U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

CLASSIFICATION ORDER 1907

APRIL 5, 2011

PROJECT C-6865

The following classification changes will be effected by this order:

	<u>Class</u>	<u>Subclass</u>	Art Unit	Ex'r Search <u>Room</u>
Abolished:	156	344, 584	1745	OS0001
Established:	156	701-719, 750-767	1745	OS0001
Cross-Reference Art Collections:	156	918-932, 934-943	1745	OS0001

The following classes are also impacted by this order:

24, 29, 221, 225, 264, 438, 700

This order includes the following:

- A. CLASSIFICATION MANUAL CHANGES
- B. LISTING OF PRINCIPAL SOURCE OF ESTABLISHED AND DISPOSITION OF ABOLISHED SUBCLASSES
- C. CHANGES TO THE USPC-TO-IPC CONCORDANCE
- D. DEFINITION CHANGES AND NEW OR ADDITIONAL DEFINITIONS

CLASSIFICATION ORDER 1907

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1	METHODS	62	With manual drawing or engraving
Class (C	16 is an integral part of this Class 156), as shown by the posi- this box, and follows the schedule hy of this Class, retaining all	62.2	With formation of lamina by bulk deposition of discrete particles to form self-supporting article
pertine this cla	nt definitions and Class lines of ass.	62.4	Liberation or formation of fibers
		62.6	<pre>By joining portions of batt to itself</pre>
39	.Plaster board making	62.8	To similarly formed batt
40	With bending or folding of facing sheet	63	Manually arranging different colored or shaped discrete
41	. With water-proofing with added		elements to form design
42	materialWith embedding of reinforcing	64	With measuring, testing, or inspecting
	material during or subsequent to core formation	65	Of multiple spaced elements between and transverse of
43	Pore forming in situ		parallel webs (e.g., Venetian
44	With preliminary treatment of		blind ladders)
	facing sheet	66	Adhesive application of
45	With subsequent treatment of plaster board		<pre>fasteners to articles (e.g., slide fastener to garment)</pre>
46	Perforating	67	Utilizing phosphorescent or
47	.Making electrical conductors of		fluorescent material
48	<pre>indefinite lengthWith filling of void or cavity</pre>	68	With fur removal from animal pelt
49	with fluent materialSplicing	69	Application of end closures to containers
50	With mechanical working of	70	Encasing movable or loosely confined element between
51	conductorCovering of conductor		adhering lamina (e.g.,
52	With preformed material		drawstrings)
53	Wrapping of sheet material (e.g., tape) about conductor	71	Of lamina to building or installed structure
	and/or conductor assembly	72	Setting or embedding tufts or
54	By longitudinally bending sheet		<pre>discrete pile elements onto backing (e.g., rugs, brushes,</pre>
55	Plural spaced conductors		etc.)
56	Plural covering operations	73.1	With sonic or ultrasonic
57	.Maintaining the natural		treatment
	appearance of plants or animal	73.2	Rod, strand, or filament
F.0	parts	73.3	With sonic or ultrasonic cutting
58	.Contour or profile photography	73.4	Sheet or web splicing
	to reproduce three-dimensional	73.5	Friction treatment (e.g.,
F.O.	objects	73.3	welding)
59	Relief or intaglio	73.6	Vibratory treatment
	representations of three-	74	With application of centrifugal
	<pre>dimensional objects (e.g., relief modeling of</pre>		force
	photographs)	75	With balancing of product
60	.Surface bonding and/or assembly therefor	76	With parchmentizing or transparentizing
61	Simulated products of nature		-

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77	With pore forming in situ to	91	With separate permanent
	form cellular lamina	J =	mechanical joining means
78	Foaming		(riveted, sewed, stapled,
79	Subsequent to assembly of		etc.)
	laminae	92	With penetrating of fastener
80	With refrigeration or freezing	93	Sewing
81	With melting or gasification of	94	Reclaiming, renewing or
	permanently associated solid		repairing articles for reuse
	material in situ in airtight	95	Toroidal shapes (e.g., tire or
	cavity		tube)
82	With flame contact of lamina	96	Adhesively secured tire
83	With swelling of material of		retreads
	lamina	97	Puncture repairing
84	With shrinking of material of	98	With removal of defective area
	lamina		to be repaired
85	Subsequent to assembly of	99	Optically transparent glass
	laminae		sandwich making (e.g., window
86	Of lamina covering		or filter)
	cylindrical or spherical body	100	Variegated colored lamina or
87	Providing escapeways for gases		interlayer
	trapped or generated between	101	With cutting or breaking or
	layers		partial removal of interlayer
88	Fray-prevention by bonding	100	and/or lamina
89.11	With vitrification or firing	102	With deformation or shaping of
00.10	ceramic material	100	interlayer and/or lamina
89.12	Forming electrical article or	103	With application of plural
00 12	component thereof	104	sequential pressures
89.13	Elemental carbon containing	104	With air evacuation between laminae
00 14	(e.g., graphite, etc.)	105	
89.14	Inorganic titanate compound containing	103	Directly applied fluid pressure
89.15	_	106	With preformed intermediate
89.15	Nitride compound containing	100	adhesive layer
09.10	Elemental metal or alloy containing	107	Sandwich edge sealing
89.17	Silver containing	107	Mounting transparent lamina
89.18	Copper containing	100	over window opening (e.g.,
89.19	Tungsten containing		slide-mounting)
89.19	Molybdenum containing	109	Multipane glazing unit making
		100	(e.g., air-spaced panes)
89.22 89.23	Honeycomb-like With wax or wax-like	110.1	Making flexible or resilient
09.43	processing aid		toroidal shape; e.g., tire,
89.24	Coloring agent containing		inner tube, etc.
89.25	Elemental carbon containing	111	Moving work progressively to
07.23	(e.g., graphite, etc.)		separate assembly stations
89.26	Carbon fibers or filaments	112	Solid tire type (i.e.,
89.27	Nitride compound containing		nonpneumatic)
89.28	Elemental metal or alloy	113	Having cushioning void or
0,20	containing		cavity
90	Utilizing layer to prevent	114	Incorporation of solid
	migration or bleeding between		nonrubber material at exposed
	laminae		tread surface of tire (e.g.,
			anti-skid)
		115	Applying flowable puncture
			sealing material

116	Applying differently colored	140	With plastic shaping or
	<pre>material at sidewall (e.g., white wall)</pre>	141	molding
117	Building tires directly from	141	Wrapping of belt prior to shaping
	strands or cords	142	\ldots With cutting to "V" or
118	Tubular (airtight) torus		trapezoid section
	(e.g., auto tube-making)	143	Helical wire or plural ring
119	Multichamber safety tube		reinforced flexible tube
120	Valve-applying		making
121	<pre>Applying reinforcing material to external tube surface</pre>	144	Assembling preformed helical coil or rings with separate
122	Joining tube ends to form		tube
	torus	145	With encapsulating of
123	Of plural layers		permanently fluent material in
124	At least one layer including		hollow or porous lamina or
	metal cords		filling of space between
125	With injection molding of		adhered laminae
	outer lamina	146	Prior to bonding of laminae
126	Axially assembling preformed		(e.g., golf balls)
	flexible endless bands	147	With inflation of airtight
127	With tread-preforming		cavity
128.1	Applying tread material to	148	With weaving, knitting,
	fully-formed carcass		braiding, twisting or needling
128.6	With specified treatment of	149	About tubular lamina
	tread material before	150	With electro-deposition
	application to carcass	151	On adherent surface of lamina
129	Shaping		prior to assembly
130	By winding or including	152	With temporary disassembling
	application of inextensible lamina under tread bond		and subsequent bonding of same laminae
130.3	With specified procedure for	153	With abrading or grinding of
	interlocking of lamina or		lamina
	removal of air from	154	Subsequent to assembly
	therebetween; e.g.,	155	With destruction of solid
	"stitching", etc.		transitory material; e.g.,
130.5	With specified procedure for		dissolving, melting, etc.
	cooling or heating; e.g., for	156	With fluid pressure to prevent
	vulcanization, etc.		collapse of hollow structure
130.7	With specified procedure for		during assembly and/or joining
	bead, carcass or sidewall	157	Joining indefinite length
	formation		laminae end-to-end
131	Bead-applying	158	Of wire, rod, tube or filament
132	Folding fabric about bead	159	With cutting of joining ends
133	Applying fabric to form	160	Bonding in stressed condition
	(e.g., carcass building)		of at least one prestressed
134	Fabric splice end treatment		element
135	Bead portion of carcass	161	Of stressed filaments
	treatment	162	During winding of lamina
136	Tire bead ring making	163	Bonding of sheets or webs only
137	Flexible endless drive belt	164	Running length web
	making	165	Stressing spherical or tubular
138	Forming grooves on inner		body
	surface	166	Bonding of flexible filamentary
139	"V" or trapezoid section belt		material while in indefinite length or running length

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167	With formation of filaments	198	By inward collapsing of
168	With removal of filamentary		portion of hollow body
	material subsequent to lamination thereof	199	Running or continuous length work
169	With winding of filamentary	200	Longitudinal bending
	material	201	Prior to or during assembly
170	About spherical lamina		with additional lamina
171	With winding of separate	202	Overedge bending or overedge
	sheet or web		folding
172	Winding about and uniting to	203	And edge-joining of one
	core		piece blank to form tube
173	Winding about subsequently	204	Folding
	removed core or mandrel	205	Transverse corrugating
174	With cutting of filamentary	206	Subsequent to assembly of
	material to form web or sheet		laminae
175	Of filamentary material only	207	With deformation or cutting
176	To web of indefinite length		of corrugated lamina
177	With axis of filamentary	208	Treating material of
	material nonparallel to axis		corrugated lamina or dry
	of web		adhesive thereon to render
178	Plural filaments		tacky
179	Between plural webs	209	Surface deformation only
180	Of filamentary material only		(e.g., embossing)
	to form article	210	To form undulated to
181	Article is sheet or web		corrugated sheet and securing
182	Of at least two bonded		to base with parts of shaped
	subassemblies		areas out of contact
183	With creping, wrinkling,	211	With slitting or removal of
	crinkling		material at reshaping area
184	With winding of web or sheet	010	prior to reshaping
185	Uniting to separate core	212	By bending, drawing or stretch
186	Spherical core		forming sheet to assume shape
187	Tubular core		of configured lamina while in contact therewith
188	Sequential winding of	213	Encasing or enveloping the
	separate webs	213	configured lamina
189	About irregular or configured	214	With preshaping of lamina
	mandrel surface	215	Flexible sheet to cylinder
190	Sequential winding of separate	213	lamina
4.04	webs	216	Overedge bending of lamina
191	With additional assembly	210	about edges of sheetlike base
100	(other than winding)	217	Bending of one piece blank and
192	Prior to winding	217	joining edges to form article
193	With cutting of wound body	218	Hollow cylinder article
404	(excludes nominal cutoff)	219	Surface deformation only of
194	With reshaping of wound body	219	sandwich or lamina (e.g.,
195	Longitudinally progressive		embossed panels)
106	helical winding	220	Subsequent to lamination
196	With permanent bending or	221	Subsequent to assembly
	reshaping or surface	222	Of parallel stacked sheets
	deformation of self sustaining lamina		only
197	By separating laminae between	223	Bending of one lamina only
1 <i>31</i>	spaced secured areas (e.g.,	224	To form dished or
	honeycomb expanding)		receptacle-like product
	none, como empanaria,	226	Folding only

005		044.05	
227	By folding	244.25	Article or at least one
228	Of preshaped laminae between		lamina of nonuniform thickness
	closed similarly shaped press		or discontinuous
	platens or clamps	244.26	Bonding in specified
229	With stretching		environment (other than
230	Direct contact transfer of		temperature)
250	adhered lamina from carrier to	244.27	Pressure assisted bonding
		245	_
0.24	base	_	In configured mold
231	With formation of lamina of	246	On temporary planar support
	continuous length by molding		(e.g., film casting)
	or casting on endless carrier	247	With stripping of adhered
232	Carrier is configured mold		lamina
233	Metal foil lamina	248	With cutting of one lamina
234	Of portion only of lamina from		only while adhered
	carrier	249	And assembly with different
235	Plural transferring operations	247	lamina
233		0.50	
	and/or with additional	250	With cutting, punching, tearing
	laminating		or severing
236	Solvent other than water to	251	And simultaneously bonding
	release lamina		(e.g., cut-seaming)
237	Coating of transferred lamina	252	Perforating lamina
238	Running or continuous flexible	253	Subsequent to assembly of
	web carrier	200	laminae
239	Plural superimposed laminae	254	Splitting sheet lamina in
233	transferred	234	
0.4.0		٥٦٦	plane intermediate of faces
240	Transfer of printing or	255	Spiral peeling
	design	256	Prior to assembly
241	To base coated with adhesive	257	Partial cutting (e.g.,
242	With lamina formation by		grooving or incising)
	molding or casting	258	Cutting to shape joining edge
243	Forming plural continuous web		surfaces only
	laminae	259	Continuous longitudinal
244.11	By extrusion	233	slitting
244.12	Encapsulating or enclosing a	260	
244.12	lamina	200	Bonding face to face of
044 12		0.54	laminae cut from single sheet
244.13	Hollow article or lamina	261	Punching and bonding pressure
244.14	Differential fluid pressure		application by punch
	used	262	Closure cap liner applying
244.15	Specific nonuniform lamina		type
	or article; e.g., netting or	263	Separate cutting of separate
	rib and groove, etc.		sheets or webs
244.16	With printing	264	Of plural laminae from single
244.17	Electrical, magnetic, or wave	204	stock and assembling to each
244.17			<u> </u>
044 10	energy used	0.65	other or to additional lamina
244.18	With cutting, severing, or	265	Applying plural cut laminae
	perforating		to single face of additional
244.19	After bonding; e.g., as		lamina
	finishing step, etc.	266	Joining of cut laminae end-
244.21	Differential fluid pressure		to-end
	used	267	Flash, trim or excess removal
244.22	Bonding spaced preforms	268	Partial cutting bonded
244.23	Pretreatment	200	sandwich (e.g., grooving or
244.24	Post-treatment	260	incising)
		269	Of continuous or running
			length bonded web

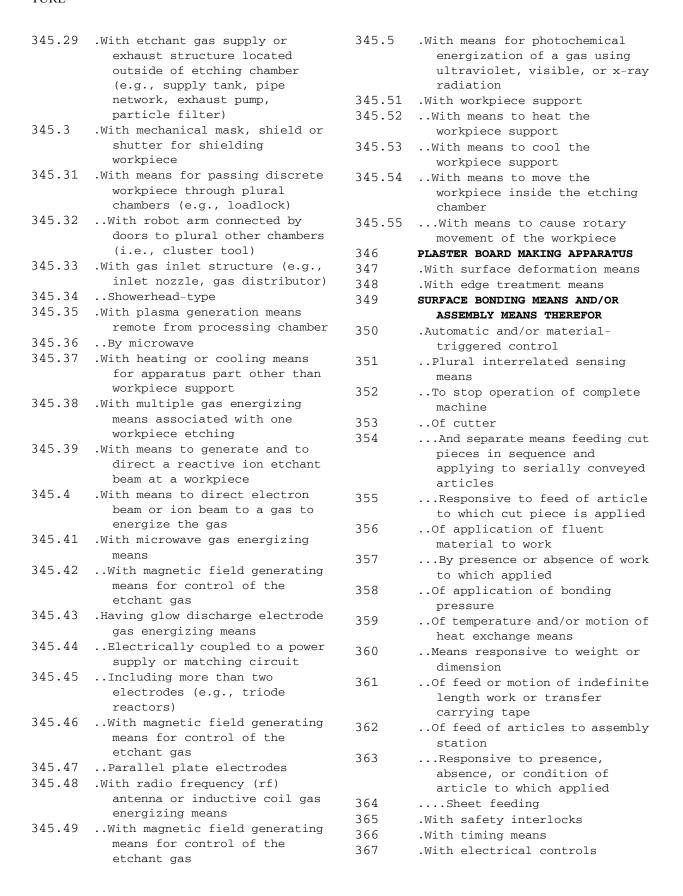
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0.00		0.05	
270	One web only	285	Direct application of vacuum or
271	Continuous longitudinal		fluid pressure during bonding
	slitting	286	To remove gas from between
272.2	With direct application of		assembled laminae
	electrical, magnetic, or	287	To the lining of hollow body
	radiant energy to work	288	Simultaneous pressure
272.4	Involving magnetically		application to at least two
,,	susceptible lamina or		separate sandwiches
	incorporating into the work a	289	Utilizing parting or release
	particulate susceptor material	209	
	having magnetic properties	0.00	material to prevent adhesion
272.6		290	Bonding of facing continuously
2/2.6	Exposure of work to corona or		contacting laminae at spaced
	glow discharge		points only
272.8	Exposure of work to laser	291	By nonuniform adhesive
273.1	Developing electrostatic		application
	charge	292	Of laminae having opposed
273.3	Before final assembly; e.g.,		facing areas out of contact
	to cure lamina, etc.	293	Inserting of lamina in hole,
273.5	Before and after final		aperture or recess of other
	assembly		lamina and adherence to side
273.7	Applying pressure before		walls thereof
273.7	electrical, magnetic, or	294	Core within tube
	radiant energy	295	Adhesive applying to restricted
273.9	Work constitutes conductor of	293	
213.9	electrical circuit		area and spreading thereof by
274.2		206	assembly pressure
	Conductor is a coil	296	Strands, rods, tubes or
274.4	Exposure of work to electrode		sticklike bodies to each other
274.6	Continuously moving work in	0.07	only
	relation to electrode	297	Of discrete laminae to single
274.8	With application of adhesive		face of additional lamina
275.1	Only part of containing lamina	298	Embedding of laminae within
	surfaces bonded; e.g.,		face of additional laminae
	seaming, etc.	299	All laminae planar and face to
275.3	With application of adhesive		face
275.5	To polymerize or cure material	300	With covering of discrete
	in work		laminae with additional lamina
275.7	With application of adhesive	301	Opposed laminae are running
276	With mass application of		length webs
	nonadhesive fibers or	302	Lamina is running length web
	particles between laminae	303	Feeding of discrete laminae
277	With printing		from separate sources
278	With coating of nonadherent	303.1	Inserting lamina into preformed
270	face of lamina	303.1	plastic body
279	Coating with fibers or	304.1	Butt edge joining of laminae
213	particles	304.2	Joining of nonplanar elements;
280	-	304.2	
	Subsequent to bonding		e.g., configured hollow
281	Combined; e.g., with cleaning,	304.3	objects, etc.
0.00	etc.	304.3	With joiner member or
282	Simultaneous heating and	204 4	reinforcement
	cooling	304.4	Carpet or fabric joined
283	Adhesive applied as dry	304.5	With preliminary edge
	particles		treatment or joining of edges
284	Treating particle with liquid		of irregular shape; e.g.,
	to render tacky		tongue and groove, beveled,
			etc.

304.6 304.7 305	By heatOf carpet or fabricBy applying after assembly an adhesive, solvent or chemical	314	Sequentially applying different liquids or liquefiable materials to adhering face of lamina
206.2	activating agent	315	At least two liquids rubber and/or resin-containing
306.3	<pre>By pressure or drying only, without tack; e.g., for easy delamination, etc.</pre>	316	First applied liquid acid- containing
306.6	•	317	Protein-containing liquid
300.0	Using single, preformed, diverse bonding lamina between	317	Carbohydrate-containing liquid
	other laminae	319	One liquid containing
306.9	Including curing of nonfully	219	inorganic material only
300.5	polymerized material	320	Heating of dry adhesive on
307.1	By curing of nonfully	320	lamina prior to assembly
307.1	polymerized self-sustaining		contact
	lamina	321	Heating adhesive by contacting
307.3	With coating or impregnating a	J21	with heated lamina
307.3	face to be adhered	322	Heating lamina prior to
307.4	Indefinite plurality of	322	assembly or adhesive applying
307.1	similar impregnated thin	323	Interposing subsequently
	sheets; e.g., "decorative	323	removed flexible element
	laminate" type, etc.		between lamina and a pressure
307.5	Coating solidified; e.g., by		applying surface
	drying, etc., before assembly	324	Running or continuous webs of
307.7	Including uncurable lamina;		indefinite length
	e.g., metal, paper, etc.	324.4	By tackifying a single lamina
308.2	By tackifying substance of		of intermediate laminate
	self-sustaining lamina to be	325	Particular adhesive
	bonded; e.g., autogenous	326	Organic containing
	bonding, etc.	327	Synthetic resin containing
308.4	Only part of contacting	328	With carbohydrate and/or
	laminae surfaces bonded; e.g.,		protein or derivatives thereof
	seam, seal, etc.	329	Silicon resin
308.6	With treating agent	330	Epoxy resin
	application to a surface	330.9	Nitrogenous resin
308.8	Plural agents applied	331.1	\ldots .With polymerization
	sequentially or to different		completion, i.e., curing,
	laminae or using water as sole		after assembly
200 2	agent	331.2	\ldots N only in unlinked side-
309.3	Diverse laminae		chain or side-ring
309.6	Involving defined plastic flow	331.3	Derived from aldehyde or
309.9	or melting of entire lamina		ketone
309.9	With heating of lamina prior to assembly	331.4	Iso- or thio-cyanate
310	Of laminae having a different		moiety reacted in curing
310	coating on at least two mating	331.5	N in a ring
	surfaces	331.6	N only in unlinked side-
311	Sequential heating and cooling		chain or side-ring; e.g.,
311	during pressure applying	221 7	polyvinyl, pyridine, etc.
312	Sequential different pressure	331.7	Derived from iso- or thio-
	applying		cyanate; e.g., polyurethane,
313	Interposing intermediate	331.8	etc.
	laminate between non-coated laminae	231.0	Derived from acyclic compound containing N

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331.9	And aldehyde, ketone, or carbocyclic moiety-containing compound	716	With poking during delaminating (e.g., jabbing, etc.)
332	Polycarboxylic acid ester resin	717	Piercing layer during delaminating (e.g., cutting,
333	Halogenated hydrocarbon		etc.)
224	resin	718	With shearing during delaminating
334 335	Hydrocarbon resinPhenolic-aldehyde resin	719	Delaminating from release
336	Protein and/or carbohydrate	719	surface
330	containing and/or derivatives	345.1	DIFFERENTIAL FLUID ETCHING
	thereof		APPARATUS
337	Bituminous containing	345.11	.For liquid etchant
338	Natural rubber containing	345.12	With mechanical polishing
701	.Delaminating, per se; i.e., separating at bonding face		<pre>(i.e., CMP-chemical mechanical polishing)</pre>
702	Delaminating process responsive	345.13	With measuring, sensing,
	to feed or shape at delamination		detection or process control means
703	Using solvent during	345.14	With wafer retaining ring
	delaminating (e.g., water dissolving adhesive at bonding face during delamination,	345.15	With measuring, sensing, detection or process control means
	etc.)	345.16	With endpoint detection means
704	Using specified organic	345.17	Liquid etchant spray means
705	delamination solventUsing vibration during	345.18	With means to supply, remove, or recycle liquid etchant
706	delaminatingUsing direct fluid current		outside of etching tank or chamber (e.g., supply tanks or
	against work during delaminating	345.19	<pre>pipe network)With mechanical mask or shield</pre>
707	Using vacuum directly against work during delaminating	343.13	or shutter for shielding workpiece
708	Using air blast directly	345.2	Running length workpiece (e.g.,
	against work during delaminating		etching indeterminate length strip)
709	Changing dimension during	345.21	Liquid etchant spray type
	<pre>delaminating (e.g., crushing, expanding, warping, etc.)</pre>	345.22	With plural etching zones for a single discrete workpiece in
710	Using shrinking or swelling agent during delaminating	345.23	apparatusWith specified workpiece
711	Temperature change for		support
	delamination (e.g., heating during delaminating, etc.)	345.24	.With measuring, sensing, detection or process control
712	Electromagnetic radiation	245 05	means
	applied to work for	345.25 345.26	For endpoint detection
712	<pre>delamination (e.g., microwave, UV, IR, etc.)</pre>	343.20	For detection or control of pressure or flow of etchant
713	Sintering for delamination	345.27	gas
714	Gripping and pulling work apart during delaminating		For temperature detection or control
715	<pre>Using roller for delamination (e.g., roller pairs operating at differing speeds or directions, etc.)</pre>	345.28	<pre>For detection or control of electrical parameter (e.g., current, voltage, resistance, power, etc.)</pre>



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368	For starting or stopping machine operation	390	.With coating means for work (other than laminating
378	.With testing, measuring, and/or indicating means	391	<pre>adhesive) .Work-secured and/or work-guided</pre>
379	.With inspecting and/or	392	Pipe wrapping type
	illuminating means	393	.With braiding or weaving means
379.6	.With means applying wave energy	394.1	.Tire body building type
	or electrical energy directly	395	Means delaminating protective
	to work		liner from lamina
379.7	To an electrically conductive	396	Multiple discrete building
	lamina or component		forms and/or means advancing a
	incorporated into the work		building form through multiple
379.8	With means to assemble laminae		work stations
	or position them relative to	397	Means building tires from
	each other		strands or narrow tapes
379.9	With plural diverse heating	398	Means operating on the bead
000 1	means		portion of the tire
380.1	With tube-forming means	399	Means trimming fabric adjacent
380.2	With electrode or coil member		bead
200 2	contacting work	400	Means folding carcass fabric
380.3	Electrodes on opposing sides	404	about a bead
200 4	of smallest dimension of work	401	Inflatable bag type
380.4	With means moving one electrode toward the other	402	Disc or roller type
	electrode toward the other	403	Means placing bead ring on
380.5	With means to change the	404	tire carcass
300.3	configuration of a lamina,	404	Solid tire building type
	e.g., folding, deforming, etc.	405.1	With fabric or tread stock feeding means
380.6	With electrode having a	406	
300.0	mechanical function; e.g.,	400	Means selecting stock from multiple source
	pressing, etc.	406.2	For transporting discrete
380.7	Cutting, tearing, or breaking	400.2	ring-shaped lamina
	function	406.4	With cutting, heating,
380.8	Shaping or deforming function;	400.4	laminating, or shaping means
	e.g., patterned electrode,		upstream of assembling means
	etc.	406.6	Stretching means
380.9	With radiant heater not	407	Centerless core or off-center
	touching work		support of annular tire
381	.Chamber enclosing work during		structure
	bonding and/or assembly	408	Relative traversing motion
382	Evacuated or fluid pressure		between rotating tire
	chamber		supporting structure and
383	.Means encasing separate		pressing or bending means
	nonadhered part between	409	Compound traversing motion
204	adhered laminae	410	With changing direction of
384	.With printing		force of pressing or bending
385	Simultaneous with bonding		means with respect to the axis
386 387	Printing member also bonds		of rotation of the supporting
387	PrintingAfter bonding	411	structure (e.g., curved drum)Pressing means manually
388	5	411	advanced toward the axis or
202	.Including cleaning, conditioning or renewing means for		rotation of the supporting
	apparatus		structure
	PPataoas		

412	Resilient or deformable surface pressing or bending	437	With means forming web by calendering
413	elementPlural sequential pressing or	438	With means folding web longitudinally
113	bending elements	439	Transversely of web
414	Building drums, per se	440	Reciprocating feed means for
415	Axially or widthwise	440	strand
413	adjustable or collapsible	441	Means gathering strands or
416	Resilient and/or inflatable	441	filaments only into indefinite
	core		length
417	Collapsible	441.5	.Envelope sealing type
418	Rack and pinion type actuator	442	With stamp applying means
419	Resilient spring actuated	442.1	With bending or folding means
420	Toggle linkage lever type	442.2	With feeding means
	actuator	442.3	Reciprocating feed
421	Stitching elements, per se	442.4	Work traversing type
421.2	Tire chamber and means	443	.With bending, folding, winding,
	regulating interior casing		or wrapping means
	pressure	444	Pneumatic blast to bend work
421.4	With means for folding lamina	445	About preformed sphere
	while on drum	446	Rotating mandrel or article
421.6	Tire support with pressing or	447	Means registering sheet with
	heating means		selected peripheral portion of
421.8	Ring-shaped lamina stretching		rotating article
	means	448	Translating axis of rotation
422	.Tire bead ring winding type	449	Rolling mandrel or article
423	.Means assembling part within	450	Winding flexible web
	hole or aperture (telescoping)	451	Article rolls across sheet
424	Electric lamp or space		stack
	discharge device envelope	452	By gravity
	basing type	453	Belt feed
425	.Longitudinally progressive	454	By gravity
	helical winding means	455	Belt feed
426	With means cutting wound body to form sheet or web	456	Axis translates in circular path
427	Strands secured to web	457	Centerless core or mandrel
428	Forming and/or covering	458	Means serially feeding mandrel
	indefinite length article	400	or article to applying station
429	Rotating core or mandrel	459	For an indefinite or running
430	By winding plural strands or	100	length flexible web
	webs	460	Tire bead or endless belt
431	About circular section core		covering type
	or mandrel	461	Longitudinal bending
432	Plural discrete axially	462	Corrugating
	spaced winding means	463	Plural sequential bending
433	.Indefinite or running length		means
	flexible strand, rod, tube, or	464	And means feeding discrete
	filament uniting		articles to web
434	Means applying transverse	465	Single web only
	spacers to spaced parallel	466	Tube-making type
	strands	467	And means uniting
435	Pile fabric making type		noncoextensive plural webs
436	To indefinite or running length	468	Means bending to configuration
	web		of part to which secured

156 - 12 CLASS 156 ADHESIVE BONDING AND MISCELLANEOUS CHEMICAL MANUFACTURE

469	Transverse withdrawal of shaping or shape-retaining	500	.With casting, plastic molding, or extruding means
	elements	501	With means generating at least
470	And means applying separate web to shaped web		one self-sustaining web (e.g., film casting)
471	While still on shape-	502	.Means joining flexible
	retaining means		indefinite length or endless
472	Fluted roll-shape retainer		bodies end-to-end (e.g., film,
473			tape, belt splicers)
4/3	Separate means holding web	503	Tube splicing type (e.g., inner
4 17 4	in flutes	303	tube)
474	Pleating means	E O 4	,
475	To configuration of part to which secured	504	Moving web (flying splice or with web accumulating means)
476	Plural discrete bending means,	505	Means applying adhesive tape to
	each acting on separate		joint only
	article	506	With severing means for tape
477.1	Plural, distinct, sequential		before application
	bending or folding means	507	Longitudinally moving web
478	Intersecting bend axis		support moving web ends into
479	Means bending sheet over		association
2.75	edges of planar part	508	With scraper or adhesive
480	With separate member		applying means
400	pressing bent sheet corner at	509	With scraper or adhesive
	axis intersection		applying means
481	Arcuate bending	510	.With cutting, punching,
482	5	310	piercing, severing, or tearing
402	Having intersecting axes of	511	Plural severing means each
400	force	JII	acting on a different work
483	Flexible sheet across through		piece
404	passage for work	512	Severing followed by
484	Sheet applied to passage	212	associating with part from
485	With additional separate		same source
	smoothing means	513	Means making hole or aperture
486	Member travels along	213	
	configured part	E1 /	in part to be laminated
487	Flexible bristle wiping	514	And securing separate part
	surface	545	over hole or aperture
488	Bodily deformable pad type	515	Cutting element simultaneously
489	Opposed movable biased		bonds (e.g., cut seaming)
	members	516	Means feeding plural workpieces
490	Positively actuated to		to be joined
	intermittently defeat bias	517	Severing before bonding or
491	Cam defeats bias		assembling of parts
492	By swinging folding member	518	Severing means or member
	approaching part		secured thereto also bonds
493	Deformable pad	519	Delivering cut part to
494	.With stretching or tensioning		indefinite or running length
_	means		web
495	By driven web feeding means	520	Cutter also delivers cut
496	To transversely stretch or		piece
-50	tension the web	521	Delivering cut part in
497	.With gas, vapor, or flame		sequence to serially conveyed
ユ ノ /	contact means for work		articles
498	.With work cooling means	522	Cutting indefinite length web
			after assembly with discrete
499	.With separate (nonpress) heating		article
	means for work		

523	Work traversing type	552	Means bringing articles into
524	With liquid applying means		association with web
525	Slitting and severing	553	Discontinuous, spaced area,
526	Cutting after bonding		and/or patterned pressing
527	Fixed cutter	554	Webs of different width,
528		334	longitudinally aligned
326	Stamp from multiple row sheet	EEE	
	type	555	Progressive continuous
529	With means projecting fluid		bonding press (e.g., roll
	against work		couples)
530	Cutter actuated by or secured	556	Means bringing discrete
	to bonding element		articles into assembled
531	With liquid applicator		relationship
532	Common actuator for bonding	557	Plural lines and/or separate
332	and liquid applying means		means assembling separate
533	Liquid applied to web before		sandwiches
222		558	All articles from single
504	cutting	330	source only
534	Roller applicator	559	At least three articles
535	.With means shaping, scarifying,		
	or cleaning joining surface	560	At least two applied side by
	only		side to common base
536	.Combined and/or convertible	561	Plural ranks
537	.With bond interfering means	562	Sheet form common base
	(slip sheet, etc.)	563	Stacked serially
538	.With work feeding or handling	564	Magazine stack directly
	means		contacting separate work
539	For plural parts or plural	565	Magazine movable to work
	areas of single part	566	Means simultaneously
540	Lamina transferred to base		conveying plural articles from
340	from adhered flexible web or		a single source and serially
			presenting them to an assembly
E 4.1	sheet type carrier		station
541	Discrete spaced laminae on	567	Turret or rotary drum-type
	adhered carrier	307	
542	Means serially presenting	E C O	conveyer
	discrete base articles or	568	For flexible sheets
	separate portions of a single	569	Means separating articles
	article		from bulk source
543	Indefinite or running length	570	Stacked sheet source
	work	571	Rotary or pivoted picker
544	Means joining indefinite	572	Translating picker
	length work edge to edge	573	Magazine stack directly
545	Means applying adhesively		contacting work
	secured tape to seam	574	Work traversing type and/or
546	Means applying fluid		means applying work to wall or
240			static structure
E 4.7	adhesive to work edge	575	With liquid applying means
547	Means applying fluent	576	
	adhesive or adhesive activator		Grip or clamp for web end
	material between layers	577	Implement carried web supply
548	At spaced areas	578	With liquid adhesive or
549	m		adhesive activator applying
	Plural indefinite length or		11 1 3
	running length workpieces		means
550		579	means .With handle or handgrip
550	running length workpieces	579 580	means
550 551	running length workpiecesFluid applied to nip		means .With handle or handgrip
	running length workpiecesFluid applied to nip between indefinite length webs		means .With handle or handgrip .Presses or press platen

156 - 14 CLASS 156 ADHESIVE BONDING AND MISCELLANEOUS CHEMICAL MANUFACTURE

580.2	Specified structure of sonic	906	OFF-DRUM MANUFACTURE OF TIRE
	or ultrasonic work contacting		FABRIC OR PLY
	surface	907	.Including assembly of bias-cut
581	Relieved or configured pressing		fabric
	face	908	LAMINATING SHEET TO ENTIRE EDGE
582	Rotary		OF BLOCK AND BOTH ADJACENT
583.1	Heated		OPPOSITE SURFACES; E.G.,
583.2	Impulse heating		BOOKBINDING, ETC.
583.3	With significantly flexible	909	APPARATUS FOR APPLYING NEW TREAD
	platen		TO USED TIRE CASING; E.G.,
583.4	Nonuniform heating		RETREADING, RECAPPING, ETC.
583.5	With endless belt	910	BONDING TIRE CORD AND ELASTOMER:
583.6	C-frame type		IMPROVED ADHESIVE SYSTEM
583.7	Electric heating	912	DIFFERENTIAL ETCHING APPARATUS
583.8	5	7 - 2	HAVING A VERTICAL TUBE REACTOR
583.9	Hinged platen	913	DIFFERENTIAL ETCHING APPARATUS
	Electric heating	213	HAVING A HORIZONTAL TUBE
583.91	Plural adjustable pressure		REACTOR
	points	914	DIFFERENTIAL ETCHING APPARATUS
750	DELAMINATING MEANS	914	INCLUDING PARTICULAR MATERIALS
751	.Delaminating means responsive to		OF CONSTRUCTION
	feed or shape at delamination	915	DIFFERENTIAL ETCHING APPARATUS
752	.Heating or cooling delaminating	913	INCLUDING FOCUS RING
	means (e.g., melting means,		SURROUNDING A WAFER FOR PLASMA
	freezing means, etc.)		APPARATUS
753	Electromagnetic radiation	916	DIFFERENTIAL ETCHING APPARATUS
	delaminating means (e.g.,	910	INCLUDING CHAMBER CLEANING
	microwave, UV, IR, etc.)		MEANS OR SHIELD FOR PREVENTING
754	.Vibrating delaminating means		DEPOSITS
755	.Differential fluid pressure	917	DIFFERENTIAL ETCHING APPARATUS
	delaminating means	911	
756	Spraying delaminating means	010	HAVING A BARREL REACTOR
	(e.g., atomizer, etc.	918	DELAMINATING PROCESSES ADAPTED
757	Air blasting delaminating		FOR SPECIFIED PRODUCT (E.G., DELAMINATING MEDICAL SPECIMEN
	means)		SLIDE, ETC.)
758	Vacuum delaminating means	919	•
	(e.g., vacuum chamber, etc.)	919	.Delaminating in preparation for
759	.Delaminating roller means	000	post processing recycling step
760	Roller pair delaminating means	920	Textile delaminating in
761	.Severing delaminating means		preparation for recycling
	(e.g., chisel, etc.)	001	(e.g. carpet, etc.)
762	Cutting delaminating means	921	Delaminating container
763	Shearing delaminating means		component in preparation for
764	.Delaminating bending means		recycling (e.g., glass bottle,
765	Poking delaminating means	000	plastic bottle, etc.)
766	Corner edge bending	922	Specified electronic component
, 00	delaminating means		delaminating in preparation
767	.Means for delaminating from	000	for recycling
707	release surface	923	Delaminating wire or optical
598	MISCELLANEOUS		fiber laminate (e.g., coaxial
330	MISCELLIANEOUS	004	cable, optical cable, etc.)
		924	Delaminating display screen
			(e.g., cathode-ray, LCD
		00-	screen, etc.)
CROSS-R	EFERENCE ART COLLECTIONS	925	Delaminating display screen
			using sintering for
			delamination

926	Delaminating recording media (e.g., DVD, CD, HD, flash memory, etc.)	ture fr	reign patents or non-patent litera- rom subclasses that have been sified have been transferred
927	Delaminating vehicle component (e.g., brake pad, etc.)	directl	Ly to FOR Collections listed below. Collections contain ONLY foreign
928	Delaminating tire (e.g., tread from carcass, etc.)	entheti	s or non-patent literature. The par- ical references in the Collection
929	<pre>.Delaminating component from building (e.g., wall paper, shingle, etc.)</pre>		refer to the abolished subclasses nich these Collections were derived.
930	.Semiconductive product		
	delaminating (e.g.,		METHODS (156/1)
	delaminating semiconductive		0 .Delaminating, per se (156/344)
	wafer from underlayer, etc.)	FOR 10	1 DELAMINATING APPARATUS (156/584)
931	Peeling away backing		
932	With poking during		
	delaminating (e.g., jabbing		
	release sheet backing to	DIGEST	' <u>S</u>
	remove wafer, etc.)		
934	APPARATUS HAVING DELAMINATING	DIG 1	LABELLING FLAT, ESSENTIALLY RIGID
	MEANS ADAPTED FOR DELAMINATING		SURFACES (1/100)
	A SPECIFIED ARTICLE	DIG 2	.Affixing labels to one flat
935	.Delaminating means in		surface of articles; e.g., of
	preparation for post consumer		packages, of flat bands (1/02)
	recycling	DIG 3	.Affixing labels; e.g., wrap-
936	Means for delaminating		around labels, to two or more
	container component in		flat surfaces of a polyhedral
	preparation for recycling		article (1/04)
	(e.g., glass bottle, plastic	DIG 4	Of a box; e.g., cigarette box
025	bottle, etc.)		(1/06)
937	Means for delaminating	DIG 5	LABELLING OTHER THAN FLAT
	specified electronic component		SURFACES (3/00)
020	in preparation for recycling	DIG 6	.Affixing labels to elongated
938	Means for delaminating record		objects; e.g., wires, cables,
	<pre>media for recycling (e.g., CD, DVD, HD, flash memory, etc.)</pre>		bars, tubes, (3/02)
939	Means for delaminating vehicle	DIG 7	Applying bands or labels to
232	component (e.g., tread from		cigars or cigarettes (3/04)
	carcass, brake pad, etc.)	DIG 8	.Affixing labels to short rigid
940	Means adapted for delaminating	D.T.~ ^	containers (3/06)
310	component from building (e.g.,	DIG 9	To container bodies (3/08)
	wall paper, shingle, etc.)	DIG 10	3 1
941	.Means for delaminating		for labelling with its
	semiconductive product	DTG 11	centerline horizontal (3/10)
942	With reorientation means	DIG 11	1 3
943	With poking delaminating means		cylindrical containers; e.g.,
	(e.g., jabbing means, etc.)	DTG 10	bottles (3/12)
	. 5 , 5 5 , ,	DIG 12	3 1
			for labelling with its
		DTC 12	centerline vertical (3/14)
FORETON	ART COLLECTIONS	DIG 13	3
			cylindrical containers; e.g., bottles (3/16)
FOR UUU	CLASS-RELATED FOREIGN DOCUMENTS	DIG 14	
1010 000	CTUSS WEIGHTED LOVETON DOCOURINIS	DIG 14 DIG 15	
		רד מירת	10 DOCCIE CIOSULES (3/20)

156 - 16 CLASS 156 ADHESIVE BONDING AND MISCELLANEOUS CHEMICAL MANUFACTURE

DIG 16	Affixing metal foil coverings	DIG 45	Label feed control (9/42)
	(3/22)	DIG 46	By special means responsive to
DIG 17	Affixing labels indicating		marks on labels or articles
	original state of bottle snap		(9/44)
	or screw closure (3/24)	DIG 47	.Applying date marks, code marks,
DIG 18	.Affixing labels to nonrigid		or the like to the label
	containers; e.g., bottles made		during labelling (9/46)
	of polyethylene, boxes to be	DIG 48	MANUALLY CONTROLLED OR MANUALLY
	inflated by internal air		OPERABLE LABEL DISPENSERS;
	pressure prior to labelling		E.G., MODIFIED FOR THE
DTG 10	(3/26)		APPLICATION OF LABELS TO
DIG 19	LABELLING FABRICS OR COMPARABLE	DTC 40	ARTICLES (11/00)
	MATERIALS OR ARTICLES WITH DEFORMABLE SURFACE, E.G.,	DIG 49	.Having printing equipment (11/ 02)
	PAPER, FABRIC ROLLS,	DIG 50	.Having means for moistening the
	STOCKINGS, SHOES (5/00)	DIG 30	labels (11/04)
DIG 20	.Using adhesives (5/02)	DIG 51	.Having means for heating
DIG 21	Thermo-activatable adhesives	DIG 31	thermoactivable labels (11/06)
	(5/04)		chermodeer vable rabels (11,00)
DIG 22	.Using staples (5/06)		
DIG 23	AFFIXING TAGS (7/00)		
DIG 24	DETAILS OF LABELLING MACHINES OR		
	APPARATUS (9/00)		
DIG 25	.Devices for moving articles,		
	e.g., containers, past		
	labelling station (9/02)		
DIG 26	Having means for rotating the		
DTG 27	articles (9/04)		
DIG 27	.Devices for presenting articles		
	in predetermined attitude or position at labelling station		
	(9/06)		
DIG 28	.Label feeding (9/08)		
DIG 29	Label magazines (9/10)		
DIG 30	Removing separate labels from		
	stacks (9/12)		
DIG 31	By vacuum (9/14)		
DIG 32	By wetting devices (9/16)		
DIG 33	Label feeding from strips;		
	e.g., from rolls $(9/18)$		
DIG 34	.Gluing the labels or articles		
	(9/20)		
DIG 35	By wetting (9/22)		
DIG 36	By heat (9/24)		
DIG 37	.Devices for applying labels (9/		
	26)		
DIG 38	Air-blast devices (9/28)		
DIG 39	Rollers (9/30)		
DIG 40	Cooperating rollers between		
	which articles and labels are fed (9/32)		
DIG 41	Flexible bands (9/34)		
DIG 41	Wipers; pressers (9/36)		
DIG 43	.Label cooling or drying (9/38)		
DIG 44	.Controls; safety devices (9/40)		
	= * * * * * * * * * * * * * * * * * * *		

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SOURCE CLASSIFICATION(S) OF PATENTS IN NEWLY ESTABLISHED SUBCLASSES REPORT

Generated by Data Control Division

New Classification	Number of ORs	Source Classification	Number of ORs
156/247	1	156/344	323
130/24/	1	156/584	312
156/325	1	156/344	323
156/701	5	156/584	312
130/701	85	156/344	323
156/702	7	156/344	323
156/703	3	156/344	323
156/704	9	156/344	323
156/705	1	156/344	323
156/706	6	156/344	323
1307 700	14	156/344	323
156/707	6	156/344	323
130, 101	13	156/344	323
156/708	1	156/584	312
	3	156/344	323
156/709	1	156/584	312
·	13	156/344	323
156/710	5	156/344	323
156/711	4	156/344	323
	11	156/344	323
156/712	6	156/344	323
156/714	4	156/584	312
	6	156/584	312
	32	156/344	323
	36	156/344	323
156/715	7	156/344	323
156/716	12	156/344	323
156/717	17	156/344	323
156/718	7	156/584	312
	18	156/344	323
156/719	1	156/584	312
	11	156/344	323
156/753	1	156/584	312
156/754	1	156/584	312
156/758	2	156/584	312
156/760	1	156/584	312
156/764	4	156/584	312
156/765	1	156/584	312
156/767	1	156/584	312
427/154	1	156/344	323
438/455	1	156/344	323
451/289	1	156/344	323

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DISPOSITION CLASSIFICATION(S) OF PATENTS FROM ABOLISHED SUBCLASSES REPORT

Generated by Data Control Division

Source Classification	Number of ORs	New Classification	Number of ORs
156/344	323	156/714	32
		156/715	7 9
		156/704 156/711	11
		156/705	1
		156/714	36
		156/711	4
		156/247	1
		438/455	1
		156/710	5
		156/703	3
		156/716	12
156/584	312	156/767	1
156/344	323	451/289	1
		156/325	1
		156/712	6
156/584	312	156/701	5
		156/709	1
156/344	323	156/709	13
		156/718	18
156/504	210	156/708	3
156/584	312	156/719	1
		156/760	1 1
		156/754 156/708	1
		156/765	1
156/344	323	156/707	13
156/584	312	156/714	4
2007001	311	156/718	7
156/344	323	156/719	11
		156/706	6
		156/707	6
		427/154	1
156/584	312	156/247	1
156/344	323	156/706	14
		156/701	85
		156/702	7
		156/717	17
156/584	312	156/753	1
		156/758	2
		156/714	6
		156/764	4

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C. CHANGES TO THE USPC-TO-IPC CONCORDANCE

Class	USPC Subclass	Subclass	IPC Notation
156	701-719	B29C	63/00
	750-767	B29C	63/00

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D. CHANGES TO THE DEFINITIONS

CLASS 24 – BUCKLES, BUTTONS, CLASPS, ETC.

Definitions Modified:

Subclass 455: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, particularly subclass 66 for a method of manufacturing an adhesively bonded clasp *, clip *, or support-clamp *.

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D. CHANGES TO THE DEFINITIONS

CLASS 29 - METAL WORKING

Definitions Modified:

Subclass 403.3: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 701-719 for a delaminating process, per se, and subclasses 918-933 for a delaminating process adapted to specified products, per se; subclasses 750-767 for delaminating means, per se, and subclasses 934-944 for a delaminating means adapted to specified products, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

Subclass 426.1: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 701-719 for a delaminating process, per se, and subclasses 918-933 for a delaminating process adapted to specified products, per se; subclasses 750-767 for delaminating means, per se, and subclasses 934-944 for a delaminating means adapted to specified products, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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D. CHANGES TO THE DEFINITIONS

Subclass 900: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 273.1 for surface bonding processes using electrostatic charge and subclass 712 for delaminating processes using electromagnetic force, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity; subclasses 379.6-380.9 for bonding apparatus having means directing electrical energy directly to work and subclass 753 for electromagnetic delaminating means, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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D. CHANGES TO THE DEFINITIONS

CLASS 156 - ADHE MANUFACTURE	SIVE BOND	ING AND MISCELLANEOUS CHEMICAL
Subclasses Abolished	<u>l:</u>	
344 and 584		
<u>Definitions Modified</u>	<u>:</u>	
Class Definition:		I, Subclass References to the Current Class, under See or Class, Subclass
	<u>Delete</u> :	
	The entire re	eference to subclass 344.
	<u>Delete</u> :	
	The entire re	eference to subclass 584.
	<u>Insert</u> :	
	701	through 719, for a delaminating process, per se.
	750	through 767, for apparatus for delaminating, per se.
Subclass 99:	Under See o	r Search This Class, Subclass
	Delete:	
	The entire re	eference to subclass 344.

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D. CHANGES TO THE DEFINITIONS

	<u>Insert</u> :	
	701	through 719, for processes of delaminating, per se, not combined with a laminating procedure.
	924	and 925, for processes of delaminating display screens, per se, not combined with laminating.
Subclass 152:	Under See o	or Search This Class, Subclass
	<u>Delete</u> :	
	The entire re	eference to subclass 344.
	<u>Insert:</u>	
	701	through 719, for delaminating processes, per se.
	712,	for delaminating processes, per se, using heat combined with electromagnetic radiation.
Subclass 168:	Under See o	or Search This Class, Subclass
	<u>Delete</u> :	
	The entire re	eference to subclass 344.
	<u>Insert:</u>	
	701 thre	ough 719, for processes of delaminating, per se.

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D. CHANGES TO THE DEFINITIONS

Subclass 230:	Under See or Search This Class, Subclass	
	<u>Insert:</u>	
	719,	for a delaminating from a release surface process, per se.
	933,	for processes of delaminating a label from a release surface.
Subclass 247:	Under S	See or Search This Class, Subclass
	<u>Delete</u> :	
	The ent	ire reference to subclass 344.
	Delete:	
	The ent	ire reference to subclass 584.
	<u>Insert:</u>	
	701	through 719, for a delaminating process, per se.
	719,	for processes of delaminating from a release surface.
	750	through 767, for delaminating apparatus, per se.
Subclass 394.1:	Under S	See or Search This Class, Subclass
	<u>Delete</u> :	

The entire reference to subclass 584.

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	<u>Insert:</u>	
	750	through 767, for delaminating apparatus, per se.
	939,	for delaminating apparatus having means adapted for delaminating, per se, a vehicle component.
Subclass 395:	Under S	See or Search This Class, Subclass
	<u>Delete</u> :	
	The ent	ire reference to subclass 584.
	<u>Insert:</u>	
	750	through 767, for delaminating apparatus, per se.
	922,	for delaminating apparatus, per se, not in combination with tire building apparatus.
Subclass 540:	Under S	See or Search This Class, Subclass
	<u>Delete</u> :	
	The ent	ire reference to subclass 584.
	<u>Insert:</u>	
	767,	for apparatus delaminating from a release surface, per se.
	944,	for apparatus delaminating a label from release carrier, per se.

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Subclass 909: Under See or Search This Class, Subclass

Delete:

The entire reference to subclass 584.

Insert:

750 through 767, for delaminating apparatus, per se.

939, for apparatus delaminating, per se, a vehicle component not in combination with means to apply new tread or tire building apparatus.

Definitions Modified:

701 Delaminating, per se; i.e., separating at bonding face:

This subclass is indented under subclass 1. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face, per se, where the layer identity is retained during separation.

- (1) Note. Processes for the separation of laminae, in which a lamina is destroyed, are generally classified in that class providing for the process, per se. Thus, for example, destroying a lamina by abrading will be found in
- (2) Note. Included herein, are processes of delaminating, per se, where no apparent reshaping takes place.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- through 242 and 247-249, for laminating processes combined with delamination.
- 750 through 767, for delaminating means, per se.

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- 918 through 933, for a delaminating process adapted to specified products, per se.
- 934 through 944, for a delaminating means adapted to specified products, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 426.1-525.14 for disassembling a final relationship of parts; subclass 603.02 for disassembling magnetic recording heads; subclasses 402.01-402.18 for reclaiming, renewing or repairing articles for reuse.
- 83, Cutting, subclasses 13 to 56 for processes of cutting into a layer body.
- 228, Metal Fusion Bonding, subclass 125 for the method of removing applied solder.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 36.1-37.33 for related process for repairing, recycling or reclaiming where shaping or reshaping takes place and subclasses 334-336 for a process of ejecting or stripping in a plastic article shaping process.
- 451, Abrading, subclasses 28-63 for processes of grinding a portion of an article.
- 427, Coating Processes, subclass 560 for coating processes with sonic or ultrasonic removal of a portion of the coating and subclass 198 for coating with particles or fibers combined with removal of a coating portion.
- 470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, subclasses 2-17 for methods for assembling and disassembling a bolt with a nut or washer.

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702 Delaminating process responsive to feed or shape at delamination:

This subclass is indented under subclass 701. Processes separating an adhered layer or portion thereof from another at a bonding face where the layer identity is retained during separation, in which layer separation is in response to feed or shape material being delaminated.

- (1) Note. The condition sensed must be something other than the normal cyclical operation of delamination means. The normal cyclical operation of the machine may be maintained or controlled by the presence of work at the work station.
- (2) Note. A change in the normal cycle of operation caused by the intervention of an attendant would not be included in this subclass.
- (3) Note. The condition sensed may be a condition or property of the work, apparatus, or any change in environment of the apparatus, which sensing means stops, starts or otherwise modifies operation of the apparatus.
- (4) Note. Mere sensing means alone to determine a condition or change thereof without causing a control operation is not sufficient for placement in this subclass. A control function must be effected when the sensed condition or change of condition occurs for complete automatic control.

SEE OR SEARCH THIS CLASS, SUBCLASS

- through 364, for automatic or material triggered lamination control means.
- 365, for apparatus including safety interlocks.
- 367, for lamination devices including an electrical control means.
- 378, for lamination means performing a sensing function causing a signal or indicating means to be actuated rather than a control operation for the apparatus.

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D. CHANGES TO THE DEFINITIONS

- 751, for a delaminating means responsive, per se, to feed or shape at delamination.
- 918 through 944 for delaminating processes and means adapted to specified products, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

703 Using solvent during delaminating (e.g., water dissolving adhesive at bonding face during delamination, etc.):

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity during separation where the process includes using solvent during delamination; e.g., dissolving adhesive using water, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

155, for lamination processing dissolving transitory material.

SEE OR SEARCH CLASS:

101, Printing, subclass 472 for printing processes utilizing a solvent to dissolve a portion of a print or design.

704 Using specified organic delamination solvent:

This subclass is indented under subclass 703. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, using solvent during delamination where the solvent used is specified as an organic chemical compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:

236, for transfer lamination processes using solvent.

SEE OR SEARCH CLASS:

510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions
Therefor, or Processes of Preparing the Compositions, subclass 432 for processes of cleaning using an organic solvent.

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705 Using vibration during delaminating:

This subclass is indented under subclass 701. Processes separating an adhered layer or portion thereof from another layer at a bonding faces while retaining layer identity where the process includes using vibration during delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 73.1, for lamination with sonic or ultrasonic cutting.
- 73.6, for lamination processes using vibration.
- 654, for vibrating delaminating apparatus, per se.

SEE OR SEARCH CLASS:

427, Coating Processes, subclass 232 for coating processes with removing excess coating from hollow article.

706 Using direct fluid current against work during delaminating:

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity by where the process includes using direct fluid pressure against work during delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 105, for lamination with fluid applied directly to work.
- 156, 244.14 and 244.21, for lamination with pressure to prevent collapse of a structure during assembly.
- 285, for lamination with direct application of fluid pressure.

SEE OR SEARCH CLASS:

29, Metal Working, subclass 252 for means to assemble or disassemble including means to separate parts by fluid expansion.

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- 198, Conveyors: Power-Driven, subclasses 428, 438, and 493 for a power-driven conveyor combined with means for impinging fluid on the conveyed load.
- 226, Advancing Material of Indeterminate Length, subclasses 97.1 to 97.4 for means to advance material by fluid current.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 500 to 574 for a method of permanently shaping particulate or nonmetallic material by means of direct application of fluid pressure differential.

707 Using vacuum directly against work during delaminating:

This subclass is indented under subclass 706. Processes directed to separating an adhered layer or portion thereof from another layer at their bonding faces while retaining layer identity, where the process includes directly applying vacuum against work during delamination.

(1) Note. This subclass requires pressure less than atmospheric for delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104, for the evacuation of air during the making of optically transparent glass sandwiches.
- 156, for lamination with pressure to prevent collapse of hollow structure during assembly.
- through 287, for lamination with direct application of vacuum or fluid pressure during bonding step.

SEE OR SEARCH CLASS:

- 100, Presses, subclass 90 for presses with means to remove air from material while being pressed.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 101 and 102 for methods of permanently shaping particulate or nonmetallic material by vacuum treatment.

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708 Using air blast directly against work during delaminating:

This subclass is indented under subclass 706. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity where the process includes applying a blast of air directed against work during separation.

SEE OR SEARCH CLASS:

- 15, Brushing, scrubbing, and general cleaning, subclass 300.1 for cleaning using air blast to remove unwanted foreign materials.
- 30, Cutlery, subclasses 124-127 for cutlery combined with air blast for removal of severed material.
- 83, Cutting, subclass 53 cutting by direct application of fluent pressure.

709 Changing dimension during delaminating (e.g., crushing, expanding, warping, etc.):

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, where the process includes changing a dimension of work during delamination e.g., crushing, expanding, warping, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 83, for lamination processes with swelling.
- 84 through 86, for lamination processes with shrinking.
- 147, for lamination processes inflating a hollow core.
- 156, for lamination processes fluid pressure used to prevent collapse of a hollow core.
- 229, for lamination processes distorting a workpiece by stretching.

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SEE OR SEARCH CLASS:

- 65, Glass Manufacturing, subclass 25.4 for glass shaping processes using parting layer where the glass is distorted.
- 83, Cutting, subclasses 17 and 18 for cutting with distortion of work.
- 408, Cutting by Use of Rotating Axially Moving Tool, subclass 19 for cutting, with rotating, temporary deforming work.

710 Using shrinking or swelling agent during delaminating:

This subclass is indented under subclass 709. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity dimensional change of work by using a shrinking or swelling agent for the work during delaminating.

(1) Note. The shrinking or swelling must be effected by, for example, absorption of solvent by the material of the lamina. Merely subjecting a lamina to an external force such as a compressive force in one direction to cause it to elongate in another direction is not subject matter for this subclass, nor is subjecting matter for this subclass, nor is subjecting the lamina to tension to cause it to elongate. Inflating a hollow article is excluded when laminae material do not swell.

SEE OR SEARCH THIS CLASS, SUBCLASS:

83, for lamination processes with swelling and subclasses 84-86 for lamination processes with shrinking.

SEE OR SEARCH CLASS:

- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 114, 130.1, and 175 for processes of treating textiles with chemicals; e.g., swelling agents.
- 162, Paper Making and Fiber Liberation, subclass 187 for processes of hydration or gelatinization combined with a paper making operation.

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711 Temperature change for delamination (e.g., heating during delaminating, etc.):

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity where the process includes effecting a temperature change during delamination; e.g., heating during delamination, etc.

712 Electromagnetic radiation applied to work for delamination (e.g., microwave, UV, IR, etc.):

This subclass is indented under subclass 711. Processes directed to separating an adhered layer or portion thereof from another layer or portion at a bonding face while retaining layer identity, using electromagnetic wave energy (e.g., microwave, UV, IR, etc.) during delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

272.2 through 275.7, for lamination processes using direct application of electromagnetic energy.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 900 for a method and apparatus for assembly by the use of electrostatic attraction. See the Notes therein and the See or Search portions for assembly processes using of electrostatic forces.
- 427, Coating Processes, subclasses 458-486 for coating processes utilizing electrical or wave energy, and see the Notes thereto and the See or Search portions thereof for coating processes using of electrostatic forces.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 402-496 for molding or deforming processes applying electrical or wave energy to the work.

713 Sintering for delamination:

This subclass is indented under subclass 711. Processes directed to separating an adhered layer or portion thereof from another layer with layer identity is retained during separation, where the process is specified as using sintering during delaminating; i.e., heating near but not below screen melting point.

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SEE OR SEARCH THIS CLASS, SUBCLASS:

- 89.11 through 89.28, for lamination processes vitrifying ceramic material.
- 918 through 933, for a delaminating process adapted to specified products, per se.
- through 944, for a delaminating means adapted to specified products, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

714 Gripping and pulling work apart during delaminating:

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, where the process includes separating by gripping and pulling work apart during the delaminating step.

Using roller for delamination (e.g., roller pairs operating at differing speeds or directions, etc.):

This subclass is indented under subclass 714. Processes separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, in which a roller causes separation e.g., roller pairs at differing speeds during delamination, etc.

716 With poking during delaminating (e.g., jabbing, etc.):

This subclass is indented under subclass 714. Processes separating an adhered layer or portion thereof from another layer at a bonding face or a portion thereof while retaining layer identity, where bending also includes poking for separation; e.g., jabbing, etc.

- through 249, for peeling with lamination.
- 918 through 933, for a delaminating process adapted to specified products, per se.

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934 through 944, for a delaminating means adapted to specified products, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

SEE OR SEARCH CLASS:

- 173, Tool Driving or Impacting, subclass 164 for a means to drive a tool about an axis including means to hold and relatively rotate sections of tool shaft.
- 144, Woodworking, subclass 207 for processes poking to peel bark from wood.

717 Piercing layer during delaminating (e.g., cutting, etc.):

This subclass is indented under subclass 716. Processes of separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, including piercing the work during delamination; e.g., cutting, etc.

- 101, for lamination processes with cutting.
- 142, for with lamination processes with V-cutting.
- 159, for lamination processes with cutting with joining ends.
- 193, for lamination processes with cutting of wound body.
- 932, for a delaminating process with poking adapted to specified semiconductive products, per se,
- 943, for a delaminating poking means adapted to specified semiconductive products separating an adhered layer or portion from another layer at a bonding face while retaining layer identity and identity as a semiconductive product.

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SEE OR SEARCH CLASS:

83, Cutting, subclasses 13 to 56 for severing processes for material removal.

718 With shearing during delaminating:

This subclass is indented under subclass 714. Processes of separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, including shearing during separating for delamination; i.e., applying a shear force between delaminating layers.

SEE OR SEARCH CLASS:

28, Textile Manufacture, subclass 226 for shearing textiles to remove undesired protruding material.

719 Delaminating from release surface:

This subclass is indented under subclass 701. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity during separation, where the process is specified as adapted for delaminating a component or portion thereof from a releasing surface.

- through 241, for lamination by direct contact transfer from carrier to base.
- through 249, for lamination using a temporary planar support.
- 289, for lamination using a release material.
- 933, for a delaminating, per se, from a releasing surface adapted to specified label products.

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944, for means delaminating, per se, from a releasing surface adapted to specified label products.

SEE OR SEARCH CLASS:

- 40, Card, Picture, or Sign Exhibiting, subclasses 299.01 and 675 for label on release sheet article.
- Plastic and Nonmetal Article Shaping or Treating: Processes, subclass
 2.3 molding processes using a release surface and subclasses 636-637 for casting processes against release surface.
- 283, Printed Matter, subclass 81 for a printed label on a release sheet.

750 Delaminating means:

This subclass is indented under the class definition. Apparatus having means positively separating an adhered layer or portion thereof out of bonded relationship at a bonded face with the layer identity retained during separation.

(1) Note. Included in this subclass are means for apply a separating force; destruction of a bond is not sufficient for this subclass, being provided for in the classes that detail the operation, per se.

- 510, for cutting device combined with laminating means.
- through to 719, for delaminating processes, per se.
- 918 through 933, for a delaminating process adapted to specified products, per se.
- 934 through 944, for a delaminating means adapted to specified products, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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SEE OR SEARCH CLASS:

- 29, Metal Working, subclasses 700-283.5 for means to assemble or disassemble a work piece having means including means to engage at least one work part and force that work part to move out of intimate engagement with another work part to which it has previously been secured at other than a nonmetallic adhered bonded joint.
- 81, Tools, subclass 3.7 for a device for prying apart an assembly.
- 83, Cutting, subclasses 651-858 for disassembly apparatus having means to cut through thickness.
- 228, Metal Fusion Bonding, subclass 19 for apparatus joining metallic work parts by a metallurgical bond.
- 269, Work Holders, for a device which holds plural parts in desired spatial relationship Class 269 is the residual locus for a device for clamping, supporting, or holding an article (or articles) in position to be operated on or treated. See section VII under the class definition of Class 269.
- 414, Material or Article Handling, subclasses 788 to 143.2 for apparatus for assembling articles in a particular relationship wherein the assembling comprises or facilitates handling rather than the production of a final product.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 48 for a curing bag remover in a tire vulcanizing apparatus, subclasses 436-446 for a shaping surface including product release or removal means, especially subclass 438 for a core remover.
- 470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, subclasses 48-56 for apparatuses for assembling or disassembling a bolt with a nut or washer.

751 Delaminating means responsive to feed or shape at delamination:

This subclass is indented under subclass 750. Apparatus having means positively separating an adhered layer or portion thereof out of bonded relationship at a bonding face, with layer identity retained during separation, in direct response to work feed or shape of work at the delamination means.

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- (1) Note. The condition sensed must be something other than the normal cyclical operation of the delamination means. The normal cyclical operation of the machine may be maintained or controlled by the presence of work at the work station. A change in the normal cycle of operation caused by the intervention of an attendant would not be included in this subclass.
- (2) Note. The condition sensed may be a condition or property of the work, apparatus, or any change in the environment of the apparatus, which sensing means stops, starts or otherwise modifies the operation of the apparatus.
- (3) Note. Mere sensing means alone to determine a condition or change thereof without causing a control operation is not sufficient for placement in this subclass. A control function of the apparatus must be effected when the sensed condition or change of condition occurs for complete automatic control.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 350 through 364, for automatic or materially triggered laminating means.
- 365, for laminating apparatus including safety interlock means.
- 367, for laminating apparatus including electrical control means.
- 378, for laminating apparatus means including a sensing function and in response thereto cause a signal or indicating means.
- 702, for delamination processes responsive to feed or shape at delamination.

Heating or cooling delaminating means (e.g., melting means, freezing means, etc.):

This subclass is indented under subclass 750. Apparatus having means for separating at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which includes delaminating means for heating or cooling work during delamination.

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D. CHANGES TO THE DEFINITIONS

SEE OR SEARCH CLASS:

- 83, Cutting, subclass 170 for a cutting machine having means to heat the cutting tool or the work.
- 100, Presses, subclasses 92-340 for a heated press.
- 219, Electric Heating, subclasses 600-677 for induction heating devices and subclasses 200 to 270 for radiant heating devices.

753 Electromagnetic radiation delaminating means (e.g., microwave, UV, IR, etc.):

This subclass is indented under subclass 752. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at their bonding faces with the layer identity retained during separation which includes delaminating means to treat work with electromagnetic radiation; e.g., microwave, UV, IR, etc..

- (1) Note. The energy must directly contact and treat the work in the form of waves, rather than be converted to some other form of energy and then be directed against the work. Thus, separate resistance heater and applying the generated heat to the work by conduction is excluded.
- (2) Note. Merely heating of work by conduction or convection is not wave energy for the purpose of this subclass.
- (3) Note. The energy may be applied to the work, for example, in the form of infrared rays, X-rays, a magnetic field, etc.

- 272.2 through 275.7, for lamination processes involving the direct application of electrical or wave energy.
- 379.6 through 380.6, for laminating with means for direct application of electromagnetic energy.

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- 580.1 through 582, for lamination apparatus having means to treat the work with sonic or ultrasonic waves or vibrations.
- 712, for delamination processes treating work with electromagnetic radiation for delamination.
- 705, for delamination processes treating work with vibration.

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 900 for a method of, or apparatus for, assembly by the use of electrostatic attraction. See the Notes and the See or Search portions for assembly processes and apparatus using of electrostatic forces.
- 118, Coating Apparatus, subclasses 620-639 for coating apparatus having means to apply electrical or wave energy, and see the notes thereto for the locus of other patents relating to this art.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 174-178 for molding or deforming machines having means for applying electrical or wave energy to the work.

754 Vibrating delaminating means:

This subclass is indented under subclass 750. Apparatus having means for separating a specific material worked on at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which include means to vibrate work during delaminating.

- 73.6, for vibrating treatment during lamination.
- 705, for processes of vibrating during delamination.

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SEE OR SEARCH CLASS:

- 118, Coating Apparatus, subclass 57 for coating means with vibrating means to remove excess coating.
- 221, Article Dispensing, subclasses 200-205 for dispensing means with means to vibrate for facilitating passage of articles toward a discharge means.
- 222, Dispensing, subclasses 161-248 for agitation means for discharging contents from a chamber.

755 Differential fluid pressure delaminating means:

This subclass is indented under subclass 750. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation which has means apply fluid pressure to the work for delamination; e.g., vacuum chamber, etc.

756 Spraying delaminating means (e.g., atomizer, etc.):

This subclass is indented under subclass 755. Apparatus having means for separating at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which means has spraying means for delamination such as a fluid atomizer, etc.

757 Air blasting delaminating means:

This subclass is indented under subclass 756. Apparatus having means for separating at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which includes air blast delamination means.

SEE OR SEARCH CLASS:

30, Cutlery, subclasses 124 to 127 for cutlery combined with air blast for removal of severed material.

758 Vacuum delaminating means (e.g., vacuum chamber, etc.):

This subclass is indented under subclass 755. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at

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their bonding faces with the layer identity retained during separation which includes vacuum suction delamination means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 104, for the evacuation of air during the making of optically transparent glass sandwiches.
- through 287, for lamination with direct application of vacuum or fluid pressure during bonding step.
- 707, for delaminating processes using vacuum during delamination.

SEE OR SEARCH CLASS:

- 100, Presses, subclass 90 for presses with means to remove air from material while being pressed
- 118, Coating Apparatus, subclass 21 for apparatus with coating means also having air blast to remove or extend coating.

759 Delaminating roller means:

This subclass is indented under subclass 750. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at their bonding faces with the layer identity retained during separation which means includes roller means to cause delamination.

Roller pair delaminating means:

This subclass is indented under subclass 759. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at their bonding faces with the layer identity retained during separation which means includes a delaminating roller pair.

761 Severing delaminating means (e.g., chisel, etc.):

This subclass is indented under subclass 750. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at their bonding faces with the layer identity retained during separation which means includes a chiseling or cutting delaminating means.

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(1) Note. This subclass provides for a blade acting along the plane of the bond to force or wedge the laminae apart, where the blade is free-floating to follow a plane of weakness between layers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

510, for lamination means with means for cutting or piercing work.

762 Cutting delaminating means:

This subclass is indented under subclass 761. Apparatus having means for separating at least one adhered layer or portion thereof from another layer along its bonding face in with the layer identity retained during separation which means includes cutting delaminating means.

SEE OR SEARCH CLASS:

83, Cutting, subclass 176 for cutting means with means to deform work.

763 Shearing delaminating means:

This subclass is indented under subclass 762. Apparatus having means for separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity, including cutting means in the form of a shear; i.e., the cutting delaminating means move in substantial contact.

SEE OR SEARCH CLASS:

- 7, Compound Tools, subclass 134 for shearing tools, per se.
- 30, Cutlery, subclass 43 for cooperating shearing blades.

764 Delaminating bending means:

This subclass is indented under subclass 750. Apparatus having means for separating at least one adhered layer or portion thereof from another layer along its bonding face with the layer identity retained during separation which means has bending delaminating means.

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SEE OR SEARCH CLASS:

226, Advancing Material of Indeterminate Length, subclass 149 for means to grip advancing materials.

765 Poking delaminating means:

This subclass is indented under subclass 764. Apparatus having means for separating at least one adhered layer or portion thereof from another layer along its bonding face with the layer identity retained during separation which means have means to poke to cause delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

943, for delamination poking means adopted for delamination of a semiconductive product while retaining the identity of the semiconductive product.

766 Corner edge bending delaminating means:

This subclass is indented under subclass 764. Apparatus having means for separating at least one adhered layer or portion thereof from another layer along its bonding face with the layer identity retained during separation which means haves corner edge bending delaminating means.

 Note. Part either to move that part away from one location to another or to secure the work part in a position during corner bending delamination.

SEE OR SEARCH THIS CLASS, SUBCLASS:

480, for laminating means with corner bending.

767 Means for delaminating from release surface:

This subclass is indented under subclass 750. Apparatus having means for separating an adhered layer or portion thereof from another layer with the layer identity retained during separation which means are expressly adapted for delaminating from a specific releasable carrier; e.g., label on a carrier, etc.

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D. CHANGES TO THE DEFINITIONS

SEE OR SEARCH THIS CLASS, SUBCLASS:

- through 242, for methods of surface bonding involving direct contact transfer of adhered lamina from a carrier to the base lamina and especially subclass 238 where the carrier is a running or continuous flexible web.
- through 542, for laminating means with lamina transfer means from a carrier sheet.
- 719, for delaminating from a releasing surface, per se.
- 933, for delaminating processes adopted for delaminating a label from a releasing carrier sheet, per se.
- 944, for delaminating means adopted for delaminating a label from a releasing carrier sheet, per se.

SEE OR SEARCH CLASS:

- 101, Printing, appropriate subclasses for transfer printing devices wherein a printing die is used to cause direct transfer of a portion of a lamina carried on a flexible sheet. In Class 101 may be found, for example gold leaf printing devices in which the leaf is directly transferred from a carrier to the article utilizing a die stamp acting on the back of the flexible sheet.
- 221, Article Dispensing, subclass 73 for dispensing articles by stripping off adhered articles from a surface.
- 226, Advancing Material of Indeterminate Length, for devices, per se, for feeding a running or indefinite length work and see especially the notes thereto for other devices having similar means
- 242, Winding, Tensioning, or Guiding, subclass 163 for a housed strand package with strand guide means by means of which the strand is delivered through a mass.

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D. CHANGES TO THE DEFINITIONS

400, Typewriting Machines, subclass 118.1 for a typewriter that applies gold leaf carrier and subclass 696 for a typewriter wherein an error is corrected by an adhesive ribbon.

CROSS REFERENCE ART COLLECTIONS

918 DELAMINATING PROCESSES ADAPTED FOR SPECIFIED PRODUCT (E.G., DELAMINATING MEDICAL SPECIMEN SLIDE, ETC.):

This cross-reference art collection is indented under the class definition. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face with layer identity retained during separation, where the process is adopted for delaminating a specific identified product.

(1) Note. Included in this subclass are delaminating processes expressly adopted to delaminate part of a clearly identified specific item.

919 Delaminating processes in preparation for post processing recycling step:

This cross-reference art collection is indented under cross-reference art collection 918. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity during separation, specified as adopted for identified process of layer or portion there recycling after use.

 Note. Recycling may include recirculation of all or part of any layer substance.

SEE OR SEARCH CLASS:

- 162, Paper Making and Fiber Liberation, subclass 46 for processes of recycling paper making fluid.
- 205, Electrolysis: Compositions Used Therein, and Methods of Producing, subclass 349 for processes of production of electrical cell with recycling.
- 429, Chemistry: Electrical Current Producing Apparatus, Product, and Processes, subclass 17 for chemical reaction processes with reactant recycling.

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D. CHANGES TO THE DEFINITIONS

920 Textile delaminating in preparation for recycling (e.g. carpet, etc.):

This cross-reference art collection is indented under cross-reference art collection 919. Processes directed to separating an adhered layer article or portion thereof at a bonding layer while retaining layer identity during separation specified for recycling where a layer is textile (e.g., carpeting, etc.).

SEE OR SEARCH CLASS:

- 162, Paper Making and Fiber Liberation, subclasses 29-46 for paper manufacturing processes with recycling.
- 229, Envelope, Wrappers, and Paperboard Boxes, subclass 942 for paper box manufacture processes with recycling.
- 264, Plastic and Nonmetal Article Shaping or Treating Processes, subclasses 36.1-36.22 for plastic molding processes with recycling.

921 Delaminating container component in preparation for recycling (e.g., glass bottle, plastic bottle, etc.):

This cross-reference art collection is indented under cross-reference art collection 919. Processes directed to recycling by separating an adhered layer article or portion thereof from another layer at a bonding face while retaining layer identity during separation specified for recycling where the article is a plastic container (e.g., plastic bottle container recycling, etc.).

SEE OR SEARCH CLASS:

264, Plastic and Nonmetal Article Shaping or Treating Processes, subclasses 37.1-7.33 for plastic molding processes including a step of recycling plastic materials.

922 Specified electronic component delaminating in preparation for recycling:

This cross-reference art collection is indented under cross-reference art collection 919. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face with layer identity retained during separation, where the process is specified as adapted for delaminating a specified electronic product component.

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D. CHANGES TO THE DEFINITIONS

923 Delaminating wire or optical fiber laminate (e.g., coaxial cable, optical cable, etc.):

This cross-reference art collection is indented under cross-reference art collection 922. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face with layer identity is retained during separation, where the process is specified as adapted for delaminating electronic wire or optical fiber laminate (e.g., coaxial cable, optical cable, etc.).

Delaminating a display screen (e.g., cathode-ray, LCD screen, etc.):

This cross-reference art collection is indented under cross-reference art collection 922. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face with layer identity retained during separation, where the process is specified as adapted for delaminating electronic product display screen, such as cathode-ray, LCD screen, etc.

925 Delaminating display screen using sintering for delamination:

This cross-reference art collection is indented under cross-reference art collection 924. Processes directed to separating an adhered layer or portion thereof from another layer with layer identity is retained during separation, where the process is specified as using sintering during delaminating a display screen; i.e., heating near but not below screen melting point.

926 Delaminating recording media (e.g., DVD, CD, HD, flash memory, etc.):

This cross-reference art collection is indented under cross-reference art collection 919. Processes directed to separating an adhered layer or portion thereof from another at a bonding face while retaining layer identity during separation where the process is specified as adopted for delaminating recording media; e.g., DVD, CD, HD, flash memory, etc.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, subclasses 131-137 for disk, tape, or cylinder track media.
- 428, Stock Material or Miscellaneous Articles, subclasses 800-848.9 for recording media stock.

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D. CHANGES TO THE DEFINITIONS

927 Delaminating vehicle component (e.g., brake pad, etc.):

This cross-reference art collection is indented under cross-reference art collection 919. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity during separation, where the process is specified delaminating a vehicle component; e.g., brake pad from brake shoe, windshield from car frame, etc.

928 Delaminating tire (e.g., tread from carcass, etc.):

This cross-reference art collection is indented under cross-reference art collection 927. Processes directed to separating an adhered layer or portion from another at bonding face while retaining layer identity during separation, where the process is specified delaminating a vehicle tire component; e.g., separating tire tread from carcass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

98, for removal of defective area combined with repair.

929 Delaminating component from building (e.g., wall paper, shingle, etc.):

This cross-reference art collection is indented under cross-reference art collection 918. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face while retaining layer identity during separation, where the process is specified as adapted for delaminating a housing or building component housing; e.g., delaminating wall paper from wall, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

71, for processes of laminating to a building.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 741.1-748.11 for process installing housing components or laminating a layer to a static structure.

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D. CHANGES TO THE DEFINITIONS

930 Semiconductive product delaminating (e.g., delaminating semiconductive wafer from underlayer, etc.):

This cross-reference art collection is indented under cross-reference art collection 918. Processes directed to separating an adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation, specified as adapted for delaminating a semiconductive product retaining the identity as semiconductive; e.g., removing under layer from a semiconductive wafer, etc.

(1) Note. Included in this subclass are processes of separating layers of a layered semiconductive product.

SEE OR SEARCH CLASS:

438, Semiconductor Device Manufacturing: Process, subclass 33 for semiconductive wafer manufacture processes with backing removal and subclasses 758 and 759 for semiconductive wafer manufacture processes with removal of coating material.

931 Peeling away backing:

This cross-reference art collection is indented under cross-reference art collection 930. Processes directed to separating a semiconductive product adhered layer or portion thereof from another layer at a bonding face, with the layer identity retained during separation, where the process is specified as adapted for delaminating a semiconductive product by peeling away a backing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- through 241, for direct contact transfer of adhered lamina.
- through 249, for laminating with stripping step.

SEE OR SEARCH CLASS:

438, Semiconductor Device Manufacturing: Process, subclass 458 for semiconductor manufacture processes combined with delamination from backing sheet.

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D. CHANGES TO THE DEFINITIONS

932 With poking during delaminating (e.g., jabbing release sheet backing to remove wafer, etc.):

This cross-reference art collection is indented under cross-reference art collection 931. Processes directed to separating a semiconductive product adhered layer or portion thereof from another layer at a bonding face, with the layer identity retained during separation, where the process is specified as adapted for delaminating the semiconductive product by poking delamination; e.g., jabbing backing to remove wafer, etc.

934 Apparatus having delaminating means adapted for delaminating a specified article:

This cross-reference art collection is indented under the class definition. Apparatus having means for separating an adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted to delaminate a specific identified product.

935 Delaminating means in preparation for post consumer recycling:

This cross-reference art collection is indented under cross-reference art collection 934. Apparatus having means for separating at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which means are expressly adapted for delaminating a component for reclamation or reuse.

(1) Note. The component may be for recycled in the same or a different apparatus then the delaminating means.

SEE OR SEARCH CLASS:

100, Presses, subclass 72 for press means with means to recycle materials used in treatments.

936 Means for delaminating container component in preparation for recycling (e.g., glass bottle, plastic bottle, etc.):

This cross-reference art collection is indented under cross-reference art collection 935. Apparatus having means for separating an adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted for a specific plastic container delamination; e.g., delamination of label or seal from a bottle.

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D. CHANGES TO THE DEFINITIONS

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclass 104.096 for means for cleaning containers.

937 Means for delaminating specified electronic component in preparation for recycling:

This cross-reference art collection is indented under cross-reference art collection 935. Apparatus having means for separating an adhered layer article or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted for delaminating a specified electronic component.

938 Means for delaminating record media for recycling (e.g., CD, DVD, HD, flash memory, etc.):

This cross-reference art collection s is indented under cross-reference art collection 937. Apparatus having means for separating an adhered layer article or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted for delaminating a record media; e.g., CD, DVD, HD, flash memory, etc.

939 Means for delaminating vehicle component (e.g., tread from carcass, brake pad, etc.):

This cross-reference art collection is indented under cross-reference art collection 935. Apparatus having means for separating at least one adhered layer or portion thereof from another layer with the layer identity retained during separation which means are expressly adapted to delaminate a specific vehicle component; e.g., tire tread from tire carcass, brake pad from brake shoe, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

395, for means to build a tire combined with means for delaminating.

940 Means adapted for delaminating component from building (e.g., wall paper, shingle, etc.):

This cross-reference art collection s is indented under cross-reference art collection 935. Apparatus directed to means for separating an adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted for delaminating a specific product in a housing or building; e.g., a roofing or wall tile, etc.

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D. CHANGES TO THE DEFINITIONS

SEE OR SEARCH CLASS:

52, Static Structures, subclasses 749.1-749.15 for housing machine implements.

941 Means for delaminating semiconductive product:

This cross-reference art collection is indented under cross-reference art collection 934. Apparatus having means for separating at least one adhered layer or portion thereof from another layer at a bonding face with the layer identity retained during separation which means are expressly adapted for delaminating a semiconductive product.

942 With reorientation means:

This cross-reference art collection is indented under cross-reference art collection 941. Apparatus having means for separating at least one adhered layer or portion thereof from another layer specifically adopted for delaminating a semiconductor product with reorienting the product or portion thereof.

(1) Note. Reorientation requires a change in position.

SEE OR SEARCH THIS CLASS SUBCLASS:

540 through 542 for laminating apparatus to separate laminae not in contact with one another are carried on the carrier web or sheet.

943 With poking delaminating means (e.g., jabbing means, etc.):

This cross-reference art collection s is indented under cross-reference art collection 941. Apparatus having means for separating an adhered layer or portion thereof from another layer with the layer identity retained during separation which means are expressly adapted to a specific semiconductor delamination means which includes poking; e.g., jabbing means, etc.

SEE OR SEARCH CLASS:

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 431 for means to poke materials within a female mold.

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D. CHANGES TO THE DEFINITIONS

FOREIGN ART COLLECTIONS

The definitions below correspond to abolished subclasses from which these collections were formed. See the Foreign Art Collection Schedule of this Class for specific correspondences. [Note: the titles and definitions for indented art collections include all the details of the one(s) that are hierarchically superior.]

FOR 100 Delaminating, per se (156/344):

This foreign art collection is indented under unnumbered placeholder 156/1. Foreign art collection including processes directed to separating at least one adhered layer or portion thereof from another layer at their bonding faces, per se, in which the layer retains its identity during separation.

(1) Note. Processes for the separation of laminae in which a lamina is destroyed are generally classified in that class which provides for the operation, per se. Thus, for example, destroying a lamina by abrading will be found in Class 451 Abrading; by cutting, in Class 83, Cutting, appropriate subclasses, etc.

FOR 101 DELAMINATING APPARATUS (156/584):

This foreign art collection is indented under the class definition. Foreign art collection including apparatus having means to positively force at least two layers out of bonded relationship one to the other.

- (1) Note. The devices must apply a separating force to the parts. The mere destruction of a bond by heat or solvent treatment is not sufficient for this subclass, being provided for in the classes that detail the operation, per se.
- (2) Note. Where a blade or sharp tool is used acting along the plane of the bond to force or wedge the laminae apart, the blade must be free-floating to follow the plane of weakness. A device having a rigidly fixed blade, set for a given thickness of cut is provided for in Class 83, Cutting.

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D. CHANGES TO THE DEFINITIONS

CLASS 221 - ARTICLE DISPENSING

Definitions Modified:

Subclass 73: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 701-719 for a delaminating process, per se, and subclasses 918-933 for a delaminating process adapted to specified products, per se; subclasses 750-767 for delaminating means, per se, and subclasses 934-944 for a delaminating means adapted to specified products, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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D. CHANGES TO THE DEFINITIONS

CLASS 225 - SEVERING BY/ TEARING OR BREAKING

Definitions Modified:

Subclass 34: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 152 and 247-249 for laminating or bonding processes combined with severing and removal; subclasses 701-719 for a delaminating process, per se, and subclasses 918-933 for a delaminating process adapted to specified products, per se; subclasses 750-767 for delaminating means, per se, and subclasses 934-944 for a delaminating means adapted to specified products, per se, for separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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D. CHANGES TO THE DEFINITIONS

CLASS 264 – PLASTIC AND NONMETALLIC ARTICLE SHAPING OR TREATING: PROCESSES

Definitions Modified:

Subclass 36.1: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 94-97 for repairing by a laminating operation; subclasses 701-719 for a delaminating process, per se, and subclasses 918-933 for a delaminating process adapted to specified products, per se, separating an adhered layer or portion from another layer at a bonding face while retaining layer identity.

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D. CHANGES TO THE DEFINITIONS

CLASS 438 – SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

Definitions Modified:

Class Definition: In Section III, References to Other Classes, under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 60-338 for processes of adhesively bonding and subclasses 701-719 and 930-932 for processes of delaminating, per se, while retaining identity as semiconductive. Multistep processes for packaging semiconductors having no significant semiconductor chip structure are proper for Class 156 when claiming (a) adhesive bonding combined with shaping of nonmetals, (b) adhesive bonding combined with broad or nominally claimed metal-shaping steps, or (c) adhesive bonding including steps for assembling the parts to be bonded. An adhesive bonding unit operation for packaging or mounting operations on semiconductor devices goes as original to Class 156. Adhesive bonding combined with Class 438 coating of a semiconductor substrate or Class 438 etching of a semiconductor substrate places the original in Class 438. (See "Packaging (e.g., With Mounting, Encapsulating, etc.)" above).

Subclass 33: Under See or Search Class

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 701-719 and 930-932 for processes directed to separating an adhered layer with the layer identity retained as semiconductive.

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D. CHANGES TO THE DEFINITIONS

Subclass 458: Under the subclass definition

Insert:

SEE OR SEARCH CLASS

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 701-719 and 930-932 for a delaminating process, per se, for separating an adhered layer or portion from another layer at a bonding face with identity retained as semiconductive.

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D. CHANGES TO THE DEFINITIONS

CLASS 700 – DATA PROCESSING: GENERIC CONTROL SYSTEMS OR SPECIFIC APPLICATIONS

Definitions Modified:

Subclass 95: Under See or Search Class

Delete:

The entire reference to Class 156.

Insert:

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclasses 60-338 for a manufacturing process or subclasses 349-583.91 for an apparatus including adhesively bonding parts together; subclasses 701-719 and 918-933 for delaminating process, per se; and subclasses 750-767 and 934-944 for delaminating means, per se, separating an adhered layer or portion of the layer from another layer at a bonding face while retaining layer identity.