

Technique of CobbleStone Pavement



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Technique of CobbleStone Pavement

■ Yunnan province's Background

- Location: Southwest China
- Climate: Semitropical monsoon
- Geological Diversity



Technique of CobbleStone Pavement

■ The introduction of cobblestone pavement

- The definition
- Advantages:
 1. Low cost
 2. Effortless design and convenient construction
 3. Local materials and resources used
 4. Serviceability and easy maintenance

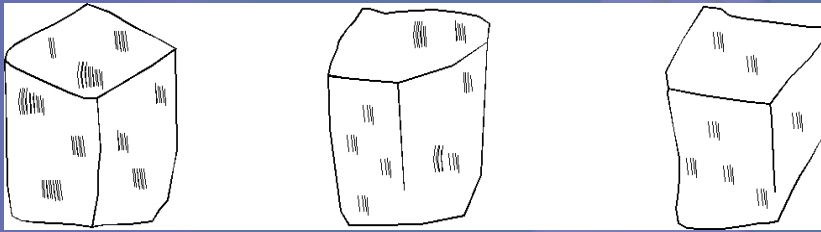


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■ Structure materials

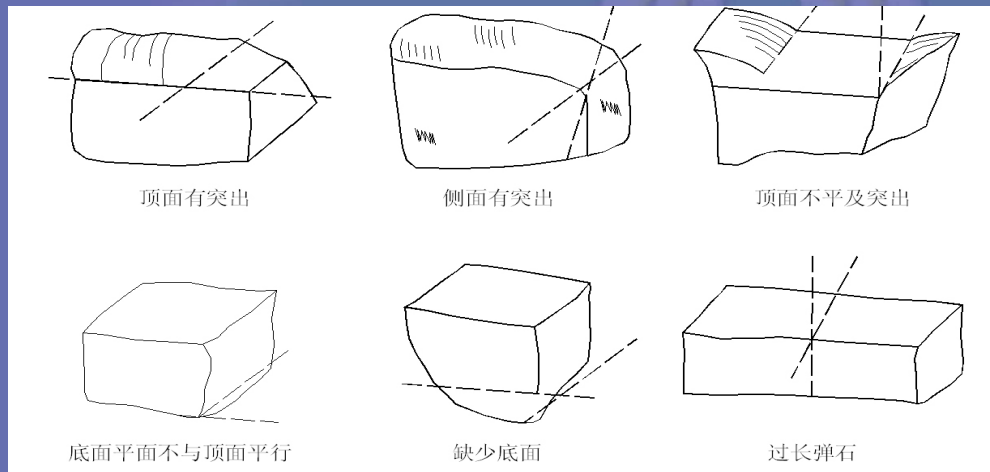
➤ Classification and Size

● Proper stones

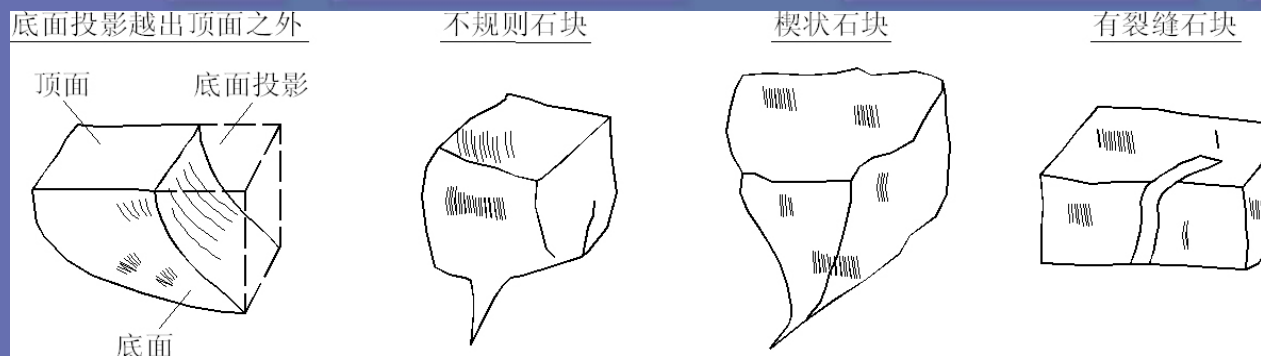


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- Unshaped stones



- Improper stones



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- Stone material size

Size		Stone for carriageway			edge stone	
		large	medium	small	large	Med-small
Height	average	18	16	14	+4	+4
	Min — max	16 — 20	14 — 18	12 — 16	-2 — +2	-2 — +2
Top height (cm)		10 — 20	10 — 18	10 — 15	16 — 22	16 — 20
Top width (cm)		7 — 15	7 — 13	7 — 10	10 — 15	10 — 14
Bottom size (cm)		H & W be 1~3cm smaller than that of bottom				

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➤ Cushion and Filling materials

	Screen size (mm)	Grading type	
		Coarse sand (%)	Medium sand(%)
Quality ratio	9.5	100	100
	4.75	90~100	90~100
	2.36	65~95	75~100
	1.18	36~65	50~90
	0.6	15~29	30~59
	0.3	5~20	8~30
	1.15	0~10	0~10
	0.075	0~5	0~5
fineness modulus		3.7~3.1	3.0~2.3

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■ Construction

➤ Subgrade strengthening

- Restoring central stakes



- Strengthening



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➤ Base

1. Layout



2. Spreading



3. Forming



4. Compacting



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➤ Surface paving

1. Layout

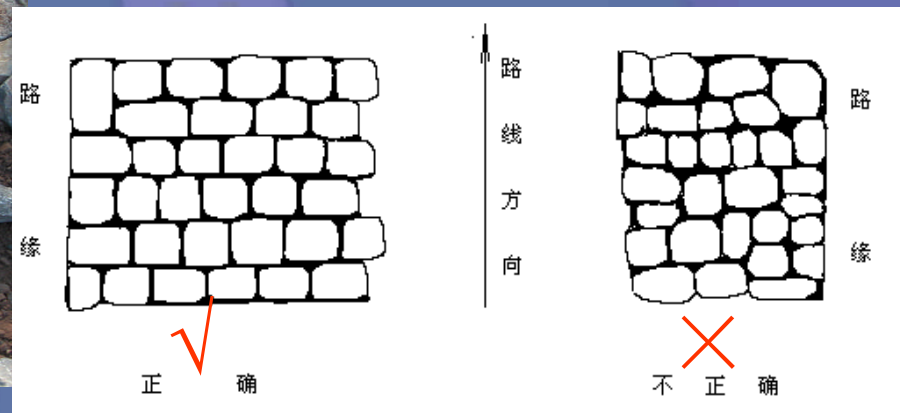
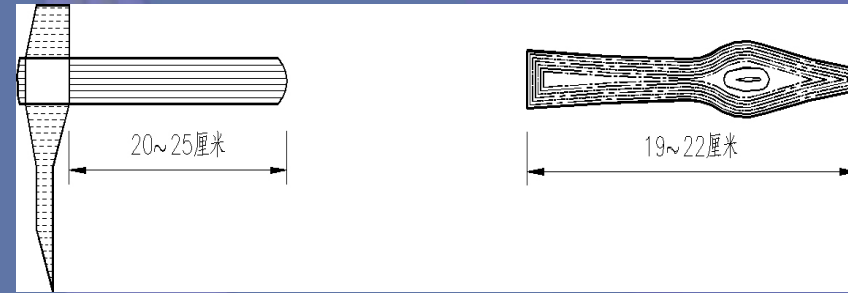


2. Sand Cushioning



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➤ Surface paving 3. Cobblestone Packing



4. Paving Road Shoulder



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➤ Surface paving

5. Filling



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➤ Surface paving

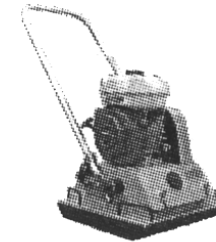
6. Compacting



电动式平板夯



内燃式
电动式 冲击夯



内燃式平板夯



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➤ Surface paving

7. Early Curing

Avoiding construction in rainy seasons, impacting and filling initially in time

8. Drainage facilities

camber; traverse slope; longitudinal grade; side drains



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■ Maintenance and Repair

Rationale for maintenance :
(H+V force and natural erosion)

➤ Hazardous Features:

- Potholes
- Settlement
- Wheel tracks
- Leaks and cracks
- Edge damage



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➤ Maintenance

- Keep pavement clean
- Provide fillings in time
- Provide sand and stabilize cobble stones
- Treat settlements or potholes with fillings and re-paved with proper cobbles
- Proper restoration of edge stones
- Proper drainage facilities and compact

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- **Case in point**
Upgrading of Typical Low-volume Rural Road with Cobble Stone Pavement



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■ Special Thanks To:

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- YPCD;