

*Grand Remmenthal
CPT Specifications*

	AVERAGE	[*] PROPOSED	PROPOSED	PROPOSED	PROPOSED
Analytical Date:	267175/76	FROM	FROM AVG	FROM AVG	FROM AVG
Design Date:	TECH	AVERAGE	267175/76	267175/76	267175/76
QRS Number:	SERVICE	267175/76	TSPD - .3	VENT + 10%	VENT + 10%
Brand Name:	ZIRCON LTS				TSPD - .3
		C	C	C	C
Cigarette Section:					
Length (mm):	98.50	98.5	98.5	98.5	98.5
Circumference (mm):	23.04	23.10	23.10	23.10	23.10
Sealed CPD (in):	7.45	7.26	7.16	7.36	7.16
Open CPD (in):	5.21	4.90	4.90	4.93	4.87
Density (mg/cc):	246.0	245.0	245.0	245.0	245.0
Entered Density:	246.00	245.0	245.0	245.0	245.0
Cigarette Paper:					
Name:	E-609	E-609	E-609	E-609	E-609
Permeability (C):	26.00	29.0	29.0	29.0	29.0
Citrate (%):	0.90	0.85	0.85	0.95	0.85
Tobacco Section:					
Length (mm):	68.5	68.5	68.5	68.5	68.5
TSPD (in):	3.55	3.46	3.16	3.46	3.16
Tobacco Weight (mg):	712	713	713	713	713
Entered Tob Weight:					
Filter Section:					
Low Item:	3.6/34	3.6/34	3.6/34	3.6/34	3.6/34
Length (mm):	30	30	30	30	30
Circumference (mm):	22.74	22.80	22.80	22.80	22.80
Filter PD (in):	3.90	3.80	4.00	3.90	4.00
Plug Wrap Perm (C):	6500	6500	6500	6500	6500
Tipping Section:					
Length (mm):	36	36	36	36	36
Type of Perfs:	NLP	NLP	NLP	NLP	NLP
Number of Lines:	2	2	2	2	2
Holes/In/Line:	46	54	56	46	48
Permeability (C):	2024	2350	2400	2050	2100
Patch (mm):	26	26	26	26	26
Distance to ME (mm):	14	14 ¹⁵	14	14	14
NRED (%):	38.20	38.20	39.39	38.99	39.51
Ventilation (%):	37.85	40.95	40.60	41.72	41.16
Tar (mg/cig):	10.43	9.91	9.76	9.68	9.67
Nicotine (mg/cig):	0.74	0.70	0.69	0.69	0.69
CO (mg/cig):	9.75	9.09	9.15	8.96	9.06
Puffs/cig:	9.25	9.32	9.32	9.34	9.33
Tar/Puff (mg):	1.13	1.06	1.05	1.04	1.04
TSTAR @ 0 Vent:	23.20	22.93	22.93	22.93	22.93
Reading Coeff:	2.71509	2.71509	2.71509	2.71509	2.71509
RS Factor (Circle):	0.00684	0.00680	0.00675	0.00689	0.00682
MU Value (Conv):	0.1033	0.1033	0.1033	0.1033	0.1033

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August 28, 1990

NON-MENTHOL ZIRCON

	Sample 267168 Reference	<-- Projected Tar Deliveries -->		
		3200 C Tipping	3550 C Tipping	3800 C Tipping
Type (A)CTRON/(C)ony:				
Cigarette:				
Length (mm):	98.5	98.5	98.5	98.5
Circumference (mm):	23.1	23.1	23.1	23.1
Sealed CPD (in):	7.1	6.9	6.9	6.9
Open CPD (in):	4.9	4.8	4.7	4.5
Density (mg/cc):	247	244	244	244
Paper:				
Name:	E-609	E-609	E-609	E-609
Permeability (C):	25.0	25.0	25.0	25.0
Citrate (%):	0.70	0.85	0.85	0.85
Tobacco Section:				
Length (mm):	68.5	68.5	68.5	68.5
TSPD (in):	3.5	3.4	3.4	3.4
Tob Weight (mg):	720	710	710	710
Filter Section:				
Tow Item:	5.0/35	5.0/35	5.0/35	5.0/35
Length (mm):	30	30	30	30
Circumference (mm):	22.8	22.8	22.8	22.8
Filter PD (in):	3.60	3.50	3.50	3.50
Plug Wrap Perm (C):	6500	6500	6500	6500
Tipping:				
Length (mm):	36	36	36	36
Type of Perfs:	MMP	MMP	MMP	MMP
Number of Lines:	6	6	6	6
Holes/In/Line:	29	29	29	29
Permeability (C):	2750	3200	3550	3900
Distance to ME (mm):	15	15	15	15
NRED (%):	36.8	35.8	36.2	36.7
Ventilation (%):	38.2	36.3	38.8	41.0
Tar (mg/cig):	10.1	10.3	9.9	9.6
Nicotine (mg/cig):	0.86	0.87	0.85	0.83
CO (mg/cig):	9.0	9.3	8.9	8.5
Puffs/cig:	8.8	8.5	8.6	8.6
Tar/Puff (mg):	1.15	1.21	1.16	1.11
TS Tar (mg):	22.1	21.7	21.7	21.7

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(*Butter have higher filter pressure drop lower vent than*) *about*
Lower filter pressure drop higher vent

August 28, 1990

ZIRCON MENTHOL

	Average of Samples Reference	(<-- Projected Tar Deliveries -->)		
		3800 C Tipping	4300 C Tipping	4700 C Tipping
Cigarette:				
Length (mm):	98.5	98.5	98.5	98.5
Circumference (mm):	23.1	23.1	23.1	23.1
Sealed CPD (in):	7.2	8.0	8.0	8.0
Open CPD (in):	4.7	5.2	5.0	4.9
Density (mg/cc):	244	241	241	241
Paper:				
Name:	E-556	E-556	E-556	E-556
Permeability (C):	25.0	25.0	25.0	25.0
Citrate (%):	0.53	0.53	0.53	0.53
Tobacco Section:				
Length (mm):	68.5	68.5	68.5	68.5
TSPD (in):	3.2	3.1	3.1	3.1
Tob Weight (mg):	710	701	701	701
Filter Section:				
Tow Item:	5.0/35	5.0/35	5.0/35	5.0/35
Length (mm):	30	30	30	30
Circumference (mm):	22.8	22.8	22.8	22.8
Filter PD (in):	4.00	4.90	4.90	4.90
Plug Wrap Perm (C):	6500	6500	6500	6500
Tipping:				
Length (mm):	36	36	36	36
Type of Perfs:	MMP	MMP	MMP	MMP
Number of Lines:	6	6	6	6
Holes/In/Line:	29	30	30	30
Permeability (C):	2500	3800	4300	4700
Distance to ME (mm):	15	15	15	15
NRED (%):	39.2	44.5	45.2	45.7
Ventilation (%):	44.1	44.7	47.8	50.0
Tar (mg/cig):	10.0	8.9	8.4	8.0
Nicotine (mg/cig):	0.93	0.83	0.79	0.77
CO (mg/cig):	7.9	7.7	7.2	6.8
Puffs/cig:	9.3	9.2	9.3	9.3
Tar/Puff (mg):	1.07	0.97	0.90	0.86
TS Tar (mg):	24.5	24.2	24.2	24.2

ZIRCON SSF

using tobacco target filter pressure drop.

8.5mg tar
4400 C

4.90 filter
5000 C
50% Vent

1.5mg
5600 C

4.50 filter
5000 C
49% Vent

Krim 4000 C
42% Vent

assuming target filter pressure drop

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	<-- ZIRCON LTS NONMENTHOL <-->			<-- ZIRCON LTS NONMENTHOL <-->			<-- ZIRCON LTS NONMENTHOL <-->		
	TECH			TECH			TECH		
	SERVICES	MACON		SERVICES	MACON		SERVICES	MACON	
	XLF-1050	XLF-1050		XLF-1050	XLF-1050		XLF-1050A	XLF-1050A	
	267175	267175		267176	267176		267178	267178	
Cigarette:									
Length (mm):	98.5	98.5	0	98.5	98.5	0	98.5	98.5	
Circumference (mm):	23.03	23.00	-0.03	23.05	23.04	-0.01	22.97	23.00	0.03
Sealed CPD (in):	7.40	7.61	0.21	7.40	7.70	0.30	7.50	7.45	-0.05
Open CPD (in):	5.03	5.06	0.02	5.33	5.45	0.11	4.53	4.47	-0.07
Density (mg/cc):	244.0	250.2	6.17	248.0	249.3	1.30	247.0	247.6	0.61
Entered Density:	244.0	250.2	6.17	248.0	249.3	1.30	247.0	247.6	0.61
Paper:									
Name:	E-609	E-609		E-609	E-609		E-609	E-609	
Permeability (C):	26.0	26.0	0.00	26.0	26.0	0.00	25.0	25.0	
Citrate (%):	0.88	0.85	-0.03	0.92	0.85	-0.07	0.86	0.85	-0.01
Tobacco Section:									
Length (mm):	68.5	68.5	0.00	68.5	68.5	0.00	68.5	68.5	
YSPD (in):	3.60	4.11	0.51	3.60	4.20	0.60	3.80	3.95	0.15
Tob Weight (mg):	705	721	15.96	718	721	3.15	710	714	3.60
Entered Tob Weight:			0.00	721	721	0.00	714	714	
Filter Section:									
Top Item:	5.0/35	5.0/35		5.0/35	5.0/35		5.0/35	5.0/35	
Length (mm):	30	30	0.00	30	30	0.00	30	30	
Circumference (mm):	22.73	22.70	-0.03	22.75	22.74	-0.01	22.67	22.70	0.03
Filter PD (in):	3.80	3.46	-0.34	3.80	3.46	-0.34	3.70	3.46	-0.24
Plug Wrap Perm (C):	6500	6500	0.00	6500	6500	0.00	6500	6500	
Tipping:									
Length (mm):	36	36		36	36		36	36	
Type of Perfs:	MLP	MLP		MLP	MLP		MMP	MMP	
Number of Lines:	2	2		2	2		6	6	
Holes/In/Lines:	46	46		46	46		32	32	
Permeability (C):	2450	2500	50.00	1597	1600	3.00	3124	3200	76.00
Patch:	25.5	25.5	0.00	25.5	25.5	0.00	25.5	25.5	
Distance to ME (mm):	14	14	0.00	14	14	0.00	13	13	
NRED (%):	38.40			38.00			37.76		
Ventilation (%):	40.00	40.64	0.64	34.90	35.27	0.37	47.80	47.78	-0.02
Tar (mg/cig):	9.90			11.00			9.19		
Nicotine (mg/cig):	0.71			0.76			0.69		
CO (mg/cig):	9.10			10.40			7.95		
Puffs/cig:	9.20			9.30			9.44		
Tar/Puff (mg):	1.08			1.18			0.97		
TS Tar (mg):	22.66			23.50			23.34		
Spreading Coeff:	2.45865	2.33498	-0.12367	3.02708	2.85217	-0.17491	2.54252	2.45739	-0.09
RB Factor (Circle):	0.00660	0.00620		0.00694	0.00647		0.00540	0.00522	
MU Value (Conv):	0.1051	0.0982		0.1075	0.1029		0.0975	0.0907	
MU Value (ACTRON):									

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(-- ZIRCON L15 NONNENTHOL --)

MACON SERVICES

26/1/79 26/1/79 26/1/79

SECRET

DIFFERENCE (MM): 22.98 22.96 -0.02 22.99 23.00 0.01

Open CFB (in): 5.12 5.10 -0.02 5.42 5.41 -0.01

Entered density:	248.0	249.2	1.17	248.0	250.0	2.03
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Page: 10

Permeability (C):	27.0	27.0	25.0	25.0
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Length (mm)	68.5	68.5	68.5	68.5	68.5
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Top Weight (mg):	714	716	2.11	715	721	6.49

Tom Iken	5.0/35	5.0/35	5.0/35	5.0/35	5.0/35
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Circumference (mm):	22.68	22.66	-0.02	22.69	22.70	0.01
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6500 6500 6500 6500 : Plug Wrap Perm (C):

11-00000

Type of Parts:	MLP	MLP	MLP	MLP	MLP
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Hojes/In/Lines	46	46	46	46

Patch:	25.5	25.5	25.5	25.5	25.5
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ventilation (%):	39.40	40.30	0.90	33.70	35.30	1.60
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10.47	11.20	10.47	11.20
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09'6 10'40 : (b/c/d) 03

23.99 23.10

Spreading Coeff:	2.33444	2.29391	-0.04	2.84913	2.89006	0.04
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Value (Conv):	0.1082	0.0986	0.1004	0.1030
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	(<----- ZIRCON MENTHOL ----->)			(<----- ZIRCON MENTHOL ----->)			(<----- ZIRCON MENTHOL ----->)		
	TECH	MACON		TECH	MACON		TECH	MACON	
	SERVICES	MACON		SERVICES	MACON		SERVICES	MACON	
	XLF-B63Y	XLF-B63Y		XLF-B63Y	XLF-B63Y		XLF-B63Y	XLF-B63Y	
	267183	267183		267181	267181		267182	267182	
	C	C							
Cigarette:		XLF-B63Y							
Length (mm):	98.5	98.5		98.5	98.5		98.5	98.5	
Circumference (mm):	23.08	23.07	-0.01	23.0	23.0	0.0	23.06	23.08	0.02
Sealed CPD (in):	9.00	8.97	-0.03	9.2	9.2	-0.0	9.00	8.99	-0.01
Open CPD (in):	6.47	6.28	-0.19	5.7	5.7	0.0	6.11	6.00	-0.11
Density (mg/cc):	240.0	242.3	2.31	242	246	4	242.0	241.8	-0.24
Entered Density:	240	242.3	2.31	242	246	4	242.0	241.8	-0.24
Paper:									
Name:	E-556	E-556		E-556	E-556		E-556	E-556	
Permeability (C):	40.0	40.0		27.0	27.0		25.0	25.0	
Citrate (I):	0.5	0.53	0.03	0.48	0.53	0.05	0.52	0.53	0.01
Tobacco Section:									
Length (mm):	68.5	68.5		68.5	68.5		68.5	68.5	
TSPD (in):	3.30	4.05	0.75	3.7	4.3	0.6	3.70	4.07	0.37
Tob Weight (mg):	697	703	6.11	696	710	14	701	702	0.52
Entered Tob Weight:	703	703		710	710	710	702	702	
Filter Section:									
Tow Item:	3.6/34	3.6/34		3.6/34	3.6/34		3.6/34	3.6/34	
Length (mm):	30	30		30	30		30	30	
Circumference (mm):	22.78	22.77	-0.01	22.7	22.7	0.0	22.76	22.78	0.02
Filter PD (in):	5.7	4.92	-0.78	5.50	4.92	-0.58	5.30	4.92	-0.38
Plug Wrap Para (C):	6500	6500		6500	6500		6500	6500	
Tipping:									
Length (mm):	36	36		36	36		36	36	
Type of Perfs:	MLP	MLP		MMP	MMP		MLP	MLP	
Number of Lines:	2	2		6	6		2	2	
Holes/In/Line:	46	46		32	32		46	46	
Permeability (C):	2000	2000		3045	3200 ✓	155	2398	2500	102.00
Patch:	25.5	25.5		26	26		25.5	25.5	
Distance to ME (mm):	14	14		13.0	13.0		14	14	
NREO (I):	48.84			50.6			49.65		
Ventilation (I):	37.90	38.28	0.38	49.2	47.2	-2.0	42.10	42.50	0.40
Tar (mg/cig):	9.14			7.9			8.63		
Nicotine (mg/cig):	0.74			0.63			0.70		
CO (mg/cig):	9.67			8.2			9.15		
Puffs/cig:	9.16			9.5			9.28		
Tar/Puff (mg):	1.00			0.83			0.93		
TS Tar (mg):	24.55			25.83			24.89		
Spreading Coeff:	2.43480	2.35287	-0.08	2.38653	2.02568	-0.36	2.35486	2.23424	-0.12
RB Factor (Circle):	0.00588	0.00561		0.00489	0.00389		0.00615	0.00581	
MU Value (Conv):	0.1038	0.0714		0.1064	0.0650		0.1121	0.0685	
MU Value (ACTROW):									

3200 8-47%

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MISTY SLIM LIGHTS 100 BOX

	NONMENTHOL		MENTHOL	
	LOUISIANA 7/89 MFG	CALIFORNIA 7/89 MFG	LOUISIANA 7/89 MFG	CALIFORNIA 7/89 MFG
RESSURE DROP (inches)				
Cigarette	4.5	5.1	5.0	5.0
Sealed Cigarette	7.0	8.2	8.0	8.3
Tobacco Section	3.6	4.2	4.5	4.5
Filter	3.4	4.0	3.5	3.8
NGTH (mm)				
Cigarette	99.0	99.0	98.9	99.0
Filter	31.9	32.0	31.9	32.0
Tipping	36.0	36.0	36.0	36.0
Circumference	22.96	22.83	22.90	23.07
HEIGHT (mm)				
Cigarette	1016	1020	1018	1036
M.F.W.	280	286	281	280
Tobacco	735	734	737	736
Density (mg/cc)	261	264	264	266
ILTER (%)				
Triacetin	8.3	7.7	8.7	9.6
Ventilation	44.0	44.5	43.5	44.7
PAPER				
Porosity (CORESTA)	43	40	46	45
Citrate (%)	0.81	0.82	0.75	0.83
LEND (%) included)				
Lamina	68.1	66.6	61.5	62.5
Recon. Tobacco	21.2	21.7	28.1	24.6
Stem	0.0	0.0	0.0	0.0
Puffed	10.7	11.7	12.4	12.9
TOBACCO ANALYSES (%)				
Alkaloids	2.33	2.25	2.32	2.19
Total Sugars	12.6	12.0	12.5	11.9
Reducing Sugars	10.7	10.2	10.2	9.7
Moisture (Cond.)	14.9	14.3	14.8	14.6
Moisture (Pkg.)	13.9	14.1	13.4	13.4
Menthol			0.65	0.63
Propylene Glycol	0.8	0.8	0.9	0.9
Glycerin	1.5	1.6	1.8	1.7
Nitrate	1.0	1.0	1.0	1.0
Chlorogenic Acid	0.47	0.48	0.45	0.45
Scopoletin	0.02	0.02	0.02	0.02
Rutin	0.39	0.40	0.39	0.39
Fructose	3.08	3.12	2.86	2.84
Glucose	2.53	2.41	2.00	2.09
Sucrose	1.24	1.15	0.97	0.98
Ammonia	0.24	0.24	0.25	0.25
Licorice	0.51	0.50	0.37	0.36
Cocoa	0.74	0.57	0.45	0.48
Phosphates	1.08	1.09	1.07	1.05
Chlorides	0.54	0.56	0.55	0.53
SMOKING (/cig)				
Tar (mg)	8.3	7.8	8.4	7.9
Nicotine (mg)	0.79	0.74	0.75	0.72
Filter Efficiency (%)	42.3	43.0	42.4	42.5
Puffs	9.8	9.7	9.4	9.8
CO (mg)	7.6	7.6	7.8	7.6
Smoke Menthol				
Avg. Puff			9.5	9.9
Menthol/puff (mg)			0.04	0.04
Menthol/cig (mg)			0.37	0.37
PHYSICAL PROPERTIES				
Hardness (mm/cig)	2.06	1.95	1.99	1.72
Ends Stability (mg/cig)	4	4	3	2
Coal Retention (%)	99	99	100	100
Borg. Fill Value (cc/g)	4.17	4.23	4.27	4.35
Borg. Fill Value Moisture (%)	15.1	15.0	15.4	15.2
Pack Seals (1 > or = 50)	100	100	80	0
DESCRIPTION:				
ing Color	WHITE	WHITE	WHITE	WHITE
oration Type	MIL	MIL	MIL	MIL
Rows of Perforations	2	2	2	2
Distance From "M" End (mm)	11	12	13	12
Plug Wrap Type	POR	POR	POR	POR
Blue Pattern	TOTAL	TOTAL	TOTAL	TOTAL
Filter Material	CA	CA	CA	CA

216
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