

HIR Observations from China

This presentation includes observations and images from five HIR projects Pat Wiley visited during a four-month trip to China in 2023



HIR Projects in China

Typical Projects

- 4 Lane Expressways
- 100,000 to 300,000 m²
- Polymer Modified Binders
- Some Projects SMA
- 50 mm depth
- 20% Admix
- 0.3% to 0.6% Rejuvenator



Shanxi Province - 225,000 m2



Xinjiang Province – 260,000 m2



Henan Province – 175,000 m2



Consistent Test Results



Test		Measured Data	Design Data	Result
Asphalt Content	Asphalt using (%)	4.52	4.43	pass
Marshall	stability (kN)	16.14	≥8	pass
	flow value(mm)	2.2	2.0-4.0	pass
	Air void (%)	4.6	4 - 6	pass
Onsite Tests	compaction%	94.3	93%	pass
	friction coefficient	82	>55mm	pass
	thickness (mm)	55mm	50mm	pass



Test Method	Unit of Measure	Specification	Before HIR	0.3% Rejuvenator	0.4% Rejuvenator	0.5% Rejuvenator
Penetration 100g, 5s, 25°C	0.1mm	40-60	24	47	60	68
Ductility 5cm/min, 15°C	cm	Measured	5.7	19.1	24	28.2
Softening Point	°C	≥47	63.0	55.5	52.5	49.5



Looks and Performs Like a Newly Paved Surface

