

Mena Mecca - Mecca

MECCA - KSA



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TYPE OF PROJECT Dynamic Rockfall Barriers	YEAR OF CONSTRUCTION 2024	CLIENT General Authority Of Holy Capital	CONTRACTOR Diyar Baybajh	DESIGNER Maccaferri
PROD. RELATED MacArmour & SteelGrid (10,600 M2)				

Challenge

Mena Mecca City is characterized by steep mountainous terrain, winding roads, and significant elevation changes. Due to the natural geology, fractured rock formations, and steep slopes, the area is highly susceptible to rockfall hazards, particularly during periods of heavy rainfall and temperature variations. These rockfalls pose a serious risk to public safety, road users, and nearby infrastructure, potentially causing traffic disruptions, property damage, and accidents. Existing protective measures are limited and do not

provide adequate long-term mitigation against increasing rockfall events. Therefore, the authorities are seeking reliable, durable, and proven rockfall protection solutions that can be effectively installed in challenging mountainous conditions, minimize maintenance, and ensure long-term safety. Maccaferri’s engineered rockfall protection systems are considered a suitable solution to mitigate these risks while preserving the natural landscape.



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Solution

To address the rockfall hazards identified, an integrated and engineered protection solution is proposed, combining active slope stabilization and passive rockfall interception systems. The solution is specifically designed to suit the steep mountainous terrain, fractured rock geology, and environmental sensitivity of the area. The proposed approach utilizes a combination of slope surface protection, rock stabilization, and energy dissipation systems to control rockfall hazards

at source and along potential rockfall trajectories. This layered protection strategy ensures enhanced safety for road users and nearby infrastructure. Maccaferri Steelgrid® 30 is proposed as the primary active protection system for stabilizing rock slopes and preventing rock detachment at the source. The system consists of a high-strength, double-twisted steel wire mesh designed to conform closely to the rock surface and restrain unstable blocks.



DURING CONSTRUCTION



AFTER CONSTRUCTION



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