

Kings Cross Remodelling Project



Network Rail has started a multi-million pound programme into upgrading the East Coast Main Line as part of their rail upgrade plan.

As part of this programme, the infrastructure outside King's Cross is being replaced, including tracks, signalling and overhead line equipment. The work includes upgrade of the track & replacement of track drainage.

As we all know Kings Cross is also the home of Harry Potter's station - Platform 9 ¾!

Project Summary

After consultation with S&C Alliance, Network Rail, the TerraDrain system was specified as the preferred product for the track drainage on this high-profile project.

Amanda Theodorou, Drainage Engineer for S&C Alliance, has worked with Demco TerraDrain previously and specified the product.

Project Overview

- NAME: Kings Cross Re-Modelling Project
- DATE: June/July 2019
- CLIENT: Network Rail / S&C North Alliance
- CONTRACTOR: Amey
- CONSULTANT: Network Rail

Products used

- **TerraDrain II**
355mm – Cess Drainage



Material				
Property	Standard	Unit	Value PE80	Value PE100
Density	ISO 1183	g/cm	0.94	0.95
Melt Flow Index (190/5)	ISO 1133	g/10min	0.9	0.3
Tensile stress at yield	ISO 527	MPa	20	25
Elongation at yield	ISO 527	%	10	9
Elongation at break	ISO 527	%	>600	>600
Impact strength (notched)	ISO 179	kJ/m ²	12	16
Modulus of elasticity	ISO 527	MPa	750	1100

Pipe Dimensions & Weights to Din 8074/5

Outside Diameter mm	TerraDrain™ 17					TerraDrain™ 11				
	Wall thickness mm	Inside diameter mm	Weight kg/m	Safe end loading tonnes FPO	Max tension tonnes FTO	Wall thickness mm	Inside diameter mm	Weight kg/m	Safe end loading tonnes FPO	Max tension tonnes FTO
110	6.3	97.4	2.08	-	0.70	10.0	90.0	3.14	3.20	1.05
125	7.1	110.8	2.66	-	0.90	11.4	102.2	4.08	4.10	1.40
160	9.1	141.8	4.35	-	1.50	14.6	130.8	6.67	6.80	2.33
180	10.2	159.6	5.48	-	1.90	16.4	147.2	8.42	8.60	2.90
200	11.4	177.2	6.79	4.70	2.35	18.2	163.6	10.40	10.60	3.60
225	12.8	199.4	8.55	5.90	2.95	20.5	184.0	13.10	13.40	4.60
250	14.2	221.6	10.60	7.30	3.70	22.8	204.4	16.20	16.60	5.65
280	15.9	248.2	13.20	9.20	4.60	25.5	229.0	20.30	20.80	7.10
315	17.9	279.2	16.70	11.60	4.75	28.7	257.6	25.70	26.40	7.40
355	20.1	314.8	21.20	14.80	4.90	32.3	290.4	32.60	33.50	7.60
400	22.7	354.6	26.90	18.80	6.20	36.4	327.2	41.40	42.50	9.60
450	25.5	399.0	34.00	23.80	7.80	40.9	368.2	52.40	53.80	12.25
500	28.3	443.4	41.90	29.40	9.50	45.4	409.2	64.60	66.50	15.00
560	31.7	496.6	52.50	36.80	12.00	50.8	458.4	81.10	83.40	18.70
630	35.7	558.8	66.50	46.20	15.00	57.2	515.6	102.50	105.60	23.50

Pipe Lengths Flush Push Fit Ends

Overall Length mm	500	750	1000	1500	2000	3000	6000
Outside Diameter mm	Effective Length mm						
225-355	440	690	940	1425	1940	2940	5940
400-450	430	680	930	1415	1930	2930	-
500	425	675	925	1400	1925	2925	-
560-630	415	665	915	1400	1915	2915	-