

Asphalt Solution

	10cm	Asphalt	
	15cm	Bitumen	
	30cm	Crusher Run	Transport to site material; Spread the material; Compact the material for 30cm layer
	40cm	Gravel	2x times Transport to site material; Spread the material; Compact the material for 20cm layer
Earthworks for 95cm box, dig; load in trucks; transport out of site; unload			

	Quantity	Units	unit price	Sub-Total
Earthworks for opening box	133000	m3	9,50 €	1 263 500,00 €
Gravel (geometric measure, compacted)	95200	Tons	11,50 €	1 094 800,00 €
Crusher Run (geometric measure, compacted)	71400	Tons	11,50 €	821 100,00 €
Coating	140000	m2	0,60 €	84 000,00 €
Bitumen	52500	Tons	60,00 €	3 150 000,00 €
Coating	140000	m2	0,60 €	84 000,00 €
Asphalt	35000	Tons	65,00 €	2 275 000,00 €
				8 772 400,00 €

Traditional Concrete Solution

	25cm	Concrete	
	10cm	Poor concrete	
	30cm	Crusher Run	Earthworks for 65cm box; dig; load in trucks; transport out of site; unload

	Quantity	Units	unit price	Sub-Total
Earthworks for opening box	91000	m3	9,50 €	864 500,00 €
Crusher Run (geometric measure, compacted)	71400	Tons	11,50 €	821 100,00 €
Poor Concrete	14000	m3	65,00 €	910 000,00 €
formwork and rebars	140000	m2	13,50 €	1 890 000,00 €
Suply and mount the Horizontal Bars	2500	Tons	500,00 €	1 250 000,00 €
Concrete Slab	35000	m3	100,00 €	3 500 000,00 €
				9 235 600,00 €

28000

SPWS

	25cm	Concrete	
	10cm	EPS	
Earthworks for 35cm box; dig; load in trucks; transport out of site; unload			

	Quantity	Units	unit price	Sub-Total
Earthworks for opening box	49000	m3	9,50 €	465 500,00 €
EPS	14000	m3	80,00 €	1 120 000,00 €
Plastic Film	140000	m2	0,50 €	70 000,00 €
Joint inductor	20020	m	1,15 €	23 023,00 €
Load transmission plates	40040	un	10,00 €	400 400,00 €
Concrete Slab	35000	m3	100,00 €	3 500 000,00 €
				5 578 923,00 €

For a Road with 1 Km and 12m width

	Asphalt Solution		Traditional Concrete Solution		SPWS	
	Cost		Cost		Cost	
Earthworks for opening box	126 720,00 €		85 800,00 €		46 200,00 €	
Gravel (geometric measure, compacted)	82 944,00 €					
Crusher Run (geometric measure, compacted)	62 208,00 €		62 208,00 €			
Coating	7 200,00 €					
Bitumen	264 000,00 €					
Coating	7 200,00 €					
Asphalt	180 000,00 €					
Poor Concrete			60 000,00 €			
formwork and Dowel Bars			182 000,00 €			
EPS					54 000,00 €	
Plastic Film					2 400,00 €	
Joint inductor					2 036,25 €	
Load transmission plates					43 440,00 €	
Concrete Slab			300 000,00 €		300 000,00 €	
	730 272,00 €		690 008,00 €	-6%	448 076,25 €	-39%

Without the consideration of equipment costs.

Equipment for transportation of excavation material from site (each cycle has about 15 cycles of excavator trips to truck)	692 Cicle trips	468 Cicle trips	252 Cicle trips
Equipment for transportation of agregate material to site	672 Cicle trips	288 Cicle trips	0 Cicle trips
Equipment for transportation of bitumen to site	96 Cicle trips	0 Cicle trips	0 Cicle trips
Equipment for transportation of asphalt to site	60 Cicle trips	0 Cicle trips	0 Cicle trips
Equipment for transportation of poor concrete to site	0 Cicle trips	120 Cicle trips	0 Cicle trips
Equipment for transportation of EPS to site	0 Cicle trips	0 Cicle trips	16 Cicle trips
Equipment for transportation of high resient concrete to site	0 Cicle trips	300 Cicle trips	300 Cicle trips
TOTAL	1520 Cicle trips	1176 Cicle trips	568 Cicle trips

Costs

Concrete cost (per m3)	100,00 €
Poor Concrete cost (per m3)	50,00 €
EPS Cost (per m3)	45,00 €
Plastic film Cost (m2)	0,20 €
Bitumen Cost (per ton)	55,00 €
Asphalt cost (per ton)	60,00 €
Gravel cost (per ton)	6,00 €
Crusher Run cost (per ton)	6,00 €
Coating cost (per m2)	0,60 €
Dowel bars cost (per Unit)	12,00 €
Earthworks cost (per m3)	11,00 €

Dimensions

Road Length (m)	1000,00
Road Width (m)	12,00
Gravel Thickness (m)	0,40
Crusher Run Thickness (m)	0,30
Bitumen Thickness (m)	0,16
Poor concrete Thickness (m)	0,10
Resilient concrete Thickness (m)	0,25
EPS Thickness (m)	0,10
Asphalt Thickness (m)	0,10