









Company Profile HAMRAH Co. Ltd

I. Company Information			
Company name	HAMRAH Co., Ltd.	Website	www.hamrah.co.kr
Business performance	Classification	2021	2020
	Sales	USD 8,500,000	USD 8,500,000
	Operating profit	USD -2,500,000	USD -1,200,000
	Net profit	USD 10,000,000	USD -1,400,000
II. Information on the Technology to be Supplied			
Technology name	Roofing and Waterproof Asphalt Shingle Manufacturing Technology		
Keywords (more than 3)	Asphalt shingle, Roofing material, Waterproof sheet, sandwich panel		
Technologies and products to be supplied			
	(Product) Double Layered Shingle	(Product) Waterproof Sheet	(Product) Sandwich Panel
	(Use) Roofing and waterproofing	(Use) Roofing and waterproofing	(Use) Panel for assembly
Key processes			
	Material warehousing and incoming inspection	Polymer modified asphalt application	Two-sided sand and colored sand application
			
	Glue application and release film joining	Natural drying and cutting	Product inspection and packaging

III In-depth Description of the Technology Information

• Technology overview

[Development background]

- Although existing roofing materials, namely roof tiles or slabs of which zinc panels are mainly used and are currently widespread, construction with asphalt shingles is more convenient and has higher cost effectiveness, so demand for asphalt shingles is steadily rising.
- In the domestic asphalt shingle market, global brands, including OWENS CORNING and Malarkey, are mainstream. Consequently, there is a need to develop Korean technology to substitute these imports. Hamrah has developed Korean asphalt shingles using its own technology.

[IP information]

- Asphalt shingles are of a rectangular plate type. Laminating joints are applied at the top and bottom of the central material, such as glass fiber or nonwoven fabric and polymer-modified asphalt. Sand is attached to the bottom of the foundation and various-colored sand is attached to the top.
- Cost: Prices are lower than other roofing materials, especially compared to metal materials, and construction is easier. Concerns on damage during distribution in the market is lower and the material is light. Construction therefore requires lower costs.
- Durability: Because the shingle's weight is lighter, 1/5 that of traditional roof tiles, there is lower load burden. Construction is convenient because Hamrah's shingles are light and flexible, and they are strong against earthquakes. In addition, human safety increases due to the light weight.
- Life: Although there are differences depending on climate, environment and management, the product can be used for 10~15 years. Beyond that, its lifecycle ends and it is recommended the product be replaced in advance as there is a concern of water leaks.

2. Technology application area

[Use (application scope)]

- Roofing materials for detached houses, apartments, and neighborhood facilities
- Asphalt shingle: The weight is only 20% (9kg/1 m³), compared to roof tiles, so asphalt shingles are widely used from light wooden structures to apartments.

AREA OF INTEREST

Cooperation with Indian Companies	Sought with Indian Companies	<input type="checkbox"/> licensing	<input checked="" type="checkbox"/> Joint investment	<input checked="" type="checkbox"/> OEM production
		<input checked="" type="checkbox"/> Facility transfer	<input checked="" type="checkbox"/> Others: handing down technology	