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INDEX SUMMARY

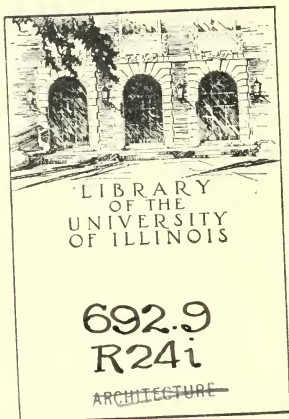
NEW CHICAGO BUILDING CODE

By EDWARD E. REDDERSEN

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INDEX SUMMARY *of the New*
CHICAGO BUILDING CODE
WITH COMPLETE CROSS REFERENCES

Compiled by

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ILLINOIS · MINNESOTA · WISCONSIN

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DEPARTMENT OF BUILDINGS, CITY OF CHICAGO

SINCE 1914

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EDWARD E. REDDERSEN

FOREWORD

No member of the Department of Buildings of the City of Chicago, and no member of any other department of the City of Chicago has had any hand, directly or indirectly, in the compilation of this Index Summary. No part of this Index, therefore, can be considered in any sense as any official wording or interpretation of the Building Code. Such wording or interpretation as contained in the Index is solely the responsibility of the author. His experience as Plan Examiner, Department of Buildings, City of Chicago, since 1914, has fitted him to know the needs of architects, engineers, and builders, and it is believed, to satisfy those needs with the first adequate index of any Chicago Building Code.

Since it is inevitable that errors and ambiguities should creep into this tremendously detailed work, the author will appreciate any notice of such errors or discrepancies. It should be noticed, however, that many apparent errors are due to conflicts in the code itself and not to the Index.

This Index Summary does not include:—

The Electrical Code

The Fire Prevention Code

Chapter 83 Water Supply and Distribution Systems

Chapter 84 Steam Boilers and Unfired Pressure Vessels

Chapter 85 Mechanical Refrigeration

The Zoning Ordinance

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This covers all general and miscellaneous items on buildings and structures of all kinds. It should be referred to first if the class of use or type of building is not known, or if it is uncertain in what chapter the item under consideration properly belongs.

OCCUPANCY CHAPTERS INDEX SUMMARIES:

These include complete detailed indexes of the individual chapters mentioned below. Each is a specialized index for a particular class or group of related occupancies and should be used for design purposes. Such chapters can be used as a "check list" to insure that all Code requirements of a specialized character are complied with.

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Hemp	Sisal
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Clay, with loam, max. 14% moisture.....	1,500 lb.
Clay, with sand.....	3,000 lb.
Clay, yellow, dry.....	3,500 lb.
Filled ground.....	500 lb.
Gravel, coarse.....	10,000 lb.
Gravel, fine.....	6,000 lb.
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Fronting on another street, buildings not counted

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Penalties, \$25.00 to \$200.00

Permit issued only after consents are filed

Protest signed by 10 or more property owners

Protest signed by majority, total owners under 20

Public hearing after protest

Required before permit is issued

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CHAPTER 49
INSTITUTIONAL BUILDINGS

REPORT OF THE SIXTH CENSUS OF THE POPULATION OF
THE UNION OF SOUTH AFRICA, 5th MAY, 1936.

VOLUME IV—LANGUAGES.

ERRATA.

Subsequent to the publication of Volume IV—Languages—of the report on the Census of 1936, certain errors resulting from confusion between "Official Language" and "Home Language" in the figures relating to the Asiatic Population were discovered. The particulars in the subjoined tables should therefore be substituted for the figures appearing in Tables 16, 17, and 19.

TABLE 16.—OFFICIAL LANGUAGES SPOKEN—
ASIATICS.

	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
--	-----	---	-----	---	-----	---	-----	---	-----	---	-----	---

UNION—UNIE.

Children Under School Age.												
Both.....	86	98	79	86	165	92	818	326	734	284	1552	305
English.....	472	536	437	474	909	505	2999	1196	2691	1045	5693	1119
Afrikaans.....	111	126	117	127	228	126	447	178	441	171	888	175
Neither.....	6438	7315	6780	7373	13227	7345	13678	5357	14494	5621	28172	5540
Unspecified.....	1694	1925	1786	1940	3480	1932	7126	2843	7423	2879	14549	2861
TOTAL—Under 7 Years.....	8,801	100,00	9,208	100,00	18,009	100,00	25,068	100,00	25,786	100,00	50,854	100,00

Kinders Onder
Skoolgaande Leeftyd.

Beide.
Engels.
Afrikaans.
Geen van Beide.
Ongepesifiseer.

TOTAAL—Onder 7 Jaar.

NATAL.

Children Under School Age.												
Both.....	33	40	34	39	67	39	151	71	121	55	272	63
English.....	400	553	425	485	885	518	2,594	12,116	2,317	10,500	4,912	11,311
Afrikaans.....	6,350	76,29	6,702	76,57	13,052	76,44	13,041	61,08	13,815	62,600	26,856	61,85
Neither.....	1,480	17,78	1,592	18,19	3,072	17,99	5,558	26,03	5,814	26,34	11,372	26,19
Unspecified.....												
TOTAL—Under 7 Years.....	8,323	100.00	8,753	100.00	17,076	100.00	21,349	100.00	22,070	100.00	43,419	100.00

Kinders Onder
Skoolgaande Leeftyd.

Beide.
Engels.
Afrikaans.
Geen van Beide.
Ongepesifiseer.

TOTAAL—Onder 7 Jaar.

VERSLAG OOR DIE SESDE SENSUS VAN DIE BEVOLKING
VAN DIE UNIE VAN SUID-AFRIKA, 5 MEI 1936.

BOEKDEEL IV—TALE.

ERRATA.

Na die publikasie van Boekdeel IV—Tale—van die verslag oor die Sensus van 1936 is sekere foute as gevolg van verwarring tussen "Offisiële Taal" en "Huistaal" in die syfers ten opsigte van die Asiatische Bevolking ontdek. Die besonderhede in newensgaande tabelle moet derhalwe die syfers vervang wat in Tabelle 16, 17, en 19 voorkom.

TABEL 16.—OFFISIËLE TALE WAT GEPRAAT WORD—
ASIATIE.

	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
--	-----	---	-----	---	-----	---	-----	---	-----	---	-----	---

UNION—UNIE.

818	326	734	284	1552	305
999	1196	2601	1045	5693	1119
447	178	441	171	888	175
678	5357	14494	5621	28172	5540
1126	2843	7423	2879	14549	2861
0088	10000	25786	10000	50854	10000

Kinders Onder
Skoolgaande Leeftyd.

Beide.
Engels.
Afrikaans.
Geen van Beide.
Ongepesifiseer.

TOTAAL—Onder 7 Jaar.

NATAL.

151	71	121	55	272	63
595	1216	2317	1050	4912	1131
4	3	3	7	7	92
041	6108	13815	6260	26856	6102
558	2603	5814	2634	11372	2619
240	10000	22070	10000	43419	10000

Kinders Onder
Skoolgaande Leeftyd.

Beide.
Engels.
Afrikaans.
Geen van Beide.
Ongepesifiseer.

TOTAAL—Onder 7 Jaar.

REPORT OF THE SIXTH CENSUS OF THE POPULATION OF THE UNION OF SOUTH AFRICA, 5th MAY, 1906.

VOLUME IV.—LANGUAGES.

ERRATA.

Subsequent to the publication of Volume IV—Languages—of the report on the Census of 1906, certain errors resulting from confusion between "Official Language" and "Home Language" in the figures relating to the Asiatic Population were discovered. The particulars in the subjoined tables should therefore be substituted for the figures appearing in Tables 16, 17, and 19.

TABLE 16.—OFFICIAL LANGUAGES SPOKEN—ASIATIC.

Province and District.	Official Languages Spoken.
Provincie en Distrik.	Offisiële Tale wat Gepraat word.

PAGE—BLADSY 142.

NATAL	Males.	Females.	Total.
Both—Beide.	12	18	30
English—Engels.	12	10	22
Afrikaans—Afrikaans.	1	1	2
Portuguese—Portugees.	1	1	2
Unspecified—Ongepraat.	1	1	2

PAGE—BLADSY 144.

NATAL	Males.	Females.	Total.
Both—Beide.	152	120	272
English—Engels.	2,395	2,283	4,678
Afrikaans—Afrikaans.	12,667	13,607	26,274
Unspecified—Ongepraat.	5,551	5,730	11,281

PAGE—BLADSY 145.

NATAL	Males.	Females.	Total.
Both—Beide.	152	121	273
English—Engels.	2,395	2,317	4,712
Afrikaans—Afrikaans.	13,640	13,815	27,455
Unspecified—Ongepraat.	5,558	5,814	11,372

TABLE 17.—OFFICIAL LANGUAGES SPOKEN—ASIATIC.

TABLE 17.—OFFISIËLE TALE WAT GEPRAAAT WORD—ASIATIE.

PAGES—BLADSYE 144 AND—EN 145.

Official Languages Spoken.	TOTAL—TOTAL.			
	Males.	Females.	Total.	%
Both—Beide.	12	18	30	1.0
English—Engels.	2,395	2,283	4,678	15.5
Afrikaans—Afrikaans.	12,667	13,607	26,274	88.5
Unspecified—Ongepraat.	5,551	5,730	11,281	38.5

PAGES—BLADSYE 144 AND—EN 145.

Official Languages Spoken.	TOTAL—TOTAL.			
	Males.	Females.	Total.	%
Both—Beide.	121	120	241	0.8
English—Engels.	2,317	2,283	4,600	15.2
Afrikaans—Afrikaans.	13,815	13,607	27,422	88.0
Unspecified—Ongepraat.	5,814	5,730	11,544	38.9

UNION—UNIE.

Official Languages Spoken.	TOTAL—TOTAL.			
	Males.	Females.	Total.	%
Both—Beide.	121	120	241	0.8
English—Engels.	2,317	2,283	4,600	15.2
Afrikaans—Afrikaans.	13,815	13,607	27,422	88.0
Unspecified—Ongepraat.	5,814	5,730	11,544	38.9

NATAL.

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Both—Beide.	121	120	241	0.8
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Unspecified—Ongepraat.	5,814	5,730	11,544	38.9

VERSLAG OOR DIE SESDE SENSUS VAN DIE BEVOLKING VAN DIE UNIE VAN SUID-AFRIKA, 5 MEI 1906.

BOEKDEEL IV—TALE.

ERRATA.

Na die publikasie van Boekdeel IV. Tale—van die verslag oos die Sensus van 1906 is seker foute as gevolg van verwarring tussen „Offisiële Tale" en „Huistaal" in die syfers ten opsigte van die Asiatische Bevolking ontdek. Die besonderhede in nevensgegee tabelle moet derhalve die syfers vervang wat in Tabel 16, 17, en 19 voorkom.

TABLE 16.—OFFISIËLE TALE WAT GEPRAAAT WORD—ASIATIE.

Provincie en Distrik.	Offisiële Tale wat Gepraat word.
Provincie en Distrik.	Offisiële Tale wat Gepraat word.

PAGE—BLADSY 142.

NATAL	Males.	Females.	Total.
Both—Beide.	12	18	30
English—Engels.	12	10	22
Afrikaans—Afrikaans.	1	1	2
Portuguese—Portugees.	1	1	2
Unspecified—Ongepraat.	1	1	2

PAGE—BLADSY 144.

NATAL	Males.	Females.	Total.
Both—Beide.	152	120	272
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Unspecified—Ongepraat.	5,551	5,730	11,281

PAGE—BLADSY 145.

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TABLE 17.—OFFISIËLE TALE WAT GEPRAAAT WORD—ASIATIE.

TABLE 17.—OFFISIËLE TALE WAT GEPRAAAT WORD—ASIATIE.

PAGES—BLADSYE 144 AND—EN 145.

Official Languages Spoken.	TOTAL—TOTAL.			
	Males.	Females.	Total.	%
Both—Beide.	12	18	30	1.0
English—Engels.	2,395	2,283	4,678	15.5
Afrikaans—Afrikaans.	12,667	13,607	26,274	88.5
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English—Engels.	2,317	2,283	4,600	15.2
Afrikaans—Afrikaans.	13,815	13,607	27,422	88.0
Unspecified—Ongepraat.	5,814	5,730	11,544	38.9

TABLE 19.—HOME LANGUAGES SPOKEN—ASIATICS.

TABLE 19.—HUISTALE WAT GEPRAAIT WORD—ASIATIE.

PAGE—BLADSY 166.

Sex.	HOME LANGUAGES—HUISTALE.													Geslag.		
	Tamih.	Hindi.	Telegu.	Gujarati.	Urdu.	Other Indian.	Chinese.	Japanese.	European Languages.	Other.	Uns.	Under 21.	21 +		Total.	
						Andar Indiese.	Sjinees.	Japanees.	Europees Tale.	Andar.	Onges.	Onder 21.		Totaal.		
UNION—UNIE.																
Urban.....	M.	27,190	18,838	8,008	15,882	6,879	1,422	1,701	139	2,259	197	276	43,144	36,548	79,692	M. Stedelik.
	F.	24,631	16,371	7,100	8,371	5,292	1,012	961	49	1,875	63	207	41,039	24,863	65,902	V.
	P.	51,821	35,209	15,108	24,253	12,171	2,434	2,662	149	4,134	170	483	84,183	61,411	145,594	P.
Rural.....	M.	16,360	12,933	5,091	2,576	1,032	1,045	57	1	237	24	63	22,507	16,952	39,459	M. Plattelande.
	F.	14,487	11,603	4,539	1,485	954	918	21	—	176	15	40	22,453	12,185	34,638	V.
	P.	30,847	24,536	9,630	4,061	1,986	1,963	78	1	413	39	103	44,960	29,137	74,097	P.
TOTAL.....	M.	43,570	31,791	13,099	18,458	7,911	2,467	1,758	121	2,496	131	339	65,651	53,500	119,151	M. TOTAAL.
	F.	39,118	27,974	11,639	10,256	6,246	1,920	982	19	2,051	78	247	63,492	37,048	100,540	V.
	P.	82,688	59,765	24,738	28,714	14,157	4,397	2,740	150	4,547	209	586	129,143	90,548	219,691	P.
CAPE—KAAP.																
Urban.....	M.	1,163	730	52	1,123	1,019	312	670	17	1,224	26	128	2,446	4,928	6,474	M. Stedelik.
	F.	1,025	269	15	563	310	91	403	16	945	11	70	2,069	1,635	3,724	V.
	P.	2,194	999	67	1,686	1,329	403	1,076	33	2,169	37	198	4,515	6,563	10,198	P.
Rural.....	M.	44	35	—	23	16	—	8	—	65	3	9	79	124	503	M. Plattelande.
	F.	25	8	—	7	5	3	2	—	35	—	2	69	38	107	V.
	P.	69	43	—	30	21	3	10	—	100	3	11	148	162	310	P.
TOTAL.....	M.	1,212	765	52	1,151	1,035	312	678	17	1,289	29	137	2,525	5,152	6,577	M. TOTAAL.
	F.	1,051	277	15	572	315	94	408	16	1,000	11	72	2,138	1,683	3,831	V.
	P.	2,263	1,042	67	1,723	1,350	406	1,086	33	2,289	40	209	4,663	5,835	10,508	P.

TABEL 19.—HUISTALE WAT GEPRaat WORD —ASIATIE.

1887 166.

PAGES—HUISTALE.							Geslag.
Japanese.	European Languages.	Other.	Uns.	Under 21.	21 +	Total.	
Japanese.	European Tale.	Ander.	Onges.	Onder 21.		Totaal.	
130	2,259	107	276	43,144	36,548	79,692	M. Stedelik.
19	1,875	63	267	41,039	24,863	65,902	V.
149	4,134	170	483	84,183	61,411	145,594	P.
1	237	24	63	22,507	16,952	39,459	M. Plattelands.
—	176	15	40	22,453	12,185	34,638	V.
1	413	39	103	44,960	29,137	74,097	P.
131	2,496	131	339	65,651	53,500	119,151	M. TOTAAL.
19	2,051	78	247	63,492	37,048	100,540	V.
150	4,547	209	586	129,143	90,548	219,691	P.

INIE.

AAP.

17	1,234	26	128	2,446	4,928	6,474	M. Stedelik.
16	945	11	70	2,069	1,655	3,724	V.
33	2,169	37	198	4,515	5,683	10,198	P.
—	65	3	9	79	124	203	M. Plattelands.
—	55	—	2	69	38	107	V.
—	120	3	11	148	162	310	P.
17	1,289	29	137	2,325	4,152	6,677	M. TOTAAL.
16	1,000	11	72	2,138	1,693	3,831	V.
33	2,289	40	209	4,663	5,845	10,508	P.

INDEX SUMMARY

CHAPTER 49

INSTITUTIONAL BUILDINGS

Includes the following: Generally with medical care:—

Childrens' home	Medical unit
Day nursery	Nursery
Home for the blind	Old people's home
Hospital	Orphan asylum
Infirmary	Sanitarium
Insane asylum	

Get Commissioner of Buildings ruling, when no medical or surgical care is involved.

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CHAPTER 50
BUSINESS UNITS

INDEX SUMMARY

CHAPTER 50

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CHAPTER 52

GARAGES

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Except: Doors as in Section 53-93.....	53-111

Exits: Public Emergency:—(Cont.)

Doors:—(Cont.)

Level landings, 4 ft. wide			53-82
2 ft. longer than width			53-82
Locking devices prohibited:—			
Employees doors			53-113
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Except: Principal entrance door			53-113
Panic hardware			53-113
Open from inside without key			53-112
Panic hardware permitted			53-113
Exit other than entrance required	53-45	53-92	53-93
Provided: Room area is over 100 sq. ft.			53-93
Group of rooms, over 300 sq. ft.	53-45	53-92	53-93
See Fire Escapes, below			
Includes outside doorway at grade			53-48
Landing, exit court: In egress direction			53-83
Lead in egress direction			53-83
Level landing: 4 ft. wide min.			53-82
2 ft. longer than width			53-82
Location, general:—			
$37\frac{1}{2}\%$ at least from each half of each seating level			53-70
Lead directly to grade			53-66
Location, main floor: Capacity 600 or less in auditorium:—			
Distance from proscenium, $\frac{1}{2}$ seat distance			53-71
Location, main floor: Capacity over 600 in auditorium:—			
50 to $66\frac{2}{3}\%$ of width to be distant from proscenium not over $\frac{1}{2}$ seat distance			53-71
Locking devices prohibited			53-112
Except: Panic hardware			53-113
Principal entrance doors			53-113
Mezzanines: 1 vertical required from each side			53-76
Lead directly to grade			53-68
5 ascending steps allowed			53-73
Except: Not required, special case			53-70
Increased size, exit door			53-70
Proscenium boxes: 1 vertical required			53-75
Except: With 2 normal exits			53-75
Ramps: Conform as stairs			53-81
Slope, max. 1 in 6			53-81
Required from all auditoriums			53-65
Serve only 1 side of auditorium			53-78
Stairways: 2 hr. construction inclosure			53-79
45 min. door required			53-79
Door same width as stair			53-79
Outside stair below 8 ft. level is obstruction			63-79
Same width as door served			53-79
Steps ascending outside prohibited			53-73
Steps permitted inside on main floor			53-73
Except: 30% of doors not to have steps			53-73
Steps up to 5 allowed in egress direction, inside, above main floor			53-73
Vertical: Includes:—			
Fire escape stair			53-48
Interior stair leading to exit at grade			53-48
Outside stair from outside exit at grade			53-48
Ramp, inside, leading to exit at grade			53-48
Ramp, outside, leading to exit at grade			53-48
Width: 20 in. per 100 persons	53-69		53-77
3 ft. min. in clear		53-69	53-77
Cumulative increase to exist			53-77
$37\frac{1}{2}\%$ at least from each half of any seating level			53-70
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Exit, Employees			
Exits: Public Normal Horizontal:—			
Aisles, longitudinal:—			
Connecting aisles with boxes, 2 ft. 8 in. min.			53-56

Exits: Public Normal Horizontal:—(Cont.)

Aisles, longitudinal:—(Cont.)

Defined.....	40-1
Doorway width: 20 in. per 100 persons.....	53-60
4 ft. min. width.....	53-60
Illumination: Main floor aisle:—	
1 ft. candle required.....	53-181
Except: Motion picture houses.....	53-184
Special performances.....	53-184
$\frac{1}{2}$ candle required.....	53-184
Lead direct to inside normal exit doorway.....	53-60
Required on all seating levels.....	53-54
Risers prohibited in main floor aisle.....	53-58
Slope, max. 1 in 6, main floor aisle.....	53-58
Slope, max. 1 in 6, mezzanine aisle.....	64-55
Steps in mezzanine: Full width of aisle.....	53-58
Rise, 8 in. max.....	53-58
Cut. 10 in. min.....	53-58
Steps prohibited in main floor aisle.....	53-58
Width: Seats on 1 side only, 2 ft. 6 in. min.....	53-55
Seats on both sides, 3 ft. min.....	53-55
20 in. per 100 persons and cumulative towards egress.....	53-55

Aisles, transverse:—

Balcony; Lead direct to normal inside exit doorway, or by vomitory..	53-60
Coincidental normal and emergency exit.....	53-57
Defined.....	40-1
Doorway width: 20 in. per 100 persons.....	53-60
4 ft. min.....	53-60
Encroachment prohibited.....	53-58
Illumination.....	53-181
Required in back of last row of seats.....	53-56
Except: Direct exit via longitudinal aisle to lobby or foyer.....	53-56
Risers prohibited.....	53-58
Seats: Number of rows:—	
6 rows between front and transverse side.....	53-56
9 rows between transverse aisles.....	53-56
Slope, main floor, 1 in 6 max.....	53-58
Slope, above main floor, 1 in 12 max.....	53-57
Steps prohibited.....	53-58
To boxes, 2 ft. 8 in. min.....	53-56
Width: 20 in. per 100 persons.....	53-57
4 ft. min. in clear.....	53-57
Excludes all encroachments.....	53-57
Defined as:—	
Aisle approach to auditorium.....	53-47
Doorway approach to auditorium.....	53-47
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Passageway approach to auditorium.....	53-47

Defined as every:—

Ramp and enclosed spaces leading to public normal horizontal exit connection.....	53-47
Stairway and enclosed spaces leading to public normal horizontal exit connection.....	53-47

Exits, Public Normal Vertical:—

Balconies:—

2 vertical exits at least required.....	53-62
Entrance direct from balcony, or.....	53-62
Entrance direct from lobby or foyer at highest level of balcony.....	53-62
Lead to horizontal exit on main floor.....	53-62
Located at opposite sides of auditorium.....	53-62
90° max. horizontal exit connection.....	53-62
Width, min. 4 ft.....	53-63
Height, min. 7 ft.....	53-57

Mezzanines: Same as Balconies above

Obstructions prohibited.....	53-50
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Exits, Public Normal Vertical:—(Cont.)

Proscenium boxes:—	
At least 1 required	53-62
Entrance direct from 3 ft. door, aisle, or passage	53-62
Lead to main floor of auditorium	53-62
Stairways with direct balcony or mezzanine entrance:—	
1 hr. separation from auditorium	53-64
Except: Vomitory may be open	53-64
Stairways with entrance from balcony, lobby or foyer:—	
Open in foyer and lobby	53-64
2 hr. separation required in other parts	53-64
Stairs with entrance from mezzanine, lobby, or foyer:—	
Open in foyer and lobby	53-64
2 hr. separation required in other parts	53-64
Width: 20 in. per 100 persons	53-63
3 ft. min., general	53-50
4 ft. min. from balconies	53-63
4 ft. min. from mezzanines	53-63
At least 37½% of total width from either ½ of seating level	53-63
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Exits, Ramps:—	
Aisle, main floor: Slope max. 1 in 6	53-58
Aisle, transverse above main floor, 1 in 12	53-57
As emergency exit	53-48
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Level landing, 4 ft. min., emergency exit doorway	53-82
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Vomitaries, max. slope 1 in 6	53-61
Exits, Stairways:—	
Comply generally with Chapter 64	53-99
Curved: Radius, min. 5 ft.	53-101
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1 may be winding or spiral	53-98
Extend to roof, or	
Extend to doorway near ceiling	53-98
Non-combustible material required	53-98
Penthouse construction: Same as building	53-98
Penthouse door, 45 min.	53-98
Penthouse window, Type A	53-98
Handrails:—	
Extend to front edge of 3rd tread	64-34
Height: 2 ft. 6 in. min., front of tread	64-34
Height: 3 ft. max. at front of tread	64-34
Intermediate required, stairs over 7 ft. wide	64-34
May be wood	53-24 53-99
Newel post, 5 ft. high, required at ends of intermediate handrails	64-34
One required on each side of public stairs	53-102
Turned to wall at ends	64-34
Inclosure:—	
General	64-28
Normal stairs	53-64
Emergency stairs, 2 hr. construction	53-79
Non-combustible, except handrails	53-99
Non-required: Provisions same as for required stairs	53-105
Penthouse, employees gridiron stairs	53-98
Ramps: Same applicable requirements as stairs	53-106
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Rise, max. 7½ in.	64-31

Exits, Stairways:—(Cont.)	
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In exit courts.....	53-80
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For public use.....	53-107
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Allowed.....	53-44
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Size: 40% of least wall area, less openings.....	53-116
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Extend to front edge of 3rd tread.....	64-34
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3 ft. max. at front of tread.....	64-34
Intermediate required, stairs over 7 ft. wide.....	64-34
May be wood.....	53-24 53-99
Newel post, 5 ft. high, required at ends of intermediate handrails.....	64-34
One required on each side of public stairs.....	53-102
Turned to walls at end.....	64-34
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Heating Plants:—	
Door prohibited to auditorium.....	53-34
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20 ft. min. laterally from auditorium.....	53-34
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Conform to Electrical Code.....	53-180
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Corridors, 100 lb. per sq. ft.....	70-1
Roof, 25 lb. per sq. ft.....	70-5
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Other public spaces, 100 lb. per sq. ft.....	70-1
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Locking devices on exit doors.....	53-112
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Multiple occupancy:—	
Communicating openings:—	
Adjacent buildings 1st story only.....	53-41
Adjoining buildings, 1st story only.....	53-41
Except: Allowed on ground floor also.....	53-40
Prohibited with:—	
Hazardous use unit.....	53-41
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School, Class I.....	53-41
Doors: Double fire doors required.....	53-42
Area of doors, 60 sq. ft. max.....	53-42
Location: 20 ft. apart at least.....	53-42
Not counted as exits.....	53-42
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Exits in common prohibited.....	53-43
Except: Fire escapes.....	53-43
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Hazardous use unit prohibited.....	63-2
Permitted, generally.....	63-3h 53-38
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Except: Handrails, max. 4 in.....	64-23
Panic hardware.....	53-113
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Approval required by Fire Prevention Dept.....	12-24

Plans:—(Cont.)	
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Show all seats.....	53-10
Show clear width of exits.....	53-10
Principal entrance:—	
Defined.....	53-1
Slope, max. 1 in 12.....	53-1
Steps prohibited.....	53-26
Projection block:—	
Alterations to comply in existing theatres.....	53-5
Doors in stage block: Non-combustible.....	53-23
Equipment: Projectors.....	53-161
Shelves, furniture, etc.....	53-162
Film storage: In metal containers.....	53-163
One day's supply only.....	53-33
Finish and fixtures: Non-combustible, or.....	53-24
covered with non-combustible material.....	53-33
Handrails on stairs may be wood.....	53-24
Remodeling to comply in existing theatres.....	53-5
Separations: 2 hr. construction required.....	53-20
Type A windows required.....	53-20
Shelving, etc. to be non-combustible.....	53-162
Storage of combustibles prohibited.....	53-33
Except: 1 day's run of films.....	53-33
Toilets required, when more than 1 projector is installed.....	53-37
See also Projection Room	
Projection room:—	
Area, 50 sq. ft. for each device.....	53-33
Ceiling height, 8 ft. min.....	53-33
Defined as room containing projector.....	53-1
Equipment permitted.....	53-33
Fixtures, furniture, trim, etc. to be non-combustible.....	53-24
Not required with acetate cellulose film.....	53-161
Not required with non-flammable film.....	53-161
Not required with slow-burning film.....	53-161
Not required with still pictures.....	53-161
One day's film storage allowed.....	53-33
Openings to have automatic shutters.....	53-33
Sliding shutter construction.....	53-33
Storage of films prohibited.....	53-33
Except: 1 day's supply.....	53-33
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Ventilation.....	81-7 Note 4 53-117
Promenade, Roof: Prohibited for theatre patrons.....	53-53
Property room: Door in stage block.....	53-23
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Proscenium, defined.....	40-1
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Annual inspection fee.....	46-8
Air space, 5 in. min.....	53-137
Approval of installations.....	53-159
Asbestos curtains prohibited when:	
Proscenium opening is over 22 ft. high.....	53-134
Proscenium opening is over 28 ft. wide.....	53-134
Cables and rigging.....	53-147 to 53-151
Certification of inspection and approval.....	53-159
Combustible material prohibited.....	53-136
Coverings.....	53-141
Counterweights.....	53-148 53-151
Design and construction.....	53-136
Frames: Framework.....	53-138
Guide shoes.....	53-140
Yielding pad.....	53-139
Wheeled trolleys.....	53-140

Proscenium Fire Curtain: Type 2 Stage:—(Cont.)

Guides and smoke pockets.....			53-143
Inspection: General.....	13-7		53-159
Annual.....			46-8
Machinery and equipment.....		53-152 to	53-160
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Operating equipment and control.....			53-152
Operation: Conditions and requirements.....			53-135
Paint.....			53-135
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Test.....	53-160		53-135
Thickness.....			53-137
30 min. fire resistance.....			53-135
Types: 2 section metal type.....	53-145		53-146
Drum type.....			53-147
Sheave type.....			53-150
Vertical operation required.....			53-135
Public assembly unit in theatre.....			55-11
Public rooms: Exit other than entrance required.....	53-45	53-92	53-93
Provided: Room area is over 100 sq. ft..	53-45	53-92	53-93
Group of rooms, area over 300 sq. ft...	53-45	53-92	53-93

Ramps: See Exits, Ramps

Red lights prohibited generally.....			53-178
Refrigerating equipment.....	53-165	53-21	53-22
Refuse burner separations.....			61-84
Remodeling to comply in existing theatre.....			53-4
Exceptions.....			53-3
Repairs to comply in existing theatres.....			53-4
Exceptions.....			53-3
Rise of steps: 7½ in. max.....			64-31
Roof promenades prohibited for theatre patrons.....			53-53
Rooms converted for special uses.....			53-8
Rooms, public: Exit required other than entrance:—			
Provided: Room area is over 100 sq. ft....	53-45	53-92	53-93
Groups of rooms, area over 300 sq. ft....	53-45	53-92	53-93

Scenery: Combustible prohibited, Type 1 Stage.....

Moveable prohibited, Type 1 Stage.....			53-30
School, Class I prohibited.....			63-2

Seats:—

Alterations to comply in existing theatre.....			53-6
Arc of over 90° between aisles prohibited.....			53-128
Arms required for all fixed seats.....			53-130
Balcony:—			
Defined as over 10 rows.....			53-1
6 rows max. between front and transverse side.....			53-56
9 rows max. between transverse aisles.....			53-56
Transverse aisle required in rear.....			53-56
Bank of seats:—			
Defined as rows at different levels.....			53-1
15 banks max. on main floor without cross aisle.....			53-67
Unless: Each aisle has direct exit.....			53-67
Fixed seats are required.....			53-131
Except: In boxes, portable seats allowed:—			
1 for each 5 sq. ft. floor area.....			53-131
20 max. allowed.....			53-131
Prohibited on sloping floor.....			53-131
Group of seats defined: 2 or more.....			53-1
Level terraces on main floor.....			53-28
Except: Ramps to aisles permitted.....			53-28
Extra aisle, 2 ft. wide permitted.....			53-28
Main floor: 15 rows max. without cross aisle.....			53-67
Except: With direct exit for each aisle.....			53-67
Mezzanine defined as 10 rows or less.....			53-1

Seats:—(Cont.)

Number in rows and between aisles:—

Balcony:—

6 rows max. between front and transverse side.	53-56
9 rows max. between transverse aisles.	53-56
12 seats max., between aisles.	53-128
6 seats max., aisle on 1 end only.	53-128

Main floor:—

12 seats max., between aisles.	53-128
Except: Add 1 seat for each 1 in. over 34 in. back to back.	53-128
Except: If 42 in. back to back:—	
1. 48 seats max. between aisles, or.	53-128
2. 80 ft. max. length of row.	53-128
3. 10 seats max., aisle at one end only.	53-128

Portable allowed in boxes, level floors only:—

1 for each 5 sq. ft. of floor area.	53-131
20 max. number allowed.	53-131

Row, defined: Adjoining seats side by side.

40-1

Self-raising: Main floor:—

2 rows required opposite emergency exit door.	53-132
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Spacing: 18 in. between rearmost point of back and foremost point of arm of seat in row behind.

53-132

Spacing: Regular seats:—

34 in. back to back.	53-129
16 in. min., back of seat to foremost point of arm of seat in row behind.	53-129

Spacing: Self-raising seats:—

18 in. between rearmost point of back and foremost point of arm of seat in row behind.	53-132
--	--------

Width: 90% of all seats:—

20 in. center to center of arms.	53-130
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Width: 10% of all seats may be:—

19 in. center to center of arms.	53-130
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Secondary entrance: Any other than principal.

53-1

Signs, exit:—

Classes: Standard Directional.	53-187
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Standard Exit.	53-187
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Standard Fire Escape.	53-187
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Conform to Chapter 66, Signs.	53-187
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Illumination:—

5 ft. candles required.	53-188
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Continuous use during open time.	53-188
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Controlled separately.	53-188
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Wiring from emergency system.	53-188
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Standard Directional Signs required:—

1. Horizontal exit connections.	53-193
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Every change in direction.	53-193
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Except: In vomitories.	53-193
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2. Vertical means of exit.	53-194
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Except: In vomitories.	53-194
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3. Exit courts.	53-195
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Standard Exit Signs required:—

1. At public exit doorways.	53-189
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Visible through unobstructed doorways.	53-189
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Groups of doors over 10 in. between jambs.	53-189
--	--------

2. At employees exit doorways.	53-190
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3. At exit courts.	53-191
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Standard Fire Escape Signs required:—

1. At every door to fire escape.	53-192
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Except: Emergency stair fire escape.	53-192
--------------------------------------	--------

Spiral stairs from gridiron.

53-98

Stadium type auditorium:—

Longitudinal aisle leads to transverse aisle.	53-50
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Rearmost transverse aisle:—

Shall have inside normal exit doorway, or vomitory leading to such doorway for each side of auditorium.	53-60
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Stadium type auditorium:—(Cont.)			
Rearmost transverse aisle:—(Cont.)			
Such doorway: 20 in. per 100.			53-60
4 ft. min. width.			53-60
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CHAPTER 54

OPEN AIR ASSEMBLY UNIT

INDEX SUMMARY

CHAPTER 54

OPEN AIR ASSEMBLY UNIT

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CHAPTER 55
PUBLIC ASSEMBLY UNIT

INDEX SUMMARY

CHAPTER 55

PUBLIC ASSEMBLY UNIT

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Ceiling Height:—

Assembly rooms: 12 ft. min.	57-16
Balconies: Need not exceed 8 ft., above or below.	57-16

Ceiling Height:—(Cont.)

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Capacity factor 18.	62-3
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800 or less capacity:—	
1 leading direct to main corridor, or 1 leading direct to outer air.	57-43
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2 leading direct to outer air or main corridor.	57-43
Exception: 1 may lead to other class room.	57-43
Width, min. 2 ft. 8 in.	57-32
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1. Net opening area, 8% of floor area.	57-64
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Increase 1 ft. for each story over 4, Class I schools.	57-9
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Colleges are Class II.	57-2
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Must conform to Class I code.	57-3
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Commercial training rooms:—

Partitions, rooms 250 sq. ft. or less:—

Glazed from 3 ft. up to 7 ft. 6 in. 57-24

Height may be 7 ft. 6 in. 57-24

Ventilation, same as class rooms. 57-24

Construction:—

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Gymnasium must be 1,500 or less capacity. 57-18

Except:—

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Floor over basement must be fireproof. 57-13

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1 story high: 600 or less capacity. 57-12

2 stories or less: 200 or less capacity. 57-12

Assembly room must be 600 or less. 57-18

Gymnasium must be 600 or less. 57-18

Except:—

Floor above basement must be fireproof. 57-13

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Portable Buildings:—

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Used as school only. 57-15

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Elevators: Area: 4 sq. ft. per person. 57-55

Empty in 20 min., over 2nd floor. 57-55

Required: Floors over 2nd. 57-55

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Draw: No combustible scenery. 57-70

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Defined as place of instruction. 40-18

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1 in each story. 57-76

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Exit Stairs: General:—	
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In any story above or below main exit level:—	
Dead end corridor: 60 ft. max. from door to stair.	57-47
All other cases: 90 ft. max. from door to stair.	57-47
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Width:—	
Based on capacity.	57-5 57-31 62-2 62-3
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Assembly rooms: 2 ft. candles.	57-80
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Illumination on plane of work:—

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Lecture room: Capacity factor:—

1,500 sq. ft. or less, factor 10.....	62-3
---------------------------------------	------

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Live Loads:—

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Inclosure area not over 250 sq. ft.....	57-24
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1 machine only, 1 hr. separation.....	57-21a
50 sq. ft. required.....	57-21c
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57-1

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Permitted in fireproof or semi-fireproof construction 57-20

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Storage room prohibited under stairs in non-fireproof buildings 57-28

Study rooms: Same as Class Rooms

Teaching Amphitheatre:—

Aisles:—

10 seats in row between aisles 57-42

5 seats in row between aisle and wall 57-42

Width: 18 in. per 100 persons 57-42

2 ft. 6 in. min. 57-42

Cut, 20 or less capacity: No requirement 57-42

Over 20 capacity: 9 in. min. 57-42

Definition: In which students sit in banks 57-42

Rise, 20 or less capacity: No requirement 57-42

Rise, over 20 capacity, 9 in. max. 57-42

Stairs, width:—

18 in. per 100 persons 57-42

2 ft. 6 in. min. 57-42

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Toilet Room:—

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Fixture calculations:—

Assembly rooms not counted 57-74

Gymnasiums not counted 57-74

Lavatories: 1 in every toilet room 57-75

Required, in each story, or above or below that story 57-74

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Ventilation:—

Assembly rooms 81-7

Ventilation:—(Cont.)

Class rooms, either one following:—

- | | |
|--|-------|
| 1. Net opening area, 8% of floor area, or..... | 57-64 |
| 2. Mechanical system..... | 81-7 |

Cafeterias, and all other eating rooms:—

- | | |
|--|-------|
| 1. Glass 10% of floor area, $\frac{1}{2}$ to open..... | 57-67 |
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Vocational schools are Class II..... 57-2

Windows, class room:—

Ceiling light under skylight:—

- | | |
|------------------------------------|-------|
| Increase skylight by 25%..... | 57-63 |
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4 ft. Class II school..... 57-9

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INDEX SUMMARY
CHAPTER 58
OTHER BUILDINGS AND STRUCTURES

INDEX SUMMARY

CHAPTER 58

OTHER BUILDINGS AND STRUCTURES

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Exposed Metal Structures	Railroad Structures (special)
Fences	Sheds
Hangars	Signboards
Ice Houses	Stables
Illuminated Signs	Tanks
Incinerators	Towers
Jails	

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50 sq. ft. to 375 sq. ft. \$1.00.....	46-23
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24 sq. ft. or less, flat against building, sale or lease.....	46-23
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INDEX SUMMARY

CHAPTER 79

ELEVATORS, DUMBWAITERS
ESCALATORS AND MECHANICAL
AMUSEMENT DEVICES

INDEX SUMMARY

CHAPTER 79

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CHAPTER 82

PLUMBING

INDEX SUMMARY

CHAPTER 82

PLUMBING

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FIREPROOF CONSTRUCTION		SEMI-FIREPROOF CONSTRUCTION	
STRUCTURAL FRAME Sec. 67-6 67-7		STRUCTURAL FRAME Sec. 67-23 67-24	
Masonry Metal Reinforced Concrete Or Any Combination		Same as in F.P. Const.	
Columns, Exterior.....	4 hour	Columns, Exterior.....	4 hour
Columns, Interior.....	4 hour	Columns, Interior.....	3 hour
Members support more than one floor.....	4 hour	Members supporting more than one floor.....	3 hour
Wind bracing.....	4 hour	Wind bracing.....	3 hour
Members supporting only one floor or roof... Except: Columns and Joists	3 hour	Members supporting only one floor or roof... Except: Columns and Joists	2 hour
Lintels and Spandrels:— Fireproof as above may carry wall facing, 4½ in., on bare angles at not more than 3 ft. centers for height of spandrel beam		Lintels and Spandrels:— Same as in F.P. Const.	
Lintels, Loose Need not be fireproofed:— Openings not more than 3½ ft.		Lintels, Loose Same as in F.P. Const.	
Tie beams in elevator shafts need not be fire- proofed		Tie beams Same as in F.P. Const.	
Elevator sheave beams need not be fireproofed		Elevator sheave beams Same as F.P. Const.	
FLOOR CONSTRUCTION Sec. 67-8 to 67-11		FLOOR CONSTRUCTION Sec. 67-25 to 67-28	
Floors.....	Const. 3 hour	Floors.....	Const. 1 hour
Structural metal framing Reinforced concrete framing		Structural metal framing Reinforced concrete framing	
Masonry slabs Reinforced concrete slabs		Trussed steel joist framing Masonry slabs Reinforced concrete slabs Metal plate floors	
Fireproofing:— Structural metal, general.....	3 hour	Fireproofing:— Structural metal.....	} 1 Hour or ceiling of metal lath and plas- ter with fire stops
Structural metal, top, 1½ in. concrete See Occupancy Chapters 47-58		Trussed steel joists	
Sleepers and Fill:— Permitted for finished floor Must not extend under required partition Spaces between to have non-combustible fill. (See Sec. 61-46)		See Occupancy Chapters 47-58	
		Sleepers and Fill:— Same as in F.P. Const.	
ROOF CONSTRUCTION Sec. 67-12 to 67-14		ROOF CONSTRUCTION Sec. 67-29 to 67-31	
Roofs.....	Const. 3 hour	Roofs.....	Const. 1 hour
Structural metal framing Reinforced concrete framing		Structural metal framing Reinforced concrete framing	
Masonry slabs Reinforced concrete slabs Metal plates		Trussed steel joists, rafters, or purlins Masonry slabs Reinforced concrete slabs Metal plates	
Fireproofing:— Structural members.....	3 hour	Fireproofing:— Structural members.....	1 hour
Exceptions:— Theatres, members 20 ft. up... Open air assembly unit..... Public assembly unit..... Churches..... Schools.....	53-12 54-9 55-7 56-4 57-10	1. By 1 hr. resistive covering 2. By 1 hr. ceiling attached or sus- pended Exceptions:— Open air assembly unit..... Churches.....	54-9 56-5
EXTERIOR ENCLOSING WALLS Sec. 67-15 to 67-17		EXTERIOR ENCLOSING WALLS Sec. 67-32 to 67-34	
Walls:—	Const.	Walls:—	Const.
Masonry.....	4 hour	Same as in F.P. Const.	
Reinforced concrete.....	4 hour	Bay Windows and Similar Projections:— Same as in F.P. Const.	
Bay Windows and Similar Projections:— Same construction as main wall		Cornices and Supports:— Same as in F.P. Const.	
Cornices and Supports:— Shall be incombustible			

FIREPROOF CONSTRUCTION (Cont.)		SEMI-FIREPROOF CONSTRUCTION (Cont.)	
<p>GROUNDINGS AND FURRING Sec. 67-19</p> <p>Groundings and furring, Wood:— Shall project not more than 3 in. Fire stops 1½" wood every 6 ft. each way All other groundings and furring to be incombustible</p>		<p>GROUNDINGS AND FURRING Sec. 67-36</p> <p>Groundings and Furring; Wood:— Same as in F.P. Const.</p>	
<p>PARTITIONS Sec. 67-18</p> <p>Incombustible:— Except in Business Units where subdividing partitions may be wood, or wood and glass, when they are included in areas of 600 sq. ft. or less already enclosed in incombustible partitions. Sec. 61-67 61-68 Studs, used only as door bucks Sec. 67-5</p>		<p>PARTITIONS Sec. 67-35</p> <p>Same as in F.P. Const.</p> <p>Studs used only as door bucks. 67-22</p>	
<p>COMBUSTIBLE MATERIALS Sec. 67-20</p> <p>May be used for:— Ceiling paneling Doors, frames, and bucks Exterior show windows for backing, frames, aprons, and platforms Floor surfaces Grounds as permitted above Handrails Interior architectural trim Sleepers Wall paneling</p>		<p>COMBUSTIBLE MATERIALS Sec. 67-37</p> <p>Same as in F.P. Const.</p>	

HEAVY TIMBER CONSTRUCTION		ORDINARY CONSTRUCTION	
<p>STRUCTURAL FRAME Sec. 67-39 67-40</p> <p>Exterior Walls:— Metal framing Reinforced concrete framing Or any combination</p> <p>Other Structural Members:— Metal Reinforced concrete Masonry Timber Or any combination</p> <p>Columns, Exterior. 4 hour Columns, Interior. 2 hour Columns, Timber, Min. dimension 9½ in.</p> <p>Members Supporting Walls. 3 hour Except columns</p> <p>Timber, not supporting roof:— Beams } Min. dimension 5½ in. Girders } Trusses } Min. area 52 sq. in.</p> <p>Timber, supporting roof only:— Beams } Girders } Min. dimension 3½ in. Trusses }</p> <p>Interior Members. 2 hour Beams: Other than timber. 2 hour Girders: Other than timber. 2 hour Trusses: Other than timber. 2 hour</p> <p>Fireproofing not required:— 1. Where clear height above floor is 20 ft. or more 2. Lintels, loose, supporting 1 story only 3. Metal connections for timber members</p>		<p>STRUCTURAL FRAME Sec. 67-50</p> <p>Exterior Walls:— Same as in Heavy Timber Const.</p> <p>Other Structural Members:— Same as in Heavy Timber Const. except that no fireproofing is required, unless specified under general occupancy sections, and there is no limitation on the size of wood members, except as determined by strength.</p> <p>Columns, Exterior; No requirements Columns, Interior; No requirements Columns, Timber; No requirements</p> <p>Members Supporting Walls Multiple Dwellings. 48-32 48-35</p> <p>Timber:— Beams } No size limitations for either Girders } floor or roof Trusses } Strength requirements only</p> <p>Interior Members Beams } Girders } Strength requirements only Trusses }</p> <p>Fireproofing not required:— Except:— Multiple dwellings. 48-32 48-35 Lintels: Wood permitted behind arches only</p>	

HEAVY TIMBER CONSTRUCTION (Cont.)	ORDINARY CONSTRUCTION (Cont.)
<p>FLOOR CONSTRUCTION Sec. 67-41</p> <p>Floor Members:— Except flooring, are included under structural frame Flooring, min. 3½ in., fastened together May be 2 layers, lower one 2½ in. Ceiling, direct against underside of floor, max. air space ½ in.</p>	<p>FLOOR CONSTRUCTION Sec. 67-51 67-52</p> <p>Floor Members:— Wood Trussed steel joists Flooring, no restrictions</p> <p>Ceilings, Basement Metal lath and plaster required in buildings over 2 stories See Occupancy Chapters 47 to 58</p>
<p>ROOF CONSTRUCTION Sec. 67-42</p> <p>Roof Members Except sheathing, are included under structural frame Sheathing, min. 2½ in., not sprinklered Sheathing, min. 1½ in., sprinklered</p>	<p>ROOF CONSTRUCTION Sec. 67-51 67-52</p> <p>Roof Members Wood Trussed steel joists Sheathing, no restrictions</p>
<p>EXTERIOR INCLOSING WALLS Sec. 67-43 to 67-45</p> <p>Walls, Same as in F.P. Const.</p> <p>Bay Windows and Similar Projections:— Same as in F.P. Const.</p> <p>Cornices:— Same as in F.P. Const.</p>	<p>EXTERIOR INCLOSING WALLS Sec. 67-54 to 67-56</p> <p>Walls, Const. 3 foot</p> <p>Masonry Reinforced concrete Bay Windows and Similar Projections:— Same as in F.P. Const.</p> <p>Cornices:— Projecting over street or alley, shall be completely incombustible</p>
<p>GROUNDINGS AND FURRING 67-47</p> <p>Same as in F.P. Const.</p>	<p>GROUNDINGS AND FURRING</p> <p>No restrictions</p>
<p>PARTITIONS Sec. 67-46</p> <p>Incombustible:— Except in Business Units where subdividing partitions may be wood, or wood and glass, when they are included in areas of 400 sq. ft. or less already inclosed in incombustible partitions. Sec. 61-69</p>	<p>PARTITIONS Sec. 67-57</p> <p>Wood Stud Permitted:— Lathed with:— Wood Metal lath Gypsum Fiber Lath, metal; and ½ in. plaster Lath, all other; and ½ in. plaster Except, wood stud bearing partitions may be used only in single dwellings</p>
<p>COMBUSTIBLE MATERIALS Sec. 67-48</p> <p>May be Used:— Same as in F.P. Const. Except:— Sleepers, Wood, prohibited Combustible lath, prohibited Wood stud partitions, prohibited</p>	<p>COMBUSTIBLE MATERIALS</p> <p>May be Used:— Except: Wood stud bearing partitions may be used only in single dwellings 67-51 Except: As specified in partitions above.</p>

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FIRE PROTECTIVE COVERING OF METAL MEMBERS

1 Hour	Sec. 68-29	2 Hour	Sec. 68-28	3 Hour	Sec. 68-27	4 Hour	Sec. 68-26
METAL COLUMNS							
Concrete Units—Solid No Fill	2"	Concrete Units—Solid Concrete Units—Hollow	2" 2"	Concrete Units—Solid. Plastered Concrete Units—Hollow. Plastered Concrete Units—Hollow. Plastered 2 Units Thick, Staggered Joints Not Plastered Clay Tile Units—Hollow Plastered Clay Tile Units—Hollow 2 Units Thick, Staggered Joints Not Plastered	2" 3" 4" 3" 4"	Concrete Units—Solid. Plastered Concrete Units—Hollow. Plastered Concrete—Cast-in-Place Clay Tile Units—Hollow Plastered Brick Gypsum Cast-in-Place	3" 4" 3" 4" 3" 3"
Clay Tile Units—Hollow No Fill	2"	Clay Tile Units—Hollow	2"		3"		
Plaster on Metal Lath. Port. cement, Lime, or Gypsum	1"	Brick. Gypsum Units—Solid No Fill Gypsum Units—Solid	2 1/4" 2" 2"		3"		3 1/2" 3"
OTHER METAL MEMBERS							
Concrete Cast-in-Place	1 1/2"	Concrete Cast-in-Place	1 1/2"	Concrete Units—Solid. Plastered Gypsum Units—Solid	2" 3" 3"	Concrete Cast-in-Place Concrete Units—Solid Plastered Concrete Units—Hollow Plastered Clay Tile Units—Hollow Plastered	2" 2" 3" 3" 3"
Plaster on Metal Lath. Port. cement, Lime, or Gypsum	1 1/2"	Gypsum Cast-in-Place	1 1/2"	Concrete Units—Hollow. 2 units Thick, Staggered Joints Not Plastered Clay Tile Units—Hollow Plastered Clay Tile Units—Hollow 2 Units Thick, Staggered Joints Not Plastered	4" 2" 4"		
LONGITUDINAL REINFORCEMENT OF CONCRETE COLUMNS, BEAMS, GIRDERS, AND TRUSSES							
Concrete	1"					Concrete	1 1/2"
REINFORCEMENT OF SLABS, JOISTS, AND WALLS							
Concrete			2"			Concrete	1"

FIRE RESISTANCE—FLOORS—ROOFS—CEILINGS—CHICAGO BUILDING CODE—1939

1 Hour	2 Hour	Sec. 68-22	3 Hour	Sec. 68-21	4 Hour	Sec. 68-20
Reinf. Conc. Slabs.....	Reinf. Conc. Slabs.....	3"	Reinf. Conc. Slabs.....	4"	Reinf. Conc. Slabs.....	6"
Reinf. Conc. Joists.....	Reinf. Conc. Joists.....	5"	Reinf. Conc. Joists.....	6"	Reinf. Conc. Joists.....	10"
With Filler Units of Hollow Tile, Concrete, Gypsum	With Filler Units of Hollow Tile, Concrete, Gypsum	Total	With Filler Units of Hollow Tile, Concrete, Gypsum	Total	With Filler Units of Hollow Tile, Concrete, Gypsum	Total
Reinf. Conc. Joists.....	Reinf. Conc. Joists.....	2½"	Reinf. Conc. Joists.....	3"		
Combined with Slab	Combined with Slab		Combined with Slab			
Reinf. Gypsum Slabs.....	Reinf. Gypsum Slabs.....	3"	Reinf. Gypsum Slabs.....	4"		
Roofs Only	Roofs Only		Roofs Only			
Reinf. Gypsum Slabs.....	Reinf. Gypsum Slabs.....	2½"	Solid Masonry Slabs.....	4"	Solid Masonry Slabs.....	6"
Roofs Only	Roofs Only		Solid Masonry Arches.....	4"	Solid Masonry Arches.....	6"
{Steel Joists and Reinf. Conc.,.....	{Steel Joists & Reinf. Conc.,.....	2½"	Hollow Tile Arches		Hollow Tile Arches	
Metal Lath & Plast. Ceiling ½"	Metal Lath & Plast. Ceiling ½"		Flat, Plastered.....	8"	Flat, Plastered.....	10"
			Segmental, Plastered.....	6"	Segmental, Plastered.....	10"
			Both With 2" Solid or Loose, Non-Combustible Fill		Both With 2" Solid or Loose, Non-Combustible Fill	
{Steel Joists & Reinf. Gyp.,.....	{Steel Joists & Reinf. Gyps.,.....	2½"				
Metal Lath & Plast. Ceiling ½"	Metal Lath & Plast. Ceiling ½"					
Roofs Only	Roofs Only					
Steel Joists {Fire-Stopped Double Wood Joists/Floor Boards ½" Metal Lath & Plast. Ceiling or ½" Plast. on Gypsum Lath Gyp. Joists with 3" Met. Lath						

REDUCTION OF SLAB THICKNESS:—For the purpose of fire resistive value only, in any floor or roof construction not required to have a protective ceiling on the underside thereof, the required slab thickness may be reduced one-half inch if a protective ceiling of metal lath and plaster is applied thereto. The total thickness of a non-combustible floor finish applied directly to the floor construction, or two-thirds of the thickness of a non-combustible floor fill where such fill is not required may be considered as part of required fireproof floor thickness. Minimum thickness cast-in-place Slabs 2½" Sec. 68-24.

FIRE RESISTANCE—WALLS AND PARTITIONS—CHICAGO BUILDING CODE—1939

	Sec. 68-17	1 HOUR	2 HOUR	3 HOUR	Sec. 68-15	4 HOUR	Sec. 68-14
Brick.....	3½"	Brick.....	3½"			Brick—Solid Wall.....	8"
Brick, Plastered Both Sides.....	2¼"	Brick—Hollow Wall.....	8"			Brick—Hollow Wall, 3 Continuous Vert. Withes or Plastered Both Sides.....	12"
Concrete—Plain.....	3"	Concrete, Reinf.....	4"	Concrete—Reinf.....	5"	Concrete—Plain.....	8"
Concrete Units—Solid.....	3"	Concrete Units—Solid.....	6"	Concrete Units—Solid.....	8"	Concrete—Plain.....	6"
Concrete Units—Hollow.....	4"	Concrete Units—Hollow.....	8"	Concrete Units—Hollow.....	12"	Concrete Units—Solid, Plastered 1 Side.....	8"
Concrete Units—Hollow, Plastered Both Sides.....	3"	Concrete Units—Hollow, Plastered Both Sides.....	4"	Concrete Units—Hollow, Plastered Both Sides.....	8"	Concrete Units—Hollow, 2 Cells in Wall.....	12"
Clay Tile—Hollow.....	3½"	Clay Tile—Hollow.....	8"	Clay Tile—Hollow, Outer Shell.....	12"	Clay Tile—Hollow.....	12"
Clay Tile—Hollow, 2 Cells in Wall, Plaster, 1 Side.....		Clay Tile—Hollow, 2 Cells in Wall, Plaster, 1 Side.....	8"	Clay Tile—Hollow, 3 Cells in Wall Width.....		Clay Tile—Hollow, 2 Units, 3 Cells in Wall Width.....	
Clay Tile—Hollow, 2 Cells in Wall, Plastered 2 Sides.....		Clay Tile—Hollow, 2 Cells in Wall, Plastered 2 Sides.....	6"				
Clay Tile—Load Bearing.....	3"	Gypsum Hollow.....	3"	Gypsum—Hollow, Single Units.....	8"	Clay Tile—Load Bearing.....	8"
Plastered Both Sides.....	3"	Plastered Both Sides.....	4"			2 Cells—Plastered Both Sides.....	
Gypsum—Solid.....	2"	Gypsum Cast-in-Place.....					
Plastered Both Sides.....	3"						
Gypsum Hollow.....	3"						
Hollow Partitions (Combustible Studding or Non- Combustible Studding With Metal Lath & ¾" Plast. With Gypsum Lath & ¾" Plast. Both Sides, Joints Cov. 3" Met. Lath)		Plastered Partitions—Solid, On Metal Studs & Metal Lath.....	2"	Faced Hollow Units.....	8"	Faced Hollow Units.....	12"
				Clay { Faced Concrete { Stone Gypsum { Concrete { Terra Cotta		Clay { Faced Concrete { Concrete Gypsum { Gypsum { Terra Cotta	

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OF THE

NEW CHICAGO

BUILDING CODE

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

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52-13	1204.01b	53-46	1305.02a	53-124	1306.03h	54-7	1402.03
52-14	1204.01c	53-47	1305.02b	53-125	1306.03i	54-8	1402.04
52-15	1204.02	53-48	1305.02c	53-126	1306.03j	54-9	1403.01
52-16	1204.03	53-49	1305.02d	53-127	1306.03k	54-10	1403.02
52-17	1205.01	53-50	1305.03	53-128	1307.01a	54-11	1403.03
52-18	1205.02	53-51	1305.04	53-129	1307.01b	54-12	1403.04
52-19	1205.03c	53-52	1305.15	53-130	1307.01c	54-13	1401.03
52-20	1205.03b	53-53	1305.16	53-131	1307.01d	54-14	1403.05
52-21	1206.01	53-54	1305.05a-1	53-132	1307.01e	54-15	1403.07
52-22	1206.02a	53-55	1305.05a-2	53-133	1307.02	54-15	1404.03
52-23	1206.02b	53-56	1305.05a-3	53-134	1307.03m	54-16	1403.08
52-24	1206.02c	53-57	1305.05a-4	53-135	1307.03a	54-17	1403.09
52-25	1206.03a	53-58	1305.05a-5	53-136	1307.03b	54-18	1403.10
52-26	1206.03b	53-59	1305.05a-6	53-137	1307.03c	54-19	1404.05
52-27	1206.03c	53-60	1305.05b	53-138	1307.03d-1	54-20	1404.06
52-28	1206.03d	53-61	1305.05c	53-139	1307.03d-2	54-21	1404.07
52-29	1206.04a	53-62	1305.05d-1	53-140	1307.03d-3	54-22	1404.01
52-30	1206.04b	53-62	1305.05d-2	53-141	1307.03e-1	54-23	1403.06b
52-31	1204.04c	53-62	1305.05d-3	53-142	1307.03e-2	54-24	1403.06a
52-32	1206.04d	53-63	1305.05d-4	53-143	1307.03f	54-25	1404.02a
52-33	1206.05a	53-63	1305.05d-5	53-144	1307.03g	54-26	1404.02a-1
52-34	1206.05b	53-64	1305.05d-6	53-145	1307.03h	54-27	1404.02a-2
52-35	1207.01	53-65	1305.07a	53-146	1307.03i	54-28	1404.02a-3
52-36	1207.02a	53-66	1305.07b-1	53-147	1307.03j-1	54-29	1404.02b
52-37	1207.02b	53-67	1305.07b-2	53-148	1307.03j-2	54-30	1404.04
52-38	1208.01a	53-68	1305.07c	53-149	1307.03j-3	54-31	1405.01
52-39	1208.01b	53-69	1305.07d	53-150	1307.03k-1	54-32	1405.02
52-40	1208.01c	53-70	1305.07e	53-151	1307.03k-2	54-33	1406.01
52-40	1208.01d	53-71	1305.07f	53-152	1307.03l-1	54-34	1406.02a

NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL
54-35	1406.02b	55-41	1506.04a	56-24	1606.04e	57-69	1708.09b
54-36	1406.03a&b	55-42	1506.04b	56-25	1606.04f	57-70	1708.02
54-37	1406.03c-1	55-43	1506.04c	56-26	1606.04g	57-71	1708.03a
54-38	1406.03c-2&3	55-44	1506.04d	56-27	1607.01	57-72	1708.03b
54-38	1406.03c-4	55-45	1506.04e	56-28	1607.02	57-73	1708.04a
54-39	1406.07	55-46	1506.05a	56-29	1607.03	57-74	1708.04b
54-40	1406.04a	55-47	1506.05b	56-30	1608.01	57-75	1708.04c
54-41	1406.04b	55-48	1506.05c	56-31	1608.02	57-76	1708.04d
54-42	1406.04c	55-49	1406.05d	56-32	1609.01	57-77	1708.05
54-43	1406.04d	55-50	1506.05e	56-33	1610.01	57-78	1709.01
54-44	1406.04e	55-51	1506.05f	56-34	1610.02	57-79	—
54-45	1406.04f	55-52	1506.05g	56-35	1610.03	57-80	1710.01
54-46	1406.04g	55-53	1506.06			57-81	1710.02
54-47	1406.05a	55-54	1506.07a	57-1	1701.03	57-82	1710.03
54-48	1406.05b	55-55	1506.07b	57-2	1701.04	57-83	1710.04
54-49	1406.05c	55-56	1506.07c	57-3	1701.05		
54-50	1406.05d	55-57	1506.07d	57-4	1701.02	58-1	1801.02
54-51	1406.05e	55-58	1506.07d-1	57-5	1701.06a	58-2	1802.01
54-52	1406.05f	55-59	1506.07d-2	57-6	1701.06b	58-3	1802.02a
54-53	1406.05g	55-60	1506.07d-3	57-7	1701.06c	58-4	1802.02b
54-54	1406.05h	55-61	1506.08a	57-8	1702.01	58-5	1802.03
54-55	1406.06a	55-62	1506.08b	57-9	1702.02	58-5	1802.04c
54-56	1406.06b	55-63	1506.08c	57-10	1703.01	58-6	1802.04a
54-57	1406.08a	55-64	1506.08d	57-11	1703.02	58-7	1802.04b
54-58	1406.08b	55-65	1506.09a	57-12	1703.03	58-8	1802.04d
54-59	1406.08c	55-66	1506.09b	57-13	1703.04	58-9	1802.05a
54-60	1406.08d	55-67	1506.09c	57-14	1703.05	58-10	1802.05b
54-61	1407.01	55-68	1506.09d	57-15	1703.06	58-11	1802.06
54-62	1407.02	55-69	1506.09e	57-16	1704.02a	58-12	1802.07
54-63	1408.01a	55-70	1506.09f	57-17	1704.02b	58-13	1802.07b-1
54-64	1408.01b	55-71	1506.10a	57-18	1704.02c	58-14	1802.07b-2
54-65	1408.01c	55-72	1506.10b	57-19	1704.02d	58-15	1802.07c
54-66	1408.02	55-73	1506.10c	57-20	1704.02e	58-16	1802.07d
54-67	1408.04	55-74	1506.11a	57-21	1704.02f	58-17	1802.08
54-68	1408.05	55-75	1506.11b	57-22	1704.01	58-18	1820.09a
54-69	1409.01	55-76	1506.13a	57-23	1704.03a	58-19	1802.09b
54-70	—	55-77	1506.13b	57-24	1704.03b	58-20	1803.01
54-71	1410.01	55-78	1506.13b	56-25	1704.04	58-21	1803.02
54-72	1410.02	55-79	1506.13c	57-26	1704.05	58-22	1803.03a
		55-80	1507.01	57-27	1704.06	58-23	1803.03b
55-1	1501.06	55-81	1507.02	57-28	1704.07	58-24	1803.03c
55-2	1501.02	55-82	1507.03	57-29	1705.01	58-25	1803.03d
55-3	1501.05	55-83	1507.04	57-30	1705.02	58-26	1803.03e
55-4	1501.07	55-84	1508.01a	57-31	1706.01a	58-27	1803.04b
55-5	1502.01	55-85	1508.01b	57-32	1706.01b	58-28	1803.04a
55-6	1502.02	55-86	1508.02	57-33	1706.02a	58-29	1803.04c-1
55-7	1503.01	55-87	1508.03	57-34	1706.02b	58-30	1803.04c-2
55-8	1503.02	55-88	1508.04	57-35	1706.02c	58-31	1803.04d
55-9	1503.03	55-89	1508.05	57-36	1706.02d	58-32	1803.04e
55-10	1501.03	55-90	1509.01	57-37	1706.03a	58-33	1803.05
55-11	1501.04	55-91	1509.02	57-38	1706.03b	58-34	1803.06a
55-12	1503.04	55-92	1509.03	57-39	1706.03c	58-35	1803.06b
55-13	1503.05	55-93	—	57-40	1706.03d	58-36	1804.01
55-14	1503.06	55-94	—	57-41	1706.03e	58-37	1804.02
55-15	1504.01	55-95	1510.01	57-42	1706.04	58-38	1804.03
55-15	1504.02a	55-96	1510.02	57-43	1706.05a	58-39	1804.04
55-16	1504.02b			57-44	1706.05b	58-40	1804.05
55-17	1504.02c	56-1	1601.03	57-45	1706.07a-1	58-41	1804.06
55-18	1504.02d	56-2	1601.04	57-46	1706.07a-2	58-42	1805.01
55-19	1504.02e	56-3	1602.01	57-47	1706.07a-3	58-43	1805.02
55-20	1504.02f	56-4	1603.01	57-48	1706.07a-4	58-44	1805.03
55-21	1504.03	56-5	1603.02	57-49	1706.07b	58-45	1805.04
55-22	1504.04	56-6	1603.03	57-50	1706.07c	58-46	1805.05
55-23	1504.05	56-7	1601.02	57-51	1706.07d	58-47	1806.01
55-24	1505.01	56-8	1604.01a	57-52	1706.09a	58-48	1806.02
55-25	1505.02	56-9	1604.01b	57-53	1706.09b	58-49	1806.03
55-26	1503.03	56-9	1604.02a	57-54	1706.09c	58-50	1806.04a
55-27	1506.01	56-10	1604.02b	57-55	1706.08	58-51	1806.04b
55-28	1506.02a	56-11	1604.02c	57-56	1706.10	58-52	1806.04c
55-29	1506.02b	56-12	1604.02d	57-57	1706.11	58-53	1806.04d
55-30	1506.02c	56-13	1604.02e	57-58	1706.06	58-54	1806.05a
55-31	1506.02d	56-14	1604.02f&g	57-59	1707.01	58-55	1806.05b
55-32	1506.02e	56-15	1604.02h	57-60	1707.02a	58-56	1806.05c
55-33	1506.12	56-16	1605.01	57-61	1707.02b	58-57	1806.05d
55-34	1506.03a	56-17	1605.02	57-62	1707.02c	58-58	1806.05e
55-35	1506.03b	56-18	1606.01	57-63	1707.02d	58-59	1807.01
55-36	1506.03c-1	56-19	1606.02	57-64	1707.02e	58-59	1807.02
55-37	1506.03c-2	56-20	1606.03	57-65	1707.03	58-60	1807.03
55-38	1506.03c-3	56-21	1606.04a	57-66	1707.04	58-61	1807.04
55-39	1506.03c-4	56-22	1606.04b	57-67	1707.05	58-62	1807.05
55-40	1506.03c-5	56-23	1606.04c	57-68	1708.01a	58-63	1808.01

NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL
58-64	1808.02a	61-43	2106.02b	64-3	2601.01c	65-4	2701.03b
58-65	1808.02b	61-44	2106.02c	64-4	2601.01d	65-5	2701.03c
58-66	1809.01	61-45	2106.02d	64-5	2601.01e	65-6	2702.05
58-67	1809.02	61-46	2106.03	64-6	2601.01f	65-7	2702.01
58-68	1809.03a	61-47	2106.04	64-7	2601.03	65-8	2702.02
58-69	1809.03b	61-48	2106.05	64-8	2601.04	65-9	2702.03
58-70	1809.04	61-49	2106.06	64-9	2601.05	65-10	2702.04a
58-71	1809.05	61-50	2106.07	64-10	2601.06	65-11	2702.04b
58-72	1809.06	61-51	2106.08	64-11	2601.07	65-12	2702.04c
58-73	1810.01	61-52	2107.01	64-12	2601.08	65-13	2702.04d
58-74	1810.02	61-53	2107.03	64-13	2601.09	65-14	2702.04e
58-75	1810.03	61-54	2107.04	64-14	2601.10	65-15	2702.04f
58-76	1810.04	61-55	2108.01	64-15	2601.02a&b	65-16	2702.04g
58-77	1810.05	61-56	2108.02	64-16	2601.02c-1	65-17	2702.04h
58-78	1810.06	61-57	2109.01	64-17	2601.02c-2	65-18	2702.04i
58-79	1811.01	61-58	2109.02	64-18	2601.02c-3	65-19	2702.04j
58-80	1811.02	61-59	2109.03	64-19	2601.02c-4	65-20	2702.04k
58-81	1811.03	61-60	2110.01a	64-20	2601.02c-5	65-21	2703.01
58-82	1812.01	61-61	2110.01b	64-21	2601.02c-6	65-22	2703.02
58-82	1812.02	61-62	2110.01c	64-22	2601.02d	65-23	2703.03
58-83	1812.04	61-63	2110.01d	64-23	2601.02e	65-24	2703.04
58-84	1812.05	61-64	2110.01e	64-24	2602.01a-1	65-25	2703.05a
58-85	1812.06	61-65	2110.01f	64-25	2602.01a-2	65-26	2703.05b
58-86	1813.01	61-66	2110.02	64-26	2602.01b-1	65-27	2703.05c
58-87	1813.02a	61-67	2110.03a	64-27	2602.01b-2	65-28	2703.05d
58-88	1813.02b	61-68	2210.03b-1	64-28	2602.01b-3	65-29	2703.05e
58-89	1813.02c	61-69	2110.03b-2	64-29	2602.01b-4		
58-90	1813.02d	61-70	2110.03b-3	64-30	2602.01c	66-1	3001.01
		61-71	2110.03c	64-31	2602.02a	66-2	3001.02
59-1	1901.01	61-72	2110.03d	64-32	2602.02b	66-3	3001.03
		61-73	2111.01a	64-33	2602.02c	66-4	3001.04
60-1	2001.01	61-74	2111.01b	64-34	2602.02d	66-5	3001.05a
60-2	2001.02a	61-75	2111.01c	64-35	2602.02e	66-6	3001.05b
60-3	2001.02b	61-76	2111.01d	64-36	2602.02f	66-7	3001.05c
60-4	2001.03	61-77	2111.01e	64-37	2602.02g	66-8	3001.05d
60-5	2002.01	61-78	2112.01	64-38	2602.02h	66-9	3001.05e
		61-79	2112.02a	64-39	2602.02i	66-10	3001.06a
61-1	2101.02a	61-80	2112.02b	64-40	2602.02j	66-11	3001.06b
61-2	2101.02b	61-81	2112.02c	64-41	2602.02k	66-12	3001.06c
61-3	2101.02c	61-82	2112.02d	64-42	2602.02l	66-13	3001.06d
61-4	2101.02d	61-83	2112.02e	64-43	2602.02m	66-14	3001.06e
61-5	2101.03	61-84	2113.01	64-44	2602.02n	66-15	3001.06f
61-6	2101.04	61-85	2113.02	64-45	2602.02o	66-16	3001.06g
61-6	2101.09a	61-86	2113.03	64-46	2602.02p	66-17	3001.06h
61-7	2101.05	61-87	2114.01a	64-47	2602.02q	66-18	3001.06i
61-8	2101.06	61-88	2114.01b	64-48	2602.02r		
61-9	2101.07	61-89	2114.02	64-49	2602.02s	67-1	3101.01
61-10	2101.08	61-90	2115.01a	64-50	2602.02t	67-2	3101.02
61-11	2101.09b	61-91	2115.01b	64-51	2602.02u	67-3	3101.03
61-12	304.03	61-92	2116.01a	64-52	2603.01	67-4	3102.01
61-12	2101.10	61-93	2116.01b	64-53	2603.02a	67-5	3102.01c
61-13	2101.12a	61-94	2116.01c	64-54	2603.02b	67-6	3102.02a
61-14	2101.12b	61-95	2117.01	64-55	2603.02c	67-7	3102.02b
61-15	2101.12c	61-96	—	64-56	2603.02d	67-8	3102.03a
61-16	2101.12d	61-97	2117.02a	64-57	2603.02e	67-9	3102.03b
61-17	2102.01	61-98	2117.02b	64-58	2604.01	67-10	3102.03c
61-18	2102.02a	61-99	2117.02c	64-59	2605.01	67-11	3102.03d
61-19	2102.02b	61-100	2117.02d	64-60	2605.02	67-12	3102.04a
61-20	2102.02c	61-101	2118.01a	64-61	2605.03a	67-13	3102.04b
61-21	2103.01a	61-102	2118.01b	64-62	2605.03b	67-14	3102.04c
61-22	2103.01b			64-63	2605.03c	67-15	3102.05a
61-23	2103.01c	62-1	2401.01	64-64	2605.03d	67-16	3102.05b
61-24	2103.01d	62-2	2401.02a	64-65	2605.03e	67-17	3102.05c
61-25	2103.02a	62-3	2401.02b	64-66	2605.03f	67-18	3102.06
61-26	2103.02b	62-4	2401.03	64-67	2605.03g	67-19	3102.07
61-27	2103.02c	62-5	2401.04	64-68	2605.03h	67-20	3102.08
61-28	2103.02d	62-6	2402.01	64-69	2605.03i	67-21	3103.01
61-29	2103.02e	62-7	2402.02a	64-70	2605.03j	67-22	3103.01
61-30	2103.02f	62-8	2402.02b	64-71	2606.01a	67-23	3103.02a
61-31	2103.02g	62-9	2402.03	64-72	2606.01b	67-24	3103.02b
61-32	2103.02h			64-73	2606.01c	67-25	3103.03a
61-33	2103.02i	63-1	2501.01	64-74	2606.01d	67-26	3103.03b
61-34	2104.01	63-2	2501.02	64-75	2606.01e	67-27	3103.03c
61-35	2104.02a	63-3	2501.03	64-76	2606.01f	67-28	3103.03d
61-36	2104.02b	63-4	2501.04	64-77	2607.01a	67-29	3103.04a
61-37	2104.02c	63-5	2501.05	64-78	2607.01b	67-30	3103.04b
61-38	2104.03	63-6	2501.06	64-79	2607.01c	67-31	3103.04c
61-39	2105.01	63-7	2501.07			67-32	3103.05a
61-40	2105.02			65-1	2701.01	67-33	3103.05b
61-41	2106.01	64-1	2601.01a	65-2	2701.02	67-34	3103.05c
61-42	2106.02a	64-2	2601.01b	65-3	2701.03a	67-35	3103.06

NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL
67-36	3103.07	69-12	3302.03a&b	71-36	3504.01j	73-40	3804.07c
67-37	3103.08	69-13	3302.04	71-37	3504.01k	73-41	3804.07d
67-38	3104.01	69-14	3302.05	71-38	3501.01	73-42	3804.08
67-39	3104.02a	69-15	3302.06	71-39	3505.02a	73-43	3805.01a
67-40	3104.02b	69-16	3302.07	71-40	3505.02b	73-44	3805.01b
67-41	3104.03	69-17	3303.01a	71-41	3505.02c	73-45	3805.01c
67-42	3104.04	69-18	3303.01b	71-42	3505.03a	73-46	3801.05d
67-43	3104.05a	69-19	3303.02	71-43	3505.03b	73-47	3805.01e
67-44	3104.05b	69-20	3303.03	71-44	3505.03c	73-48	3805.02a
67-45	3104.05c	69-21	3303.04	71-45	3505.03d	73-49	3805.02b
67-46	3104.06	69-22	3303.05	71-46	3505.03e	73-50	3805.02c
67-47	3104.07	69-23	3303.06	71-47	3505.03f	73-51	3805.03
67-48	3104.08	69-24	3303.07	71-48	3506.01	73-52	3805.04
67-49	3105.01	69-25	3304.01	71-49	3506.02a	73-53	3805.05
67-50	3105.02	69-26	3305.01	71-50	3506.02b	73-54	3805.06
67-51	3105.03a	69-27	3306.01	71-51	3506.02c	73-55	3805.07
67-52	3105.03b	69-28	3306.02a	71-52	3506.02d	73-56	3805.08
67-53	3105.03c	69-29	3306.02b	71-53	3506.02e		
67-54	3104.04a	69-30	3307.01	71-54	3506.02f	74-1	3901.01a
67-55	3105.04b	69-31	3307.02	71-55	3506.03a	74-2	3901.01b
67-56	3105.04c			71-56	3506.03b	74-3	3902.01
67-57	3105.05	70-1	3401.01a	71-57	3506.03c	74-4	3902.02
67-58	3108.01	70-2	3401.01b	71-58	3507.01	74-5	3902.03a
67-59	3108.02a	70-3	3401.01c			74-6	3902.03b
67-60	3108.02b	70-4	3401.01cc	72-1	3601.01a	74-7	3902.04
67-61	3108.03a	70-5	3401.01d	72-2	3601.01b	74-8	3902.05
67-62	3108.03b	70-6	3401.02a&b	72-3	3601.02a	74-9	3902.06
67-63	3108.03c	70-7	3401.02c	72-4	3601.02b	74-10	3902.07a
67-64	3108.03d	70-8	3401.03	72-5	3601.02c&d&e	74-11	3902.07b
67-65	3108.03e	70-9	3461.04	72-6	3601.02f	74-12	3902.07c
67-66	3108.03f	70-10	3401.05	72-7	3601.03a	74-13	3902.07d
		70-11	3401.06a	72-8	3601.03b	74-14	3902.07e
68-1	3201.01	70-12	3401.06b	72-9	3601.03c	74-15	3902.08
68-2	3201.02	70-13	3401.06c	72-10	3601.03d	74-16	3902.09a
68-3	3201.03a	70-14	3401.06d	72-11	3601.03e	74-17	3902.09b
68-4	3201.03b	70-15	3401.06e	72-12	3601.03f	74-18	3902.09c
68-5	3201.03c	70-16	3401.06f	72-13	3601.03g	74-19	3902.09d
68-6	3201.03d	70-17	3401.07a	72-14	3601.04a	74-20	3902.09e
68-7	3201.03e	70-18	3401.07b	72-15	3601.04b	74-21	3902.09f
68-8	3201.03f	70-19	3402.02	72-16	3601.04c	74-22	3902.09g-1
68-9	3201.03g	70-20	3402.03a	72-17	3601.05	74-23	3902.09g-2
68-10	3201.03h	70-21	3402.03b			74-24	3902.09h
68-11	3201.03i	70-22	3403.02	73-1	3801.01	74-25	3902.10a
68-12	3201.03j	70-23	3403.03	73-2	3802.01a	74-26	3902.10b
68-13	3202.01a	70-24	3403.04	73-3	3802.01b	74-27	3902.11a
68-14	3202.01b			73-4	3802.02a&b	74-28	3902.11b
68-15	3202.01c	71-1	3501.01	73-5	3802.02c	74-29	3902.11c
68-16	3202.01d	71-2	3501.02	73-6	3802.03a	74-30	3902.11d
68-17	3202.01e	71-3	3501.03a&b	73-7	3802.03b		
68-18	3202.01f	71-4	3502.01	73-8	3802.03c	75-1	4001.01a
68-19	3202.02a	71-5	3502.02a	73-9	3802.03d	75-2	4001.01b
68-20	3202.02b	71-6	3502.02b	73-10	3802.04	75-3	4002.01
68-21	3202.02c	71-7	3502.02c	73-11	3802.05	75-4	4002.02a
68-22	3202.02d	71-8	3502.02d	73-12	3802.06	75-5	4002.02b
68-23	3202.02e	71-9	3502.03	73-13	3802.07	75-6	4002.02c
68-24	3202.02f	71-10	3503.01	73-14	3802.08a	75-7	4002.02d
68-25	3202.03a	71-11	3503.02a	73-15	3802.08b	75-8	4002.02e
68-26	3202.03b	71-12	3503.02b-1	73-16	3802.08c	75-9	4002.02f
68-27	3202.03c	71-13	3503.02b-2	73-17	3802.02d	75-10	4002.02g
68-28	3202.03d	71-14	3503.02b-3	73-18	3802.09	75-11	4003.01
68-29	3202.03e	71-15	3503.02c	73-19	3803.01	75-12	4003.02a
68-30	3202.04a	71-16	3503.02d	73-20	3803.02a	75-13	4003.02b
68-31	3202.04b	71-17	3503.02e-1	73-21	3803.02b	75-14	4003.02c
68-32	3202.05a	71-18	3503.02e-2	73-22	3803.02c	75-15	4003.02d
68-33	3202.05b	71-19	3503.02f	73-23	3803.03a	75-16	4003.02e
68-34	3202.05c	71-20	3503.02g	73-24	3803.03b	75-17	4003.03
68-35	3202.05d	71-21	3503.02h	73-25	3804.01a	75-18	4003.04
68-36	3202.05e	71-22	3503.02i	73-26	3804.01b	75-19	4004.01
68-37	3203.01	71-23	3503.02j	73-27	3804.01c		
		71-24	3503.02k	73-28	3804.02a	76-1	4101.01a
69-1	3301.01	71-25	3503.03a	73-29	3804.02b	76-2	4101.01b
69-2	3301.02	71-26	3503.03b	73-30	3804.02c	76-3	4101.01c
69-3	3301.03a	71-27	3504.01a	73-31	3804.02d&e	76-4	4101.02a
69-4	3301.03b	71-28	3504.01b	73-32	3804.03	76-5	4101.02b
69-5	3301.03c	71-29	3504.01c	73-33	3804.04	76-6	4101.02c
69-6	3301.03d	71-30	3504.01d	73-34	3804.05a	76-7	4101.02d
69-7	3301.03e	71-31	3504.01e	73-35	3804.05b	76-8	4102.01a
69-8	3301.03f	71-32	3504.01f	73-36	3804.05c	76-9	4102.01b
69-9	3301.03g	71-33	3501.01g	73-37	3804.06	76-10	4102.02
69-10	3302.01	71-34	3504.01h	73-38	3804.07a	76-11	4102.03
69-11	3302.02	71-35	3504.01i	73-39	3804.07b	76-12	4102.04a&b

NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL
76-13	4102.05a	79-39	4403.02c	79-120	4405.01	80-12	4603.03
76-14	4102.05b	79-40	4403.03a	79-121	4405.02	80-13	4603.04
76-15	4102.05c	79-41	4403.03a-1	79-122	4405.03a	80-14	4605.01
76-16	4102.05d	79-42	4403.03a-2	79-123	4405.03b	80-15	4605.01a
76-17	4102.06a	79-43	4403.03b	79-124	4405.03c	80-16	4605.01b
76-18	4102.06b	79-44	4403.03c	79-125	4405.03d	80-17	4605.02
76-19	4102.06c	79-45	4403.03d	79-126	4405.03e	80-18	4605.03
76-20	4102.06d	79-46	4403.03e	79-127	4405.03f	80-19	4605.04
76-21	4102.06e	79-47	4403.04	79-128	4405.04a	80-20	4606.01
76-22	4102.06ee	79-48	4403.05a	79-129	4405.04b	80-21	4604.02
76-23	4102.06f	79-49	4403.05b	79-130	4405.04c	80-22	4606.03
76-24	4102.06g	79-50	4403.05c	79-131	4405.05a	80-23	4606.04
76-25	4102.06h	79-51	4403.05d	79-132	4405.05b	80-24	4607.01
76-26	4102.06i	79-52	4403.05e	79-133	4405.06	80-25	4608.01
76-27	4102.06j	79-53	4403.05f	79-134	4406.01	80-26	4609.01
76-28	4102.06k	79-54	4403.05g	79-135	4406.02	80-27	4609.02
		79-55	4403.05h	79-136	4406.03		
77-1	4201.01	79-56	4403.05i	79-137	4406.03a	81-1	4701.01a
77-2	4201.02a	79-57	4403.05j	79-138	4406.03b	81-2	201.24
77-3	4201.02b	79-58	4403.06	79-139	4406.03c	81-2	4701.01b&c
77-4	4201.03a	79-59	4403.07	79-140	4406.03d	81-3	4701.02
77-5	4201.03b	79-60	4403.08	79-141	4406.03e	81-4	4701.03
77-6	4201.03c	79-61	4403.09a	79-142	4406.04	81-5	4701.04
77-7	4203.01	79-62	4403.09b	79-143	4407.01	81-6	4702.01
77-8	4203.02	79-63	4403.09c	79-144	4407.02a	81-7	4702.02
77-9	4203.03	79-64	4403.09d	79-145	4407.02b	81-8	4702.03
77-10	4203.04	79-65	4403.09e	79-146	4407.02c	81-9	4702.04
		79-66	4403.09f	79-147	4407.02d	81-10	4702.05
78-1	4301.01a	79-67	4403.10a	79-148	4407.02e	81-11	4702.06
78-2	4301.01b	79-68	4403.10b	79-149	4407.03a	81-12	4702.07a&b
78-3	4301.01c	79-69	4403.10c	79-150	4407.03b	81-13	4702.08
78-4	4301.02a	79-70	4403.10d	79-151	4407.03c	81-14	4702.09
78-5	4301.02b	79-71	4403.10e	79-152	4407.03d	81-15	4703.01
78-6	4301.03	79-72	4403.10f	79-153	4408.01a	81-16	4703.02
78-7	4301.04	79-73	4403.10g	79-154	4408.01b	81-17	4703.03
78-8	4301.05	79-74	4403.11a	79-155	4408.01c	81-18	4703.04
78-9	4301.06a	79-75	4403.11b	79-156	4408.01d	81-19	4704.01
78-10	4301.06b	79-76	4403.11c	79-157	4408.01e	81-20	4704.02
78-11	4301.06c	79-77	4403.11d	79-158	4408.01f	81-21	4704.02
78-12	4301.06d	79-78	4403.11e	79-159	4408.01g	81-22	4704.03
78-13	4301.07a	79-79	4403.11f	79-160	4408.01h	81-23	4704.04
78-14	4301.07b	79-80	4403.12a	79-161	4408.01i	81-24	4704.05
		79-81	4403.12b	79-162	4408.04	81-25	4704.06
79-1	4401.01	79-82	4403.12c	79-163	4408.04a	81-26	4705.01
79-2	4401.02	79-83	4403.12d	79-164	4408.04b		
79-3	4410.01a	79-84	4403.13a	79-165	4408.04c	82-1	4801.01
79-4	4410.01b	79-85	4403.13b	79-166	4408.04d	82-1	201.23
79-5	4402.01	79-86	4403.13c	79-167	4408.04e	82-2	4801.02
79-6	4402.02	79-87	4403.13d	79-168	4408.05	82-3	4801.03
79-7	4402.03	79-88	4403.13e	79-169	4408.05a	82-4	4801.04
79-8	4402.04	79-89	4403.13e-1	79-170	4408.05b	82-5	4801.05
79-9	4402.05	79-90	4403.13e-2	79-171	4408.05b-1	82-6	4801.06a&b
79-10	4402.06	79-91	4403.13e-3	79-172	4408.05b-2	82-7	A4701.16
79-11	4402.07	79-92	4403.14	79-173	4408.05b-3	82-8	A4701.17
79-12	4402.08	79-93	4403.14a	79-174	4408.05c	82-9	4801.06c
79-13	4402.09	79-94	4403.14b	79-175	4408.07	82-10	4810.01
79-14	4402.10a	79-95	4403.14c	79-176	4408.07a	82-11	4812.01
79-15	4402.10b	79-96	4403.14d	79-177	4408.07b	82-12	4802.01
79-16	4402.10c	79-97	4403.15	79-178	4408.07c	82-13	4802.02
79-17	4402.10d	79-98	4403.15a	79-179	4408.07d	82-14	4802.03a&b
79-18	4402.10e	79-99	4403.15b	79-180	4408.06	82-15	4802.03c
79-19	4402.11a	79-100	4403.15c	79-181	4408.02	82-16	4802.04
79-20	4402.11b	79-101	4403.15d	79-182	4408.03	82-17	4802.05
79-21	4402.11c	79-102	4403.15e	79-183	4409.01	82-18	4802.06
79-22	4402.12a	79-103	4403.15f	79-184	4409.09a	82-19	4802.07
79-23	4402.12b	79-104	4403.15g	79-185	4409.01b	82-20	4803.01
79-24	4402.12c	79-105	4403.15h	79-186	4409.01c	82-21	4803.02
79-25	4402.13	79-106	4403.15i	79-187	4409.02	82-22	4803.03a
79-26	4402.13a	79-107	4403.15j	79-188	4410.01c	82-23	4803.03b
79-27	4402.13b	79-108	4403.15k			82-24	4803.03c
79-28	4402.13c	79-109	4403.15l	80-1	4601.01	82-25	4803.03d
79-29	4402.13d	79-110	4403.16	80-2	4601.02	82-26	4803.03e
79-30	4402.14	79-111	4403.17	80-3	4601.03	82-27	4803.03f
79-31	4402.14a	79-112	4403.17a	80-4	4604.01	82-28	4803.03g
79-32	4402.14b	79-113	4403.17b	80-5	4602.02a	82-29	4803.03h
79-33	4402.15	79-114	4403.17c	80-6	4602.02b	82-30	4803.03i
79-34	4402.16	79-115	4403.17d	80-7	4602.02c	82-31	4803.03j
79-35	4402.17	79-116	4403.17d-1	80-8	1108.26	82-32	4803.03k
79-36	4403.01	79-117	4403.17d-2	80-9	4602.03	82-33	4803.04
79-37	4403.02a	79-118	4403.18	80-10	4603.01	82-34	4803.05
79-38	4403.02b	79-119	4404.01	80-11	4603.02	82-35	4803.06a

NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL	NEW	ORIGINAL
82-36	4803.06b	82-116	4808.06	83-41	4901.41	85-36	5303.05a
82-37	4803.06c	82-117	4808.07	83-42	4901.42	85-37	5303.05b
82-38	4803.07	82-118	4808.08	83-43	4901.43	85-38	5303.05c
82-39	4803.08a	82-119	4808.09	83-44	4901.44	85-39	5303.05d
82-40	4803.08b	82-120	4808.10	83-45	4901.45	85-40	5303.05e
82-41	4803.09	48-121	4808.11	83-46	4901.46	85-41	5303.05f
82-42	4803.10	48-122	4808.12	83-47	4901.47	85-41	5303.05g
82-43	4804.01a	48-123	4808.13	83-48	4901.49	85-42	5303.05h
82-44	4804.01b	48-124	4808.14	83-49	4901.50	85-43	5303.06a
82-45	4804.01c	48-125	4808.15	83-50	4901.51	85-44	5303.06b
82-46	4804.02	48-126	4808.16	83-51	4901.52	85-45	5303.06b-1
82-47	4804.03	48-127	4808.17	83-52	4901.53	85-46	5303.06c
82-48	4804.04a	48-128	4808.18	83-53	4901.54	85-47	5303.06c
82-49	4804.04b	48-129	4809.01	83-54	4901.55	85-48	5303.06d
82-50	4804.05	48-130	4809.02	83-55	4901.56	85-49	5303.06e
82-51	4804.06a	48-131	4809.03	83-56	4901.57	85-50	5303.06e
82-52	4804.06b	48-132	4809.04	83-57	4901.58	85-51	5304.01
82-53	4804.06c	48-133	4809.05	83-58	4901.59a	85-52	5304.02
82-54	4804.06d	48-134	4809.06	83-58	4901.59b&c	85-53	5304.03
82-55	4804.07a	48-135	4809.07	83-59	4901.59d	85-54	5304.04
82-56	4804.07b	48-136	4809.08	83-60	4901.60	85-55	5304.04
82-57	4804.07c	48-137	4809.09	83-61	4901.61	85-56	5304.04
82-58	4804.08	82-138	4809.10	83-62	4902.62	85-57	5304.04
82-59	4804.09	82-139	4809.11	83-63	4901.63	85-58	5304.05
82-60	4804.10	82-140	4809.12	83-64	4901.64	85-59	5304.06a
82-61	4805.01a	82-141	4809.13	83-65	4901.65	85-60	5304.06a
82-62	4805.01b	82-142	4809.14	83-66	4901.66	85-61	5304.06b
82-63	4805.02a	82-143	4809.15a	83-67	4901.67	85-62	5304.06c
82-64	4805.02b	82-144	4809.15b	83-68	4901.68	85-63	5304.06d
82-65	4805.02c	82-145	4809.15c	83-69	4901.69	85-64	5304.06e
82-66	4805.03	82-146	4809.15d	83-70	4901.70	85-65	5304.06f
82-67	4805.04	82-147	4809.15e			85-66	5304.06g
82-68	4805.05	82-148	4811.01a	84-1	5101.01a	85-67	5304.06h
82-69	4806.01	82-149	4811.01b	84-1	5201.01	85-68	5304.06i
82-70	4806.02	82-150	4811.01c	84-2	5201.02	85-69	5304.06j
82-71	4806.03	82-151	4811.01d	84-3	5202.01	85-70	5304.06k
82-72	4806.04a	82-152	4811.01e	84-4	5203.01	85-71	5102.01b
82-73	4806.04b	82-153	4802.08	84-5	5102.01	85-72	5305.01a
82-74	4806.05			84-5	5102.01a	85-73	5305.01b
82-75	4806.06	83-1	4901.01	84-6	5102.02a	85-74	5102.04
82-76	4806.07	83-2	4901.02	84-7	5102.02b	85-75	5101.04
82-77	4806.08a	83-3	4901.03	84-8	5101.04	85-75	5102.04a
82-78	4806.08b	83-4	4901.04	84-9	5102.05	85-76	5102.04
82-79	4806.09	83-5	4901.05	84-10	5102.03	85-77	5102.05
82-80	4806.10	83-6	4901.06			85-78	5102.03
82-81	4806.11	83-7	4901.07	85-1	5101.01a	86-1	201.22
82-82	4806.12	83-8	4901.08	85-2	5101.01	89-1	5401.01
82-83	4806.13	83-9	4901.09	85-3	5306.01	89-1	5402.01
82-84	4806.14	83-10	4901.10	85-4	5303.07	89-2	5401.02
82-85	4806.15	83-11	4901.11	85-5	5305.02	89-3	5402.02
82-86	4806.16	83-12	4901.11a	85-6	5305.03	89-4	5402.03
82-87	4806.17	83-13	4901.12	85-7	5302.01		
82-88	4806.18	83-14	4901.13	85-8	5302.02		
82-89	4806.19	83-15	4901.14	85-9	5303.01a		
82-90	4806.20	83-16	4901.15	85-10	5303.01b		
82-91	4806.21	83-17	4901.16	85-11	5303.01c	90-27	1103.10a
82-92	4806.22	83-18	4901.17	85-12	5303.01d		
82-93	4806.23	83-19	4901.19	85-13	5303.01e	92-4	404.15
82-94	4806.24	83-20	4901.20	85-14	5303.01f		
82-95	4807.01	83-21	4901.21	85-15	5303.02a	121-8	1103.04b
82-96	4807.02	83-22	4901.18	85-16	5303.02b		
82-97	4807.03	83-22	4901.22	85-17	5303.02c	125-16	1103.12b
82-98	4807.04	83-23	4901.23	85-18	5303.02d		
82-99	4807.05	83-24	4901.24	85-19	5303.02e	129-30	1108.19
82-100	4807.06	83-25	4901.25	85-20	5303.02f	129-31	401.18a
82-101	4807.07	83-26	4901.26	85-21	5303.02f	129-32	401.18b
82-102	4807.08	83-27	4901.27	85-22	5303.03	129-33	403.07
82-103	4807.09	83-28	4901.28	85-23	5303.03	129-34	403.07
82-104	4807.10	83-29	4901.29	85-24	5303.03	129-35	403.07
82-105	4807.11	83-30	4901.30	85-25	5303.03	129-36	403.07
82-106	4807.12	83-31	4901.31	85-26	5303.03	129-61	1103.15a
82-107	4807.13	83-32	4901.32	85-27	5303.04	129-62	1108.17a
82-108	4807.14	83-33	4901.33	85-28	5303.04	129-62	1103.15a
82-109	4807.15	83-34	4901.34	85-29	5303.04	129-65	1103.14a
82-110	4807.16	83-35	4901.35	85-30	5303.04	129-69	1103.03b
82-111	4808.01	83-36	4901.36	85-31	5303.04	129-71	1103.09a
82-112	4808.02	83-37	4901.37	85-32	5303.04		
82-113	4808.03	83-38	4901.38	85-33	5303.04		
82-114	4808.04	83-39	4901.39	85-34	5303.04	175-1	5103.01
82-115	4808.05	83-40	4901.40	85-35	5303.04	175-2	5103.01

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