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**Location** : Cape Town, South Africa  
**Client** : Refrigerated Freight Group  
**Consultant** : ARQ Specialist Engineers  
 Ekcon Consulting Engineers  
**Contractor** : Melt Wahl Concrete Services  
**Date** : March 2001 - June 2001  
**Product type** : Enkagrid TRC 20 : 15,000 sqm

The project comprised the construction of a concrete slab on which 40 ton forklift trucks would operate to ferry refrigerated containers.

Geotechnical testing of the subgrade indicated that while the top 1m of material was dense and of good quality, the layer between 1m and 2m below the surface consisted of assorted silts and clays of low bearing capacity. This would have influenced the concrete slab in terms of localised settlement and cracking or distress of the surfacing.

Improvement of the subgrade entailed the excavation and temporary stockpiling of the top 1m of material. The bearing capacity of the material below 1m was vastly improved by placing a layer of *Enkagrid TRC 20* over the excavated surface.

As Garth James of Kaytech Geosynthetics, Colbond's distributor in South Africa, explains: '*Enkagrid TRC 20* is a high modulus, low strain, bi-axial, aramid geogrid laminated between two nonwoven geotextiles providing both reinforcement as well as separation between the in situ soil and replaced fill material. The pressure distribution through the layers beneath the concrete slab due to the high loading of the container forklifts is significantly reduced by the presence of the *Enkagrid TRC 20* layer. This structure proved to be the most cost-effective solution.'

*Enkagrid TRC 20* has an ultimate tensile strength of 20kN/m in both directions.



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