

HOBAS® Jacking Pipes Premiere in Hong Kong – Trenchless Installation of Protection Pipes beneath Rail Tracks

In December 2013, HOBAS Pipes D_e 1026 SN 320000 were jacked in the Chinese metropolis Hong Kong underneath a railway track as protection for power lines.

Hong Kong's Mass Transit Railway (MTR) includes more than 200 km of rail. With an average of 2.45 million passengers per day, it is one of the world's most profitable rapid transit railway systems. Its operating company, the MTR Corporation, is currently extending the network in the vicinity of Hung Hom railway station in the urban area of Kowloon. Since the space around the existing rail track was very limited, the construction company had to remove parts of the adjacent slope over a length of 400 m and relocate the existing power transmission lines. With the new planned route crossing beneath the double-track, the project managers sought for the least invasive and most sustainable solution. They found what they were looking for in HOBAS Pipe Systems: HOBAS CC-GRP Pipes with an outer diameter of D_e 1026 mm and a stiffness class of SN 320000 were jacked over a length of 12 meters in 2.3 m depth beneath the double-track as protection pipes for the power lines. Thanks to the non-conductive material and high load capacity, HOBAS Pipes are ideally suited for the given conditions.

The installation was challenging in several respects. Due to the limited working space on the track's ballast bed, the starting pit had to be kept quite narrow (4 x 4.5 m) and the pipes could not be stored on site but had to be rolled to the jacking pit one after the other on temporary tracks over 50 m distance. As the railway track is in operation 19 hours a day from 5:30 to 00:30 a.m., the client allowed the jacking works to be conducted at nighttime between 1:30 and 4:00 a.m. only. The contractor had to work very efficiently to achieve each night's installation goal within these 2.5 hours. With their smooth outer surface and quick and easy coupling system, HOBAS Pipes increased the installation efficiency significantly.

Due to the restricted space on the other side of the tracks, it was not possible to build a receiving pit. Instead, the boring head was partly dismantled inside the pipe after the installation and withdrawn through the starting pit. After 6 nights and a jacking time of 15 hours, the installation was successfully completed.

Fmd:
hobas.hongkong@hobas.com



Year of construction

2013

Construction time

6 nights / 15 hours

Diameter

D_e 1026

Pressure class

PN 1

Stiffness class

SN 320000

Application

Protection pipes for power lines

Client

MTR Corporation

Limited

Planner

Ove Arup & Partners

Hong Kong Limited

Constructor

Gammon – Kaden SCL

1111 Joint Venture

Jacking Contractor

Victory Trenchless

Engineering Company

Limited

Advantages

non-conductive features,

high load capacity,

smooth outer surface,

easy coupling system

