



SIGN HANDBOOK

International Standard Non E.U. (I.s.c. 1,2)

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Pure Neon filled tubes

LOADCHART: Approximate number of feet and meters of NEON filled tubes operated

Diameter (mm)	25		22		20		18		15		12		10	
	feet	m	feet	m	feet	m	feet	m	feet	m	feet	m	feet	m
15000	102	31	85	25,8	78	23,7	72	21,9	60	18,2	45	13,7	36	10,9
12000	79	24	67	20,4	61	18,5	55	16,7	45	13,7	35	10,6	29	8,8
10000	73	22,2	62	18,8	55	16,7	48	14,6	39	11,9	31	9,4	25	7,6
9000	67	20,4	57	17,3	48	14,6	40	12,2	33	10	26	7,9	21	6,4
7500	51	15,5	41	12,5	34	10,3	28	8,5	24	7,3	20	6,1	17	5,2
6000	40	12,2	34	10,3	28	8,5	23	7	19	5,8	16	4,9	13	4
5000	33	10	28	8,5	23	7	19	5,8	17	5,2	12	3,6	10	3
4000	27	8,2	23	7	19	5,8	16	4,9	13	4	10	3	8	2,4
3000	17	5,2	14	4,3	12	3,6	11	3,3	10	3	8	2,4	6	1,8
2000									7	2,1	6	1,8	4	1,2

Deduct one feet (30,5 cm) per each couple of electrodes. Revised based on average grades of tubing, correct gas pressure, high voltage cable (GTO I5) less than 25 feet per installation and primary voltage supply at rated voltage. Current must be within 80%-100% of rated current indicated on the label. The above chart is a guideline. More accurate data can only be obtained if you load by a milli Amps-meter or a Siet Valitest. We suggest, whenever possible, you choose the neon transformer designed and recommended for your specific length of tube. This will allow you to use the lowest priced and smallest neon transformer applicable.



Argon mixture - filled tubes

LOADCHART: Approximate number of feet and meters of mercury filled tubes operated

Diameter (mm)	25		22		20		18		15		12		10	
	feet	m	feet	m	feet	m	feet	m	feet	m	feet	m	feet	m
15000	120	36,5	100	30,4	90	27,4	80	24,3	72	21,9	54	16,4	44	13,4
12000	95	28,9	79	24	70	21,3	62	18,8	55	16,7	42	12,8	35	10,6
10500	88	26,8	73	22,2	63	19,2	54	16,4	48	14,6	37	11,2	30	9,1
9000	80	24,3	67	20,4	55	16,7	45	13,7	40	12,2	31	9,4	25	7,6
7500	61	18,5	48	14,6	39	11,9	35	10,6	31	9,4	25	7,6	20	6,1
6000	48	14,6	40	12,2	32	9,7	28	8,5	24	7,3	19	5,8	16	4,9
5000	40	12,2	33	10	27	8,2	23	7	20	6,1	15	4,6	12	3,6
4000	32	9,7	27	8,2	22	6,7	19	5,8	16	4,9	12	3,6	9	2,7
3000	22	6,7	18	5,5	16	4,9	14	4,3	12	3,6	9	2,7	7	2,1
2000									9	2,7	7	2,1	5	1,5

Deduct one feet (30,5 cm) per each couple of electrodes. Revised based on average grades of tubing, correct gas pressure, high voltage cable (GTO 15) less than 25 feet per installation and primary voltage supply at rated voltage. Current must be within 80%-100% of rated current indicated on the label. The above chart is a guideline. More accurate data can only be obtained if you load by a milli Amps-meter or a Siet Valitest. We suggest, whenever possible, you choose the neon transformer designed and recommended for your specific length of tube. This will allow you to use the lowest priced and smallest neon transformer applicable.



Useful suggestions

Recommended cable:

Diameter	Voltage
mm	kV
4,8	5
6,3	10
8	15

Silicone cables accordingly to UL 814:

Type	Diameter		Voltage	Section
	inch	mm		
GTO 5	1/4	6,5	5	18
GTO 10	9/32	7,2	10	18
GTO 15	10/32	8,5	15	14

Cable length:

Recommended limiting values for single wiring length												
Voltage to earth	1 kV		2 kV		3 kV		4 kV		5 kV		7,5 kV	
Type of gas in the tube	Hg	Ne	Hg	Ne	Hg	Ne	Hg	Ne	Hg	Ne	Hg	Ne
Not shielded Cables	40	20	30	15	20	10	15	7	10	5	7	4
Shielded Cables	24	12	16	8	12	6	9	4	6	3	4	3

Example: transformer 9000/30 secondary voltage 4,5 -E - 4,5 refer to column 5kV.

Relationship between lumen output and rating current per meter:

Triphos White °K	Coordinates C.I.E.		Lumen per meter							
			12 mm		15 mm		20 mm		25 mm	
	x	y	30 mA	60 mA	30 mA	60 mA	60 mA	120 mA	60 mA	120 mA
2800	448	415	820	689	1311	1049	1803	820	1574	
3000	438	413	852	721	1344	1180	2295	852	1508	
3500	395	416	820	689	1311	918	1836	656	1344	
4100	376	366	787	656	1246	967	1770	656	1311	
6500	319	353	787	656	1279	1115	2098	820	1541	



Recommended filling pressures for cold cathode tubes.

Tube diameter Ø	Blue Gas pressure		Neon 100% pressure	
	mm	torr	mbar	torr
8	16	21,4	18	24,0
9	14	18,7	16	21,4
10	12	16,0	14	18,7
11	11	14,7	13	17,4
12	10	13,4	12	16,0
13	9	12,0	11	14,7
15	8	10,7	10	13,4
18	7	9,3	9	12,0
20	6	8,0	8	10,7
22	6	8,0	8	10,7
25	5	6,7	7	9,3

Recommended mercury quantity:



UNITS SHORTER THAN
1,5 METERS Ø 1,9 mm
Max 50 mg

UNITS LONGER THAN
1,5 METERS Ø 2,4 mm
Max 100 mg



Siet Bombarding System



Siet Neon Station

Vacuum and pumping process are strictly related to the quality of the neon tubes.

WARNING:
bombarding current shall be 10 times greater than the rated current.

INSTRUCTION FOR LOAD CHART USE.

The load chart is expressed in electric meters.
To calculate electric meters add to linear meters 0,5 m
for each electrodes couple.
Otherwise use the Conversion chart in electric meters.

Recommended operating current for neon transformers:

Plate rating mA	Voltage		Short Circuit current mA
	Min	Max	
30	20	25 mA	30
45	30	35 mA	45
60	40	50 mA	60
90	60	75 mA	90
120	85	100 mA	120
200	165	180 mA	210



The reported chart
are guidelines.
More accurate data
can only be obtained
with a milli
Amps-meter or a
Siet Valitest.

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