

RAILWAY SAFETY PROJECT FOR – TCDD ALAYUNT-BALI

BALIKESİR, MARMARA



TYPE OF PROJECT
Dynamic Rockfall Barriers

YEAR OF CONSTRUCTION
2023

CLIENT
MARMARA YAPI

CONTRACTOR
MARMARA YAPI

DESIGNER
Maccaferri Turkey

PROD. RELATED

Rockfall Barriers (RB750 - 564m²), Panels (10 667m²)

Challenge

The TCDD (Turkish State Railways) Alayunt-Balıkesir line, specifically the section between KM 131+052 and KM 131+240, faces significant safety risks due to the instability of the slopes along the railway track. These slopes pose potential hazards to the railway line, including the risk of rockfall and debris accumulation, which can endanger both the rail infrastructure and the safety of train operations. In order to ensure the safety of the railway line and protect against rockfalls and other geological hazards, appropriate engineering solutions were sought.

The slopes in the specified section of the Alayunt-Balıkesir railway line are vulnerable to rockfall, which can obstruct the tracks and cause significant damage to the railway infrastructure. The instability of these slopes, including loose rocks and weathered material, presents a serious risk to the safety of the railway operations. Given the proximity of the railway track to the unstable slopes, there was an urgent need to implement effective slope stabilization measures to prevent potential accidents and ensure continuous, safe operation of the line.



During the construction



During the construction

Solution

To address the rockfall risk and enhance slope stability, several engineering solutions were implemented. A primary measure involved installing an RB 750 Rockfall Barrier (H=3m, l=10m, L=188m) along the slopes to intercept falling rocks and protect the railway tracks from potential obstructions. Additionally, HEA Panel GLA (400x400 mm D10) panels were used to further stabilize the slopes and reduce the likelihood of rockfall. The combination of rockfall barriers and HEA panels ensures the long-term stability of the railway infrastructure and the safety of train operations in the area.

These solutions were carefully selected and applied based on the specific geological conditions of the area, addressing the immediate safety concerns while contributing to the ongoing stability of the railway line. Through these measures, the risk of rockfall and related hazards has been effectively minimized, ensuring the safe and uninterrupted operation of the TCDD Alayunt-Balıkesir railway line.



During the construction



After the installation of dynamic barrier RB 750



After the installation of HEA Panels



After the installation of HEA Panels



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