

Project data – raw construction Gotthard Base Tunnel

Length, depth and distances	
Total length of Tunnelsystem	151.840 km
Length of Gotthard Base Tunnel, Northportal Erstfeld - Southportal Bodio	
East tube	57.104 km
West tube	57.017 km
Length section Erstfeld (excl. cut and cover tunnel)	
East tube	7.178 km
West tube	7.146 km
Length section Amsteg	
East tube	11.350 km
West tube	11.350 km
Length access tunnel Amsteg	2.222 km
Length section Sedrun (incl. MFS)	
East tube	9.145 km
West tube	9.145 km
Length access tunnel Sedrun	909 m
Depth shaft I Sedrun	850 m
Depth shaft II Sedrun	820 m
Length section Faido (incl. MFS)	
East tube	12.860 km
West tube	13.115 km
Length access tunnel Faido	2.646 km
Length section Bodio (excl. cut and cover tunnel)	
East tube	15.548 km
West tube	15.282 km
Length bypass tunnel Bodio	1.336 km
Length muck transportation tunnel Bodio – Buzza di Biasca	3.162 km
Culmination point	

<ul style="list-style-type: none"> • situation • from Northportal • from Southportal 	<p>Tkm 121.725</p> <p>22 km</p> <p>35 km</p>
Drive	
Conventional drive	
Excavation by blasting (conventional drive) (Section Sedrun, cross passages, access tunnels etc.)	66.311 km 43.7 %
Excavation diameter in tunnel section with drive by blasting (only single track tunnels)	8.80 bis 13.08 m
Drive by tunnelboringmachines (TBM)	
Excavation by tunnelboringmachines	85.529 km 56.3 %
Excavation diameter in tunnel sections with TBM-drive	
<ul style="list-style-type: none"> • Erstfeld • Amsteg • Faido • Bodio 	<p>9.58 m</p> <p>9.58 m</p> <p>9.4 – 9.5 m</p> <p>8.83 – 9.13 m</p>
Average daily performance of the tunnelboringmachine (State end of April 09)	
<ul style="list-style-type: none"> • Erstfeld • Amsteg • Faido • Bodio 	<p>14.77 m/AT</p> <p>11.05 m/AT</p> <p>9.82 m/AT</p> <p>11.7 m/AT</p>
Maximum performance	
<ul style="list-style-type: none"> • Erstfeld • Amsteg • Faido • Bodio 	<p>56 m/AT</p> <p>40.1 m/AT</p> <p>36 m/AT</p> <p>38.4 m/AT</p>
Length of TBM (incl. trailer)	
<ul style="list-style-type: none"> • Erstfeld und Amsteg • Faido • Bodio 	<p>441 m</p> <p>450 m</p> <p>377 m</p>

Weight of TBM	3'000 t
<ul style="list-style-type: none"> • Erstfeld und Amsteg • Faido • Bodio 	3'400 t 2'500 t
Drive power of TBM (10 motors)	3'500 kW
Totally achievement installed	7'800 kVA
Feeding force	27'500 kN (bei 350 bar)
Max. permissible contact pressure drilling head	15'930 kN
Drilling head revolutions	bis 6 U/min
Number of roll chisels in the TBM-cutterhead	
<ul style="list-style-type: none"> • Erstfeld and Amsteg • Faido • Bodio 	62 pieces 66 pieces 60 pieces
Number of machines	4 pieces
Heights above sea level and differences in height	
Rail upper edge Northportal Erstfeld	460 m
Height apex	549 m
Rail upper edge Southportal Bodio	312 m
Difference in height of the north portal Erstfeld up to the apex	89 m
Difference in height of the south portal Bodio up to the apex	237 m
Different numbers and facts	
Regular distance between tunnels	40 m
Max. axle base of tunnels	70 m
Number of cross passages total	176 pieces
Regular distance between cross passages	312.5 m
Maximum rock overlay	2'300 m
Maximum rock temperature	ca. 50° C
Maximum work temperature	28° C
Persons employed, inclusive engineers, geologists, owner etc.	2'600 persons