

1. General Loading Capacity of Quay Deck

The quay deck is designed for a uniformly distributed load of 3 t/m², except for the heavy lift area which extends for 30m at the west end of the quay which is designed for a uniformly distributed load of 5 t/m².

2. Highway Bridge Loading

The deck is designed for the following highway bridge loadings:

1. Full HA loading to BD37/01 (Highways Agency load specification for normal road vehicles including HGVs).
2. HB loading of 45 units to BD37/01 (Highways Agency load specification for abnormal road vehicles with maximum axle loads of 46t per axle).

3. Point Loads

The deck is designed for a local point load of 800kN over a circular area 775mm in diameter, applied anywhere on the deck.

4. Crane Loads

The deck is designed for maximum outrigger loading from cranes as follows:

Main Quay Area

- Gottwald AK580 Crane – maximum outrigger loads for 300t lift at 22m radius (assuming pad dimensions of 3.2m x 5m with a maximum load intensity of 185kN/m²).
- Gottwald AK912 Crane – maximum outrigger loads for 300t lift at 22m radius (assuming pad dimensions of 2.8m x 5.5m with a maximum load intensity of 229kN/m²).

Heavy Lift Area

As for main quay area and in addition:

- Liebherr crawler or mobile cranes – 500t lift at radius of 20m (assuming pad dimensions of 2.4m x 6.0m with a maximum load intensity of 281kN/m²).

5. SPMT Ramp Loads

In the heavy lift area, the deck can accommodate loading from ramps for self propelled modular transport (SPMT) vehicles, based on a maximum of 144t total line loading representing two parallel SPMT vehicles linked together.

6. Loads on Paved Areas

The paved areas are designed for loads from stacking twenty foot containers two high, but these areas can also accommodate loadings as for the quay deck provided the loads are adequately spread on the paving

7. Decommissioning

In the heavy lift area there is potential for skidding modules up to 2,500t in weight on skid ways aligned over the main deck girders which run from the front piles to the shore abutment. As the disposition of forces on skid ways will depend upon the configuration of each module dealt with, a separate structural assessment would be required for each skidding operation.