

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	0.900
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.016	5.00	38.300	600	470338.889	174252.433	0.600
2	0.010	5.00	38.200	600	470342.889	174268.850	0.613
3	0.010	5.00	38.200	600	470344.247	174286.444	0.672
4	0.014	5.00	38.200	900	470342.224	174305.719	0.737
5	0.025	5.00	38.400	900	470333.871	174350.829	1.090
6	0.025	5.00	38.300	900	470327.109	174396.481	1.144
7	0.000	5.00	38.800	600	470419.546	174374.929	1.050
8	0.033	5.00	38.400	600	470353.151	174374.949	1.308
9	0.000	5.00	38.800	600	470416.332	174390.301	1.050
10	0.133	5.00	38.400	600	470357.826	174390.339	1.543
11	0.000	5.00	38.900	600	470434.070	174374.191	1.050
12	0.045	5.00	38.900	600	470426.458	174397.367	1.292
13	0.013	5.00	39.000	1200	470417.143	174400.065	1.489
14	0.000	5.00	38.400	600	470347.714	174378.568	1.050
15	0.017	5.00	38.300	600	470347.743	174394.862	1.112
16	0.045	5.00	38.300	1200	470357.612	174402.035	1.587
16_OUT			38.400	1200	470356.770	174408.733	1.715

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	16.897	0.600	37.700	37.587	0.113	150.0	150	5.34	45.3
1.001	2	3	17.646	0.600	37.587	37.528	0.059	300.0	150	5.86	43.5
1.002	3	4	19.381	0.600	37.528	37.463	0.065	300.0	150	6.42	41.6
1.003	4	5	45.877	0.600	37.463	37.310	0.153	300.0	300	7.27	39.2
1.004	5	6	46.150	0.600	37.310	37.156	0.154	299.7	300	8.12	37.0
1.005	6	16	31.005	0.600	37.156	37.053	0.103	301.0	300	8.69	35.7
2.000	7	8	66.395	0.600	37.750	37.092	0.658	100.9	150	6.11	42.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.818	14.5	2.0	0.450	0.463	0.016	0.0	37	0.571
1.001	0.575	10.2	3.1	0.463	0.522	0.026	0.0	57	0.504
1.002	0.575	10.2	4.1	0.522	0.587	0.036	0.0	66	0.543
1.003	0.902	63.8	5.3	0.437	0.790	0.050	0.0	58	0.552
1.004	0.903	63.8	7.5	0.790	0.844	0.075	0.0	69	0.612
1.005	0.901	63.7	9.7	0.844	0.947	0.100	0.0	79	0.655
2.000	1.000	17.7	0.0	0.900	1.158	0.000	0.0	0	0.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
2.001	8	10	16.084	0.600	37.092	36.932	0.160	100.5	150	6.37	41.8
3.000	9	10	58.506	0.600	37.750	37.170	0.580	100.9	150	5.97	43.1
2.002	10	16	11.698	0.600	36.857	36.788	0.069	169.5	225	6.57	41.2
4.000	11	12	24.394	0.600	37.850	37.608	0.242	100.8	150	5.41	45.1
4.001	12	13	9.698	0.600	37.608	37.511	0.097	100.0	150	5.57	44.5
4.002	13	16	59.564	0.600	37.511	36.863	0.648	91.9	150	6.51	41.3
5.000	14	15	16.294	0.600	37.350	37.188	0.162	100.6	150	5.27	45.6
5.001	15	16	12.200	0.600	37.188	37.067	0.121	100.8	150	5.47	44.8
1.006	16	16_OUT	6.751	0.600	36.713	36.685	0.028	241.1	300	8.80	35.4

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
2.001	1.002	17.7	3.7	1.158	1.318	0.033	0.0	47	0.794
3.000	1.000	17.7	0.0	0.900	1.080	0.000	0.0	0	0.000
2.002	1.001	39.8	18.5	1.318	1.287	0.166	0.0	108	0.983
4.000	1.001	17.7	0.0	0.900	1.142	0.000	0.0	0	0.000
4.001	1.005	17.8	5.4	1.142	1.339	0.045	0.0	57	0.886
4.002	1.048	18.5	6.5	1.339	1.287	0.058	0.0	61	0.957
5.000	1.002	17.7	0.0	0.900	0.962	0.000	0.0	0	0.000
5.001	1.000	17.7	2.1	0.962	1.083	0.017	0.0	35	0.674
1.006	1.008	71.2	37.1	1.287	1.415	0.386	0.0	154	1.018

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	16.897	150.0	150	Circular	38.300	37.700	0.450	38.200	37.587	0.463
1.001	17.646	300.0	150	Circular	38.200	37.587	0.463	38.200	37.528	0.522
1.002	19.381	300.0	150	Circular	38.200	37.528	0.522	38.200	37.463	0.587
1.003	45.877	300.0	300	Circular	38.200	37.463	0.437	38.400	37.310	0.790
1.004	46.150	299.7	300	Circular	38.400	37.310	0.790	38.300	37.156	0.844
1.005	31.005	301.0	300	Circular	38.300	37.156	0.844	38.300	37.053	0.947
2.000	66.395	100.9	150	Circular	38.800	37.750	0.900	38.400	37.092	1.158
2.001	16.084	100.5	150	Circular	38.400	37.092	1.158	38.400	36.932	1.318
3.000	58.506	100.9	150	Circular	38.800	37.750	0.900	38.400	37.170	1.080
2.002	11.698	169.5	225	Circular	38.400	36.857	1.318	38.300	36.788	1.287
4.000	24.394	100.8	150	Circular	38.900	37.850	0.900	38.900	37.608	1.142

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	600	Manhole	Adoptable	2	600	Manhole	Adoptable
1.001	2	600	Manhole	Adoptable	3	600	Manhole	Adoptable
1.002	3	600	Manhole	Adoptable	4	900	Manhole	Adoptable
1.003	4	900	Manhole	Adoptable	5	900	Manhole	Adoptable
1.004	5	900	Manhole	Adoptable	6	900	Manhole	Adoptable
1.005	6	900	Manhole	Adoptable	16	1200	Manhole	Adoptable
2.000	7	600	Manhole	Adoptable	8	600	Manhole	Adoptable
2.001	8	600	Manhole	Adoptable	10	600	Manhole	Adoptable
3.000	9	600	Manhole	Adoptable	10	600	Manhole	Adoptable
2.002	10	600	Manhole	Adoptable	16	1200	Manhole	Adoptable
4.000	11	600	Manhole	Adoptable	12	600	Manhole	Adoptable

Pipeline Schedule

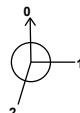
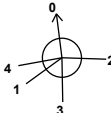
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.001	9.698	100.0	150	Circular	38.900	37.608	1.142	39.000	37.511	1.339
4.002	59.564	91.9	150	Circular	39.000	37.511	1.339	38.300	36.863	1.287
5.000	16.294	100.6	150	Circular	38.400	37.350	0.900	38.300	37.188	0.962
5.001	12.200	100.8	150	Circular	38.300	37.188	0.962	38.300	37.067	1.083
1.006	6.751	241.1	300	Circular	38.300	36.713	1.287	38.400	36.685	1.415

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.001	12	600	Manhole	Adoptable	13	1200	Manhole	Adoptable
4.002	13	1200	Manhole	Adoptable	16	1200	Manhole	Adoptable
5.000	14	600	Manhole	Adoptable	15	600	Manhole	Adoptable
5.001	15	600	Manhole	Adoptable	16	1200	Manhole	Adoptable
1.006	16	1200	Manhole	Adoptable	16_OUT	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	470338.889	174252.433	38.300	0.600	600		0	1.000	37.700	150
2	470342.889	174268.850	38.200	0.613	600		1	1.000	37.587	150
							0	1.001	37.587	150
3	470344.247	174286.444	38.200	0.672	600		1	1.001	37.528	150
							0	1.002	37.528	150
4	470342.224	174305.719	38.200	0.737	900		1	1.002	37.463	150
							0	1.003	37.463	300
5	470333.871	174350.829	38.400	1.090	900		1	1.003	37.310	300
							0	1.004	37.310	300
6	470327.109	174396.481	38.300	1.144	900		1	1.004	37.156	300
							0	1.005	37.156	300
7	470419.546	174374.929	38.800	1.050	600		0	2.000	37.750	150
8	470353.151	174374.949	38.400	1.308	600		1	2.000	37.092	150
							0	2.001	37.092	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
9	470416.332	174390.301	38.800	1.050	600		0	3.000	37.750	150
10	470357.826	174390.339	38.400	1.543	600		1 2 0	3.000 2.001 2.002	37.170 36.932 36.857	150 150 225
11	470434.070	174374.191	38.900	1.050	600		0	4.000	37.850	150
12	470426.458	174397.367	38.900	1.292	600		1 0	4.000 4.001	37.608 37.608	150 150
13	470417.143	174400.065	39.000	1.489	1200		1 0	4.001 4.002	37.511 37.511	150 150
14	470347.714	174378.568	38.400	1.050	600		0	5.000	37.350	150
15	470347.743	174394.862	38.300	1.112	600		1 0	5.000 5.001	37.188 37.188	150 150
16	470357.612	174402.035	38.300	1.587	1200		1 2 3 4 0	5.001 4.002 2.002 1.005 1.006	37.067 36.863 36.788 37.053 36.713	150 150 225 300 300
16_OUT	470356.770	174408.733	38.400	1.715	1200		1	1.006	36.685	300

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	17.000	Drain Down Time (mins)	240
Ratio-R	0.400	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	40	0	0

Node 16 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	36.713	Product Number	CTL-SHE-0067-2000-1000-2000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node 10 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	36.857	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.550
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	58.000		

Node 8 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.092	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.550
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	65.000		

Node 12 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.608	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	24	Depth (m)	0.550
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	23.000		

Node 15 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.188	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.550
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	15.000		

Node 2 Link Surround Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Link	1.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.587	Surround Shape	(Trench)
Safety Factor	2.0	Time to half empty (mins)	192	Diameter (mm)	750

Node 3 Link Surround Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Link	1.001
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.528	Surround Shape	(Trench)
Safety Factor	2.0	Time to half empty (mins)		Diameter (mm)	750

Node 4 Link Surround Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Link	1.002
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.463	Surround Shape	(Trench)
Safety Factor	2.0	Time to half empty (mins)		Diameter (mm)	900

Node 5 Link Surround Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Link	1.003
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.310	Surround Shape	(Trench)
Safety Factor	2.0	Time to half empty (mins)		Diameter (mm)	900

Node 6 Link Surround Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Link	1.004
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.156	Surround Shape	(Trench)
Safety Factor	2.0	Time to half empty (mins)		Diameter (mm)	900

Results for 1 year Critical Storm Duration. Lowest mass balance: 98.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	37.736	0.036	1.9	0.0296	0.0000	OK
15 minute winter	2	11	37.642	0.055	3.1	0.0774	0.0000	OK
15 minute winter	3	12	37.594	0.066	4.1	0.1634	0.0000	OK
15 minute winter	4	12	37.520	0.057	5.4	0.1716	0.0000	OK
15 minute winter	5	13	37.376	0.066	7.5	0.2153	0.0000	OK
15 minute winter	6	13	37.232	0.076	9.2	0.2658	0.0000	OK
15 minute summer	7	1	37.750	0.000	0.0	0.0000	0.0000	OK
15 minute winter	8	14	37.126	0.034	3.9	0.8855	0.0000	OK
15 minute summer	9	1	37.750	0.000	0.0	0.0000	0.0000	OK
180 minute winter	10	172	37.045	0.188	8.6	28.0469	0.0000	OK
15 minute summer	11	1	37.850	0.000	0.0	0.0000	0.0000	OK
15 minute winter	12	13	37.652	0.044	5.4	1.1653	0.0000	OK
15 minute winter	13	12	37.559	0.048	4.2	0.0627	0.0000	OK
15 minute summer	14	1	37.350	0.000	0.0	0.0000	0.0000	OK
15 minute winter	15	13	37.214	0.026	2.0	0.4437	0.0000	OK
180 minute winter	16	172	37.045	0.332	6.2	0.5637	0.0000	SURCHARGED
15 minute summer	16_OUT	1	36.685	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	1.9	0.418	0.129	0.0768	
15 minute winter	2	1.001	3	3.0	0.452	0.293	0.1177	
15 minute winter	3	1.002	4	3.9	0.574	0.382	0.1318	
15 minute winter	4	1.003	5	5.1	0.493	0.080	0.4741	
15 minute winter	5	1.004	6	7.0	0.557	0.109	0.5872	
15 minute winter	6	1.005	16	8.5	0.652	0.134	0.4059	
15 minute summer	7	2.000	8	0.0	0.000	0.000	0.0917	
15 minute winter	8	2.001	10	1.9	0.651	0.107	0.0488	
15 minute summer	9	3.000	10	0.0	0.000	0.000	0.0000	
180 minute winter	10	2.002	16	-3.9	0.363	-0.098	0.4400	
15 minute summer	11	4.000	12	0.0	0.000	0.000	0.0489	
15 minute winter	12	4.001	13	3.1	0.690	0.176	0.0444	
15 minute winter	13	4.002	16	4.1	0.431	0.222	0.6355	
15 minute summer	14	5.000	15	0.0	0.000	0.000	0.0156	
15 minute winter	15	5.001	16	1.2	0.561	0.065	0.0251	
180 minute winter	16	Hydro-Brake®	16_OUT	2.0				46.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	37.758	0.058	4.7	0.0474	0.0000	OK
15 minute winter	2	11	37.685	0.098	7.5	0.1941	0.0000	OK
15 minute winter	3	12	37.646	0.118	9.8	0.3618	0.0000	OK
15 minute winter	4	12	37.553	0.090	13.1	0.3533	0.0000	OK
15 minute winter	5	12	37.419	0.109	19.2	0.4857	0.0000	OK
360 minute winter	6	352	37.292	0.136	4.1	0.7079	0.0000	OK
15 minute summer	7	1	37.750	0.000	0.0	0.0000	0.0000	OK
360 minute winter	8	352	37.293	0.201	4.7	16.5417	0.0000	SURCHARGED
15 minute summer	9	1	37.750	0.000	0.0	0.0000	0.0000	OK
360 minute winter	10	352	37.292	0.435	12.7	71.6047	0.0000	SURCHARGED
15 minute summer	11	1	37.850	0.000	0.0	0.0000	0.0000	OK
15 minute winter	12	13	37.689	0.080	13.1	2.4603	0.0000	OK
15 minute winter	13	12	37.597	0.086	11.7	0.1122	0.0000	OK
15 minute summer	14	1	37.350	0.000	0.0	0.0000	0.0000	OK
360 minute winter	15	352	37.292	0.104	0.8	2.2440	0.0000	OK
360 minute winter	16	352	37.292	0.579	8.9	0.9839	0.0000	SURCHARGED
15 minute summer	16_OUT	1	36.685	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	4.6	0.521	0.320	0.1547	
15 minute winter	2	1.001	3	7.1	0.537	0.702	0.2376	
15 minute winter	3	1.002	4	9.5	0.728	0.930	0.2501	
15 minute winter	4	1.003	5	12.7	0.626	0.200	0.9351	
15 minute winter	5	1.004	6	18.4	0.716	0.288	1.1869	
360 minute winter	6	1.005	16	4.1	0.524	0.064	1.4178	
15 minute summer	7	2.000	8	0.0	0.000	0.000	0.1747	
360 minute winter	8	2.001	10	-3.6	0.463	-0.202	0.2832	
15 minute summer	9	3.000	10	0.0	0.000	0.000	0.0000	
360 minute winter	10	2.002	16	-6.5	0.325	-0.163	0.4652	
15 minute summer	11	4.000	12	0.0	0.000	0.000	0.1106	
15 minute winter	12	4.001	13	8.8	0.890	0.497	0.0973	
15 minute winter	13	4.002	16	11.6	0.740	0.628	0.8351	
15 minute summer	14	5.000	15	0.0	0.000	0.000	0.0353	
360 minute winter	15	5.001	16	0.7	0.458	0.039	0.1873	
360 minute winter	16	Hydro-Brake®	16_OUT	2.0				61.9

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	1	472	37.903	0.203	0.9	0.1658	0.0000	SURCHARGED
480 minute winter	2	472	37.903	0.316	1.5	1.0899	0.0000	FLOOD RISK
480 minute winter	3	472	37.903	0.375	2.1	1.4967	0.0000	FLOOD RISK
480 minute winter	4	472	37.903	0.440	2.9	2.4776	0.0000	FLOOD RISK
480 minute winter	5	472	37.903	0.593	6.5	6.0743	0.0000	SURCHARGED
480 minute winter	6	472	37.903	0.747	5.9	8.1743	0.0000	SURCHARGED
480 minute winter	7	472	37.903	0.153	0.2	0.0433	0.0000	SURCHARGED
480 minute winter	8	472	37.903	0.811	9.5	51.1466	0.0000	SURCHARGED
480 minute winter	9	472	37.903	0.153	0.2	0.0433	0.0000	SURCHARGED
480 minute winter	10	472	37.903	1.046	16.0	92.8434	0.0000	SURCHARGED
480 minute winter	11	472	37.904	0.054	0.1	0.0152	0.0000	OK
480 minute winter	12	472	37.904	0.296	2.7	10.1000	0.0000	SURCHARGED
480 minute winter	13	472	37.904	0.393	3.5	0.5129	0.0000	SURCHARGED
480 minute winter	14	472	37.903	0.553	0.3	0.1565	0.0000	SURCHARGED
480 minute winter	15	472	37.903	0.715	3.5	12.6387	0.0000	SURCHARGED
480 minute winter	16	472	37.903	1.190	10.7	2.0208	0.0000	SURCHARGED
15 minute summer	16_OUT	1	36.685	0.000	2.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	1	1.000	2	0.9	0.329	0.062	0.2975	
480 minute winter	2	1.001	3	1.5	0.359	0.148	0.3107	
480 minute winter	3	1.002	4	2.1	0.468	0.207	0.3412	
480 minute winter	4	1.003	5	2.9	0.404	0.045	3.2306	
480 minute winter	5	1.004	6	4.4	0.449	0.069	3.2499	
480 minute winter	6	1.005	16	4.7	0.494	0.074	2.1834	
480 minute winter	7	2.000	8	-0.2	-0.015	-0.011	1.1689	
480 minute winter	8	2.001	10	-7.9	-0.450	-0.448	0.2832	
480 minute winter	9	3.000	10	-0.2	-0.021	-0.014	1.0300	
480 minute winter	10	2.002	16	-8.1	0.335	-0.203	0.4652	
480 minute winter	11	4.000	12	0.1	0.005	0.003	0.2840	
480 minute winter	12	4.001	13	2.7	0.661	0.151	0.1707	
480 minute winter	13	4.002	16	3.5	0.414	0.188	1.0486	
480 minute winter	14	5.000	15	-0.3	-0.019	-0.019	0.2869	
480 minute winter	15	5.001	16	-2.6	0.443	-0.148	0.2148	
480 minute winter	16	Hydro-Brake®	16_OUT	2.2				82.8