

Novenco Tunnel Project Enquiry Form

Contact details:

Company : Contact person :

Tel.nr. : E-mail address :

Project details:

Project : City :

Design criteria tunnel:

Tunnel section	1	2	3	4	5	6	7	8	9	10
Tunnel length [m]										
Gradient [°]										

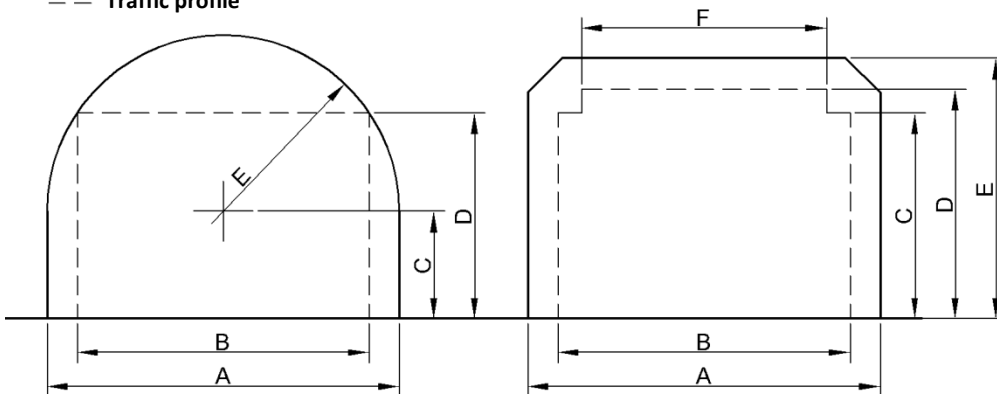
Number of tunnel tubes One (bi-directional)
 Two (uni-directional)

Number of lanes per tunnel tube -

Tunnel surface Blast rock (very rough)
 Shotcrete (rough)
 Lined concrete (smooth)

Dimensions of the tunnel and traffic profile:

— Tunnel profile
 - - - Traffic profile



Profile 1

Profile 2



Tunnel profile

- Profile 1 (horseshoe)
- Profile 2 (rectangular)
- Profile 3 (custom – draw below)

Dimensions for tunnel profile 1 or 2:

A	B	C	D	E	F

Custom tunnel profile (3):

Indicative value:

Tunnel area	..... m ²	
Tunnel perimeter	..... m	
Resistance factor entrance portal	..... -	Between 0,6 - 0,9
Resistance factor exit portal	..... -	Normally 1
Resistance factor other tunnel installations	..... -	Depending on size & number of installations

Design criteria fire:

Remarks:

Design fire	..... MW	Between 20 - 200MW (small truck - fuel tanker)
Minimum air velocity during smoke ventilation	..... m/s	Between 1,8 – 2,5 m/s for smoke control

**Design criteria environment:**

Design temperature	..... °C	Remarks:	Normal ventilation
Height of tunnel entrance above sea level	..... m		
Air density	..... kg/m ³		1,20 kg/m ³ at sea level 20°C 50%RH
Wind velocity	..... m/s		On the tunnel exit
Wind pressure factor	..... -		Correction for wind angle & tunnel configuration

Design criteria traffic:

Traffic type	<input type="checkbox"/> Urban - daily congested <input type="checkbox"/> Urban – seldom congested <input type="checkbox"/> Rural		
		Indicative value:	
Percentage light traffic (passenger cars)	..... %		70-80%
Percentage medium traffic (vans / small trucks)	..... %		10-15%
Percentage heavy traffic (trucks / buses)	..... %		10-15%
Area passenger car	..... m ²		2,5 m ²
Area van / small truck	..... m ²		Approx. 5 m ²
Area large truck / bus	..... m ²		Approx. 10 m ²
Resistance factor passenger car	..... -		Between 0,4 - 0,55
Resistance factor van / small truck	..... -		Between 0,5 - 0,8
Resistance factor truck/bus	..... -		Between 0,8 - 1,0
Length cars / vans / small trucks	..... m		Approx. 4,5 m
Length trucks / buses	..... m		Approx. 15 m

Design criteria normal ventilation:

Maximum light extinction coefficient (> 50km/h)	..... m ⁻¹	Indicative value:	0,005 m ⁻¹
Maximum light extinction coefficient (< 50km/h)	..... m ⁻¹		0,007 m ⁻¹
Maximum CO concentration (> 50km/h)	..... ppm		70 ppm
Maximum CO concentration (< 50km/h)	..... ppm		70 ppm
Maximum NO ₂ concentration (short period)	..... ppm		2 ppm

