same in scope as ECLA classification G01K17/14.

E17.012 Using electrical or magnetic means for both measurements (EPO):

This subclass is indented under subclass E17.01. This subclass is substantially the same in scope as ECLA classification G01K17/16.

E17.013 Using electrical or magnetic means for one measurement and mechanical means for the other (EPO):

This subclass is indented under subclass E17.01. This subclass is substantially the same in scope as ECLA classification G01K17/18.

E17.014 Where the indicating-instrument is driven electrically or magnetically by the temperature-measurement device and mechanically by the flow-measurement device (EPO):

This subclass is indented under subclass E17.013. This subclass is substantially the same in scope as ECLA classification G01K17/18B.

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D. CHANGES TO THE DEFINITIONS**E17.015 Across a radiating surface, combined with ascertainment of the heat transmission coefficient (EPO):**

This subclass is indented under subclass E17.008. This subclass is substantially the same in scope as ECLA classification G01K17/20.

E19.001 TESTING OR CALIBRATING CALORIMETERS (EPO):

This main subclass provides for devices or methods for testing or calibrating calorimeters. This subclass is substantially the same in scope as ECLA classification G01K19/00.