CALCULATION OF AIR DENSITY DUE TO ALTITUDE

Diagram in the norm case of the air specific gravity (1.01325 at 20°C) is shown in the chart. The following equation is valid for the stratum of isometric air.

$$\rho_A = \rho_{AN} \times e^{-\frac{g \times Z}{R \times T}}$$

ρ_A = Specific gravity of the air by altitude

ρ_{AN} = Specific gravity of norm air (1.204 kg/m^3)

e = 2.7182

g = Acceleration of gravity (9.81 m/s^2)

Z = Altitude (m)

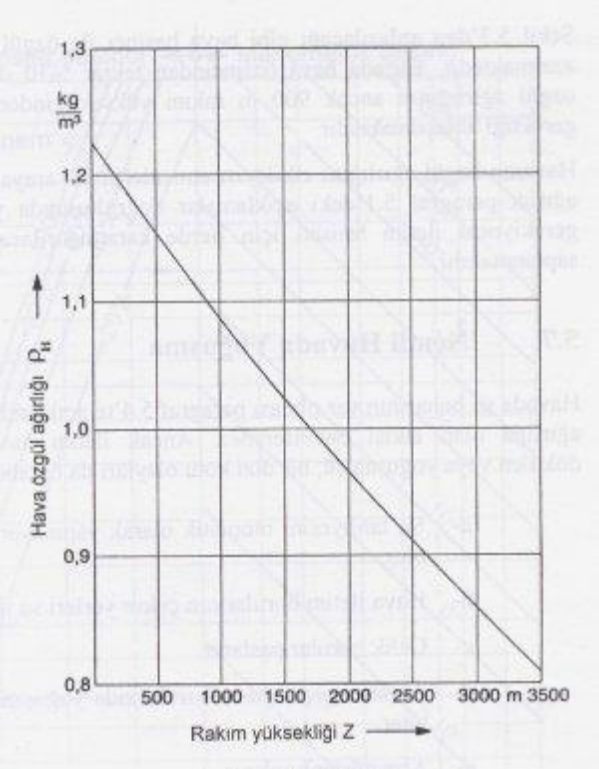
R = Gas constant (air: 287 J/kgK)

T = Kelvin (273t); (t ; °C)

As it will be understood by the Figure, the air pressure and specific gravity reduce as the altitude increases. Here, when the air pressure is reduced by a further 10 percent, it is understood that a lower air specific gravity should be taken into account from an altitude of 900 meters onwards. In case the factors affecting the specific gravity of the air come together, they should be re-calculated in accordance with the specific gravity and, if necessary, determined again for the air speed to be decided for the transmission installation in the future.

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ALTITUDE BY PROVINCES TABLE



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PLAKA NO	IL	RAKIM (m)
01	ADANA	23
02	ADIYAMAN	669
03	AFYON	1013
04	AĞRI	1640
05	AMASYA	392
06	ANKARA	870
07	ANTALYA	43
08	ARTVİN	597
09	AYDIN	70
10	BALIKESİR	101
11	BİLECİK	526
12	BİNGÖL	1177
13	BİTLİS	1545
14	BOLU	732
15	BURDUR	1025
16	BURSA	100
17	ÇANAKKALE	3
18	ÇANKIRI	730
19	ÇORUM	798
20	DENİZLİ	450
21	DİYARBAKIR	677
22	EDİRNE	48
23	ELAZIĞ	1015
24	ERZİNCAN	1214
25	ERZURUM	1893
26	ESKİŞEHİR	732
27	GAZİANTEP	840
28	GİRESUN	84
29	GÜMÜŞHANE	1210
30	HAKKARİ	1720

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30	HAKKARİ	1720
31	HATAY	85
32	ISPARTA	1043
33	İÇEL	5
34	İSTANBUL	30
35	İZMİR	25
36	KARS	1750
37	KASTAMONU	800
38	KAYSERİ	1071
39	KIRKLARELİ	203
40	KIRŞEHİR	985
41	KOCAELİ	76
42	KONYA	1026
43	KÜTAHYA	969
44	MALATYA	977
45	MANİSA	42
46	KAHRAMANMARAŞ	568
47	MARDİN	1150
48	MUĞLA	646
49	MUŞ	1300
50	NEVŞEHİR	1250
51	NİĞDE	1208
52	ORDU	10
53	RİZE	4
54	SAKARYA	31

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ALTITUDE BY PROVINCES TABLE

55	SAMSUN	44
56	SİİRT	895
57	SİNOP	32
58	SİVAS	1285
59	TEKİRDAĞ	3
60	TOKAT	623
61	TRABZON	37
62	TUNCELİ	914
63	ŞANLIURFA	547
64	UŞAK	921
65	VAN	1661
66	YOZGAT	1418
67	ZONGULDAK	136
68	AKSARAY	900
69	BAYBURT	1550
70	KARAMAN	1250
71	KIRIKKALE	700
72	BATMAN	577
73	ŞIRNAK	1350
74	BARTIN	25
75	ARDAHAN	2200
76	IĞDIR	858
77	YALOVA	2
78	KARABÜK	278
79	KİLİS	680
80	OSMANİYE	120
81	DÜZCE	160

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