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仙台松島道路 橋梁修繕(天神大橋)工事

数量計算書

実施

宮城県道路公社

# 橋梁修繕工 天神大橋（上り線）

## 橋梁修繕工 天神大橋（上り線）数量総括表

種別	規格		単位	数量	設計上 実施数量	摘要
床版補修工 (炭素繊維) 格子貼り工	下地処理工	ハンダ-グレ	m2	1351.7	1,350	
	プライマー工		m2	1058.4	1,060	
	不陸修正工		m2	1058.4	1,060	
	炭素繊維シート貼付け工	中弾性型 300g/m <sup>2</sup>	m2	1414.0	1,410	
	仕上げ工	主鉄筋・配筋方向(2層)	m2	1058.4	1,060	
	床版下面補修 左官工法	剥離浮き箇所	m3	0.4	0.4	
	床版クワック補修 低圧注入法	クワック処理	m	20.0	20	
	塗装剥離剤 (1回剥ぎ)	主桁・対傾構	m2	8145.9	8,150	
	塗装剥離剤 (2回剥ぎ)	主桁・対傾構	m2	8145.9	8,150	
	塗膜除去・回収 1回目	剥離剤塗り回収	m2	8145.9	8,150	1回分
塗膜除去・回収 2回目	剥離剤塗り回収	m2	8145.9	8,150	1回分	
補修塗装工 (現場塗装) 塗装剥離	塗装廃材処理費	鉛含有塗料	t	11.9	11.9	
	素地調整	L=18km 4t車	回	5	5	
	防食下地	運搬費	個	66	66	
	下塗	回収用ドラム缶	m2	8145.9	8,150	
	中塗	第1種ケレン	m2	8145.9	8,150	
	上塗	有機ソリカハイント	m2	8145.9	8,150	
	下塗	弱溶剤形変性エポキシ樹脂	m2	8145.9	8,150	
	中塗	弱溶剤形変性エポキシ樹脂	m2	8145.9	8,150	
	上塗	弱溶剤形ふっそ樹脂	m2	8145.9	8,150	
	上塗	弱溶剤形ふっそ樹脂	m2	8145.9	8,150	
足場工	プラスチック廃材	プラスチック廃材処理	t	162.9	163	
	吊り足場	運搬費	回	56	56	
	昇降足場	A1P1-P2P3 TYPE A2 (板張り)	m2	1062.9	1,060	炭素繊維+塗装
	既設検査路撤去再設置	P3-A2 TYPE A2 (板張り)	m2	982.6	980	
	既設検査路再設置	P1-P2 TYPE A3 (板張り)	m2	525.5	530	町道
	交通誘導員B	P2枠組み手すり先工式	m2	120.0	120	
		P4枠組み手すり先工式	m2	99.0	100	
		手すりパイプ等	1橋当たり	1	1	既設橋設計報告
		町道上空 吊り足場工	1橋当たり	1	1	書より
			式	1	1	

## 床版補修工

### 炭素繊維シート貼り工

(1) 下地処理工

面積=(	1.952 +	2.013 +	1.954 )	×	141.900	×	1	=	839.9	m <sup>2</sup>	・ A1~P3
面積=(	1.947 +	1.993 +	1.949 )	×	86.900	×	1	=	511.8	m <sup>2</sup>	・ P3~A2
									<b>1,351.7</b>	m <sup>2</sup>	

(2) プライマー工

・ A1~P3												
橋軸方向	A1=(	10本 ×	141.9m ×	0.25m )	=				354.8	m <sup>2</sup>		
直角方向	A2=(	353本 ×	1.952m ×	0.25m )	=				172.3	m <sup>2</sup>		
直角方向	A3=(	353本 ×	2.013m ×	0.25m )	=				177.6	m <sup>2</sup>		
直角方向	A4=(	353本 ×	1.954m ×	0.25m )	=				172.4	m <sup>2</sup>		
控除面積	A5=(	353本 ×	10本 ×	0.25m ×	0.25m )	=			-220.6	m <sup>2</sup>		
・ P3~A2												
橋軸方向	A6=(	10本 ×	86.9m ×	0.25m )	=				217.3	m <sup>2</sup>		
直角方向	A7=(	216本 ×	1.952m ×	0.25m )	=				105.4	m <sup>2</sup>		
直角方向	A8=(	216本 ×	2.013m ×	0.25m )	=				108.7	m <sup>2</sup>		
直角方向	A9=(	216本 ×	1.954m ×	0.25m )	=				105.5	m <sup>2</sup>		
控除面積	A10=(	216本 ×	10本 ×	0.25m ×	0.25m )	=			-135.0	m <sup>2</sup>		
									<b>小計</b>	<b>401.9</b>	m <sup>2</sup>	
									<b>合計 Σ A =</b>	<b>A 1 + A 2 + A 3 + A 4 + A 5 + A 6 + A 7 + A 8 + A 9 + A 10</b>	<b>1058.4</b>	m <sup>2</sup>

(3) 不陸修正工

プライマー工と同じ

= 1058.4 m<sup>2</sup>

(4) 炭素繊維シート貼付け工

・ A1~P3

合計 Σ A = A 1 + A 2 + A 3 + A 4

= 877.1 m<sup>2</sup>

・ P3~A2

合計 Σ A = A 6 + A 7 + A 8 + A 9

= 536.9 m<sup>2</sup>

・ A1~A2

合計 Σ A = A 1 + A 2 + A 3 + A 4 + A 6 + A 7 + A 8 + A 9

= 1414.0 m<sup>2</sup>

(5) 仕上げ工

プライマー工と同じ

= 1058.4 m<sup>2</sup>

## 床版補修

(1) 床版下面補修 左官工法

= 0.4 m<sup>3</sup>

= 1橋当たり

(2) 床版クラック補修 低圧注入法

= 20 m

= 1橋当たり

天神大橋(上り線)床版補修数量集計表

(1). 断面修復工

補修工法	補修番号	状態	幅 (m)	延長 (m)	単位	数量
断面修復工	1	浮き	1.00	1.00	m <sup>2</sup>	1.00
	2	浮き・剥離	1.00	1.00	m <sup>2</sup>	1.00
	3	浮き・剥離	1.00	1.00	m <sup>2</sup>	1.00
	4	浮き	1.00	1.00	m <sup>2</sup>	1.00
	5	浮き	1.00	1.00	m <sup>2</sup>	1.00
	6	浮き・剥離	1.00	1.00	m <sup>2</sup>	1.00
	7	浮き	1.00	1.00	m <sup>2</sup>	1.00
	8	浮き	1.00	1.00	m <sup>2</sup>	1.00
	9	浮き	1.00	1.00	m <sup>2</sup>	1.00
	10	浮き	1.00	1.00	m <sup>2</sup>	1.00
	11	剥離			m <sup>2</sup>	
	12	浮き			m <sup>2</sup>	
	13	浮き			m <sup>2</sup>	
	14	浮き			m <sup>2</sup>	
	15	浮き・剥離			m <sup>2</sup>	
合計						10.00

合計補修数量

平均補修厚さ 0.04 = 10.0 m<sup>2</sup> = 0.40 m<sup>3</sup>

天神大橋(上り線) 床版補修 数量集計表

(2). ひび割れ注入工

補修工法	補修番号	状態	ひび割れ幅 (mm)	単位	数量
ひび割れ注入	1	ひび割れ	0.20	m	1.00
	2	ひび割れ	0.20	m	0.95
	3	ひび割れ	0.20	m	1.20
	4	ひび割れ	0.20	m	0.95
	5	ひび割れ	0.30	m	1.25
	6	ひび割れ	0.35	m	1.75
	7	ひび割れ	0.20	m	1.05
	8	ひび割れ	0.20	m	1.15
	9	ひび割れ	0.20	m	0.75
	10	ひび割れ	0.20	m	1.20
	11	ひび割れ	0.20	m	0.65
	12	ひび割れ	0.20	m	1.70
	13	ひび割れ	0.20	m	1.65
	14	ひび割れ	0.30	m	0.90
	15	ひび割れ	0.20	m	0.65
	16	ひび割れ	0.20	m	0.72
	17	ひび割れ	0.20	m	0.55
	18	ひび割れ	0.20	m	0.61
	19	ひび割れ	0.20	m	0.64
	20	ひび割れ	0.20	m	0.66
		合計			19.98

合計補修数量

20.0 m

### 補修塗装工

(1)	塗装剥離剤 (1回剥ぎ)							8,145.9	m2
(2)	塗装剥離剤 (2回剥ぎ)							8,145.9	m2
(3)	塗装剥離剤 (3回剥ぎ)							---	m2
(4)	塗膜除去・回収 1回							8,145.9	m2
(5)	塗膜除去・回収 2回							8,145.9	m2
(6)	塗膜除去・回収 3回							---	m2

(7)	塗膜処理費	管理型廃棄物	実績換算量	(2.2t/1500m2) * 8145.9m2				11.9	t
	運搬 4 tトラック (2.9t吊)				÷	2.95	t	5	台
	回収用ドラム缶	管理型廃棄物	実績換算量	(12個/1500m2) * 8145.9m2				66	個

### 仕様 ; Rc-I

(1)	清掃水洗い	面積=						---	m <sup>2</sup>
(2)	素地調整 1種ケレン	面積=	8145.9					8,145.9	m <sup>2</sup>
(3)	防食下地(有機ジンクリッチペイント)	面積=	8145.9					8,145.9	m <sup>2</sup>
(4)	下塗(弱溶剤形変性エポキシ樹脂)	面積=	8145.9					8,145.9	m <sup>2</sup>
(5)	下塗(弱溶剤形変性エポキシ樹脂)	面積=	8145.9					8,145.9	m <sup>2</sup>
(6)	中塗(弱溶剤形ふっそ樹脂)	面積=	8145.9					8,145.9	m <sup>2</sup>
(7)	上塗(弱溶剤形ふっそ樹脂)	面積=	8145.9					8,145.9	m <sup>2</sup>
(8)	ﾌﾟﾗｽﾄ廃材		8,145.9	m2	×	20	kg/m2	162.9	t
	運搬 4 tトラック (2.9t吊)		163	t	÷	2.95	t	56	台

鋼部材塗装工

数量集計表(径間別)

種 別	単位	数 量							備 考
		1径間 A1~P1	2径間 P1~P2	3径間 P2~P3	4径間 P3~P4	5径間 P4~A2	合計		
再塗装工	主桁	1399.07	1392.64	1407.13	1258.55	1265.85	6723.24	1種	
	対傾構	109.79	91.56	109.79	96.65	96.65	504.44		
	横桁	56.97	84.48	84.48	56.97	84.83	367.73		
	横構	112.64	116.70	115.87	101.09	104.22	550.52		
	合計	1678.47	1685.38	1717.27	1513.26	1551.55	8145.93		
再塗装工	m <sup>2</sup>	1678.47	1685.38	1717.27	1513.26	1551.55	8145.93	RC-I	

数量集計表(連続桁考慮)

種 別	単位	数 量			備 考
		A1~P3	P3~A2	合計	
再塗装工	主桁	4198.84	2524.40	6723.24	1種
	対傾構	311.14	193.30	504.44	
	横桁	225.93	141.80	367.73	
	横構	345.21	205.31	550.52	
	合計	5081.12	3064.81	8145.93	
再塗装工	m <sup>2</sup>	5081.12	3064.81	8145.93	RC-I

(1) 1径間(A1~P1)

① ケレン工

1) 主桁

(G1・G4桁)

U Flg	( 0.016 × 2 + 0.340 - 0.012 ) × 4.050 × 2	= 2.916 m <sup>2</sup>
	( 0.019 × 2 + 0.390 - 0.012 ) × 3.700 × 2	= 3.078 m <sup>2</sup>
	( 0.025 × 2 + 0.530 - 0.012 ) × 5.600 × 2	= 6.362 m <sup>2</sup>
	( 0.028 × 2 + 0.560 - 0.012 ) × 18.300 × 2	= 22.106 m <sup>2</sup>
	( 0.022 × 2 + 0.420 - 0.012 ) × 5.200 × 2	= 4.701 m <sup>2</sup>
	( 0.019 × 2 + 0.370 - 0.012 ) × 4.500 × 2	= 3.564 m <sup>2</sup>
	( 0.022 × 2 + 0.550 - 0.012 ) × 4.500 × 2	= 5.238 m <sup>2</sup>
	( 0.025 × 2 + 0.740 - 0.012 ) × 2.500 × 2	= 3.890 m <sup>2</sup>
		<hr/>
	$\Sigma a1$	= 51.855 m <sup>2</sup>

(G2・G3桁)

U Flg	( 0.014 × 2 + 0.300 - 0.012 ) × 8.550 × 2	= 5.404 m <sup>2</sup>
	( 0.016 × 2 + 0.350 - 0.012 ) × 3.700 × 2	= 2.738 m <sup>2</sup>
	( 0.022 × 2 + 0.470 - 0.012 ) × 5.600 × 2	= 5.622 m <sup>2</sup>
	( 0.025 × 2 + 0.490 - 0.012 ) × 18.300 × 2	= 19.325 m <sup>2</sup>
	( 0.019 × 2 + 0.340 - 0.012 ) × 5.200 × 2	= 3.806 m <sup>2</sup>
	( 0.019 × 2 + 0.440 - 0.012 ) × 4.500 × 2	= 4.194 m <sup>2</sup>
	( 0.022 × 2 + 0.620 - 0.012 ) × 2.500 × 2	= 3.260 m <sup>2</sup>
		<hr/>
	$\Sigma a2$	= 44.349 m <sup>2</sup>

(G1・G4桁)

Web	2.400 × 48.350 × 2 × 2	= 464.160 m <sup>2</sup>
		<hr/>
	$\Sigma a3$	= 464.160 m <sup>2</sup>

(G2・G3桁)

Web	2.400 × 48.350 × 2 × 2	= 464.160 m <sup>2</sup>
		<hr/>
	$\Sigma a4$	= 464.160 m <sup>2</sup>



(G1・G4桁)

L Flg	{ ( 0.014 + 0.380 ) × 2 - 0.012 }	× 4.050 × 2	=	6.286	m <sup>2</sup>
	{ ( 0.016 + 0.460 ) × 2 - 0.012 }	× 3.700 × 2	=	6.956	m <sup>2</sup>
	{ ( 0.022 + 0.590 ) × 2 - 0.012 }	× 5.600 × 2	=	13.574	m <sup>2</sup>
	{ ( 0.025 + 0.630 ) × 2 - 0.012 }	× 15.100 × 2	=	39.200	m <sup>2</sup>
	{ ( 0.030 + 0.630 ) × 2 - 0.012 }	× 1.600 × 2	=	4.186	m <sup>2</sup>
	{ ( 0.028 + 0.630 ) × 2 - 0.012 }	× 1.600 × 2	=	4.173	m <sup>2</sup>
	{ ( 0.019 + 0.490 ) × 2 - 0.012 }	× 9.700 × 2	=	19.516	m <sup>2</sup>
	{ ( 0.028 + 0.540 ) × 2 - 0.012 }	× 4.500 × 2	=	10.116	m <sup>2</sup>
	{ ( 0.032 + 0.660 ) × 2 - 0.012 }	× 2.500 × 2	=	6.860	m <sup>2</sup>
				<hr/>	
				Σ a5	= 110.867 m <sup>2</sup>

(G2・G3桁)

L Flg	{ ( 0.014 + 0.300 ) × 2 - 0.012 }	× 4.050 × 2	=	4.990	m <sup>2</sup>
	{ ( 0.014 + 0.400 ) × 2 - 0.012 }	× 3.700 × 2	=	6.038	m <sup>2</sup>
	{ ( 0.019 + 0.530 ) × 2 - 0.012 }	× 5.600 × 2	=	12.163	m <sup>2</sup>
	{ ( 0.022 + 0.550 ) × 2 - 0.012 }	× 15.100 × 2	=	34.186	m <sup>2</sup>
	{ ( 0.028 + 0.550 ) × 2 - 0.012 }	× 1.600 × 2	=	3.661	m <sup>2</sup>
	{ ( 0.025 + 0.550 ) × 2 - 0.012 }	× 1.600 × 2	=	3.642	m <sup>2</sup>
	{ ( 0.016 + 0.400 ) × 2 - 0.012 }	× 5.200 × 2	=	8.528	m <sup>2</sup>
	{ ( 0.019 + 0.380 ) × 2 - 0.012 }	× 4.500 × 2	=	7.074	m <sup>2</sup>
	{ ( 0.025 + 0.490 ) × 2 - 0.012 }	× 4.500 × 2	=	9.162	m <sup>2</sup>
	{ ( 0.028 + 0.600 ) × 2 - 0.012 }	× 2.500 × 2	=	6.220	m <sup>2</sup>
				<hr/>	
				Σ a6	= 95.664 m <sup>2</sup>

(G1・G4桁)

V Stiff	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>
	0.150 × 2.400 × 2 × 34 × 2	=	48.960	m <sup>2</sup>
	0.090 × 0.150 × 2 × 34 × 2	=	1.836	m <sup>2</sup>
			<hr/>	
			Σ a7	= 53.484 m <sup>2</sup>

(G2・G3桁)

V Stiff	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>
	0.150 × 2.400 × 2 × 43 × 2	=	61.920	m <sup>2</sup>
			<hr/>	
			Σ a8	= 64.608 m <sup>2</sup>

(G1・G4桁)

H Stiff	0.120	×	1.130	×	2	×	31	×	2	=	16.814	m <sup>2</sup>
	0.120	×	0.970	×	2	×	13	×	2	=	6.053	m <sup>2</sup>
	0.120	×	1.120	×	2	×	1	×	2	=	0.538	m <sup>2</sup>
	0.120	×	1.141	×	2	×	2	×	2	=	1.095	m <sup>2</sup>
	0.120	×	0.960	×	2	×	1	×	2	=	0.461	m <sup>2</sup>
										<hr/>	<b>Σ a9</b>	<b>24.961</b> m <sup>2</sup>

(G2・G3桁)

H Stiff	0.120	×	1.130	×	2	×	34	×	2	=	18.442	m <sup>2</sup>
	0.120	×	0.970	×	2	×	14	×	2	=	6.518	m <sup>2</sup>
										<hr/>	<b>Σ a10</b>	<b>24.960</b> m <sup>2</sup>

・主桁合計

<b>Σ A1</b>	<b>=</b>	<b>51.855</b>	<b>+</b>	<b>44.349</b>	<b>+</b>	<b>464.160</b>	<b>+</b>	<b>464.160</b>	<b>+</b>	<b>110.867</b>						
				<b>+</b>	<b>95.664</b>	<b>+</b>	<b>53.484</b>	<b>+</b>	<b>64.608</b>	<b>+</b>	<b>24.961</b>	<b>+</b>	<b>24.960</b>	<b>=</b>	<b>1399.068</b>	<b>m<sup>2</sup></b>

## 2) 対傾構

### ・端対傾構 (ESW) (1箇所)

$$\begin{aligned}
 & \cdot [ 300 \times 90 \times 9 \times 13 \quad L = 0.300 \times 2 + 0.090 \times 4 - 0.009 \times 2 \\
 & \hspace{15em} = 0.942 \quad \text{m} \\
 & \cdot L \quad 130 \times 130 \times 12 \quad L = 0.130 \times 4 = 0.520 \quad \text{m} \\
 & \cdot CT \quad 95 \times 152 \times 8 \times 8 \quad L = (0.152 + 0.095) \times 2 = 0.494 \quad \text{m} \\
 [ & \quad 0.942 \times 2.246 \times 2 \times 1 = 4.231 \quad \text{m}^2 \\
 & \quad 0.942 \times 2.266 \times 1 \times 1 = 2.135 \quad \text{m}^2 \\
 L & \quad 0.520 \times 1.850 \times 3 \times 1 = 2.886 \quad \text{m}^2 \\
 & \quad 0.520 \times 1.890 \times 3 \times 1 = 2.948 \quad \text{m}^2 \\
 CT & \quad 0.494 \times 2.270 \times 3 \times 1 = 3.364 \quad \text{m}^2 \\
 Guss & \quad 0.320 \times 0.380 \times 2 \times 6 \times 1 = 1.459 \quad \text{m}^2 \\
 & \quad 0.340 \times 0.400 \times 2 \times 3 \times 1 = 0.816 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.380 \times 2 \times 6 \times 1 = 1.368 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a1 = 19.207 \quad \text{m}^2
 \end{aligned}$$

### ・中間対傾構

#### (SW-1) (4箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 4 = 21.600 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 4 = 8.726 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 4 = 8.424 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 4 = 6.768 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 4 = 2.376 \quad \text{m}^2 \\
 & \quad 0.230 \times 0.300 \times 2 \times 6 \times 4 = 3.312 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a2 = 51.206 \quad \text{m}^2
 \end{aligned}$$

#### (SW-2) (3箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 3 = 16.200 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 3 = 6.545 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 3 = 6.318 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 3 = 5.076 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 3 = 1.782 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.320 \times 2 \times 6 \times 3 = 3.456 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a3 = 39.377 \quad \text{m}^2
 \end{aligned}$$

### ・対傾構合計

$$\Sigma A2 = 19.207 + 51.206 + 39.377 = 109.790 \quad \text{m}^2$$

### 3) 横桁

・分配横桁 (F.B) (2箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621 m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305 m <sup>2</sup>
Web	1.900 × 2.486 × 3 × 2			=	28.340 m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621 m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305 m <sup>2</sup>
V Stiff	0.100 × 1.900 × 2 × 4 × 2			=	3.040 m <sup>2</sup>
	0.115 × 1.900 × 2 × 1 × 2			=	0.874 m <sup>2</sup>
H Stiff	0.100 × 2.248 × 2 × 6 × 2			=	5.395 m <sup>2</sup>
	0.100 × 0.451 × 2 × 4 × 2			=	0.722 m <sup>2</sup>
Guss	0.380 × 0.390 × 2 × 8 × 2			=	4.742 m <sup>2</sup>
				<b>Σ A3 =</b>	<b>56.965 m<sup>2</sup></b>

#### 4) 横構

	・ CT 144x204x12x10	L = ( 0.144 + 0.204 ) × 2 =	0.696 m
	・ CT 118x178x10x8	L = ( 0.118 + 0.178 ) × 2 =	0.592 m
CT	0.696 × 3.070 × 20		= 42.734 m <sup>2</sup>
	0.696 × 2.950 × 1		= 2.053 m <sup>2</sup>
	0.696 × 2.248 × 1		= 1.565 m <sup>2</sup>
	0.592 × 3.050 × 16		= 28.890 m <sup>2</sup>
PL	( 0.150 + 0.012 ) × 2 × 3.120 × 2		= 2.022 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.238 × 1		= 0.725 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.720 × 1		= 0.881 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.980 × 2		= 1.931 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 3.310 × 2		= 3.310 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.248 × 1		= 1.124 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.730 × 1		= 1.365 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.990 × 2		= 2.990 m <sup>2</sup>
Guss	0.390 × 0.590 × 2 × 2		= 0.920 m <sup>2</sup>
	0.315 × 0.400 × 2 × 3		= 0.756 m <sup>2</sup>
	0.390 × 0.600 × 2 × 1		= 0.468 m <sup>2</sup>
	0.310 × 0.600 × 2 × 18		= 6.696 m <sup>2</sup>
	0.325 × 0.400 × 2 × 2		= 0.520 m <sup>2</sup>
	0.360 × 0.580 × 2 × 1		= 0.418 m <sup>2</sup>
	0.400 × 0.790 × 2 × 10		= 6.320 m <sup>2</sup>
	0.400 × 0.780 × 2 × 6		= 3.744 m <sup>2</sup>
	0.400 × 0.770 × 2 × 2		= 1.232 m <sup>2</sup>
	0.390 × 0.770 × 2 × 2		= 1.201 m <sup>2</sup>
	0.490 × 0.790 × 2 × 1		= 0.774 m <sup>2</sup>
		<b>Σ A4 =</b>	<b>112.639 m<sup>2</sup></b>

#### ケレン工合計

$$\Sigma A = 1399.07 + 109.790 + 56.97 + 112.64 = 1678.47 \text{ m}^2$$

#### ② 再塗装工

$$A = 1678.47 \text{ m}^2$$

(2) 2径間(P1~P2)

① ケレン工

1) 主桁

(G1・G4桁)

U Flg	( 0.025 × 2 + 0.740 - 0.012 ) × 5.000 × 2	= 7.780 m <sup>2</sup>
	( 0.022 × 2 + 0.590 - 0.012 ) × 9.600 × 2	= 11.942 m <sup>2</sup>
	( 0.019 × 2 + 0.500 - 0.012 ) × 9.000 × 2	= 9.468 m <sup>2</sup>
	( 0.016 × 2 + 0.340 - 0.012 ) × 6.400 × 2	= 4.608 m <sup>2</sup>
	( 0.022 × 2 + 0.490 - 0.012 ) × 18.000 × 2	= 18.792 m <sup>2</sup>
		<hr/>
	$\Sigma a1$	= 52.590 m <sup>2</sup>

(G2・G3桁)

U Flg	( 0.022 × 2 + 0.620 - 0.012 ) × 5.000 × 2	= 6.520 m <sup>2</sup>
	( 0.019 × 2 + 0.510 - 0.012 ) × 9.600 × 2	= 10.291 m <sup>2</sup>
	( 0.016 × 2 + 0.430 - 0.012 ) × 9.000 × 2	= 8.100 m <sup>2</sup>
	( 0.014 × 2 + 0.300 - 0.012 ) × 9.400 × 2	= 5.941 m <sup>2</sup>
	( 0.016 × 2 + 0.400 - 0.012 ) × 15.000 × 2	= 12.600 m <sup>2</sup>
		<hr/>
	$\Sigma a2$	= 43.452 m <sup>2</sup>

(G1・G4桁)

Web	2.400 × 48.000 × 2 × 2	= 460.800 m <sup>2</sup>
		<hr/>
	$\Sigma a3$	= 460.800 m <sup>2</sup>

(G2・G3桁)

Web	2.400 × 48.000 × 2 × 2	= 460.800 m <sup>2</sup>
		<hr/>
	$\Sigma a4$	= 460.800 m <sup>2</sup>

(G1・G4桁)

L Flg	{ ( 0.032 + 0.660 ) × 2 - 0.012 } × 5.000 × 2	= 13.720 m <sup>2</sup>
	{ ( 0.028 + 0.570 ) × 2 - 0.012 } × 9.600 × 2	= 22.733 m <sup>2</sup>
	{ ( 0.022 + 0.530 ) × 2 - 0.012 } × 9.000 × 2	= 19.656 m <sup>2</sup>
	{ ( 0.016 + 0.340 ) × 2 - 0.012 } × 6.400 × 2	= 8.960 m <sup>2</sup>
	{ ( 0.019 + 0.550 ) × 2 - 0.012 } × 14.800 × 2	= 33.330 m <sup>2</sup>
	{ ( 0.022 + 0.550 ) × 2 - 0.012 } × 3.200 × 2	= 7.245 m <sup>2</sup>
		<hr/>
	$\Sigma a5$	= 105.644 m <sup>2</sup>

(G2・G3桁)

L Flg	{ ( 0.028 + 0.600 ) × 2 - 0.012 }	× 5.000 × 2	= 12.440 m <sup>2</sup>
	{ ( 0.025 + 0.510 ) × 2 - 0.012 }	× 9.600 × 2	= 20.314 m <sup>2</sup>
	{ ( 0.019 + 0.480 ) × 2 - 0.012 }	× 9.000 × 2	= 17.748 m <sup>2</sup>
	{ ( 0.014 + 0.300 ) × 2 - 0.012 }	× 9.400 × 2	= 11.581 m <sup>2</sup>
	{ ( 0.019 + 0.400 ) × 2 - 0.012 }	× 4.600 × 2	= 7.599 m <sup>2</sup>
	{ ( 0.016 + 0.400 ) × 2 - 0.012 }	× 10.400 × 2	= 17.056 m <sup>2</sup>
			<hr/>
			Σ a6 = 86.738 m <sup>2</sup>

(G1・G4桁)

V Stiff	0.210 × 2.400 × 2 × 2 × 2	= 4.032 m <sup>2</sup>
	0.150 × 2.400 × 2 × 35 × 2	= 50.400 m <sup>2</sup>
	0.090 × 0.150 × 2 × 35 × 2	= 1.890 m <sup>2</sup>
		<hr/>
		Σ a7 = 56.322 m <sup>2</sup>

(G2・G3桁)

V Stiff	0.210 × 2.400 × 2 × 2 × 2	= 4.032 m <sup>2</sup>
	0.150 × 2.400 × 2 × 44 × 2	= 63.360 m <sup>2</sup>
		<hr/>
		Σ a8 = 67.392 m <sup>2</sup>

(G1・G4桁)

H Stiff	0.120 × 1.130 × 2 × 42 × 2	= 22.781 m <sup>2</sup>
	0.120 × 0.970 × 2 × 8 × 2	= 3.725 m <sup>2</sup>
	0.120 × 0.960 × 2 × 4 × 2	= 1.843 m <sup>2</sup>
	0.120 × 1.141 × 2 × 2 × 2	= 1.095 m <sup>2</sup>
		<hr/>
		Σ a9 = 29.444 m <sup>2</sup>

(G2・G3桁)

H Stiff	0.120 × 1.130 × 2 × 44 × 2	= 23.866 m <sup>2</sup>
	0.120 × 0.970 × 2 × 12 × 2	= 5.587 m <sup>2</sup>
		<hr/>
		Σ a10 = 29.453 m <sup>2</sup>

・主桁合計

Σ A1 =	52.590 + 43.452 + 460.800 + 460.800 + 105.644	
	+ 86.738 + 56.322 + 67.392 + 29.444 + 29.453	= 1392.635 m <sup>2</sup>

## 2) 対傾構

### ・中間対傾構

(SW-1) (1箇所)

	▪	L	100x100x10	L =	0.100	×	4	=	0.400	m	
	▪	L	90x90x10	L =	0.090	×	4	=	0.360	m	
L		0.400	×	2.250	×	6	×	1		=	5.400 m <sup>2</sup>
		0.360	×	2.020	×	3	×	1		=	2.182 m <sup>2</sup>
		0.360	×	1.950	×	3	×	1		=	2.106 m <sup>2</sup>
Guss		0.300	×	0.470	×	2	×	6	×	1	= 1.692 m <sup>2</sup>
		0.300	×	0.330	×	2	×	3	×	1	= 0.594 m <sup>2</sup>
		0.230	×	0.300	×	2	×	6	×	1	= 0.828 m <sup>2</sup>
										<hr/>	
										$\Sigma a1 = 12.802 \text{ m}^2$	

(SW-2) (6箇所)

	▪	L	100x100x10	L =	0.100	×	4	=	0.400	m	
	▪	L	90x90x10	L =	0.090	×	4	=	0.360	m	
L		0.400	×	2.250	×	6	×	6		=	32.400 m <sup>2</sup>
		0.360	×	2.020	×	3	×	6		=	13.090 m <sup>2</sup>
		0.360	×	1.950	×	3	×	6		=	12.636 m <sup>2</sup>
Guss		0.300	×	0.470	×	2	×	6	×	6	= 10.152 m <sup>2</sup>
		0.300	×	0.330	×	2	×	3	×	6	= 3.564 m <sup>2</sup>
		0.300	×	0.320	×	2	×	6	×	6	= 6.912 m <sup>2</sup>
										<hr/>	
										$\Sigma a2 = 78.754 \text{ m}^2$	

### ・対傾構合計

$$\Sigma A2 = 12.802 + 78.754 = 91.556 \text{ m}^2$$



### 3) 横桁

#### ・分配横桁 (F.B) (2箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
Web	1.900	× 2.486	× 3 × 2	=	28.340	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 2	=	3.040	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 2	=	0.874	m <sup>2</sup>
H Stiff	0.100	× 2.248	× 2 × 6 × 2	=	5.395	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 2	=	0.722	m <sup>2</sup>
Guss	0.380	× 0.390	× 2 × 8 × 2	=	4.742	m <sup>2</sup>
				<hr/>	$\Sigma a1$	= 56.965 m <sup>2</sup>

#### ・中間支点上横桁 (ISW) (1箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.123	× 2 × 1	=	2.187	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.118	× 1 × 1	=	1.091	m <sup>2</sup>
Web	1.900	× 2.366	× 3 × 1	=	13.486	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.123	× 2 × 1	=	2.187	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.118	× 1 × 1	=	1.091	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 1	=	1.520	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 1	=	0.437	m <sup>2</sup>
H Stiff	0.100	× 2.128	× 2 × 6 × 1	=	2.554	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 1	=	0.361	m <sup>2</sup>
Guss	0.400	× 0.465	× 2 × 7 × 1	=	2.604	m <sup>2</sup>
				<hr/>	$\Sigma a2$	= 27.518 m <sup>2</sup>

#### ・横桁合計

$$\Sigma A3 = 56.965 + 27.518 = 84.483 \text{ m}^2$$

4) 横構

	・ CT 144x204x12x10	L = ( 0.144 + 0.204 ) × 2 =	0.696 m
	・ CT 118x178x10x8	L = ( 0.118 + 0.178 ) × 2 =	0.592 m
CT	0.696 × 3.070 × 16		= 34.188 m <sup>2</sup>
	0.592 × 3.050 × 16		= 28.890 m <sup>2</sup>
PL	( 0.150 + 0.012 ) × 2 × 2.980 × 4		= 3.862 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.720 × 2		= 1.763 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.238 × 2		= 1.450 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 3.020 × 4		= 3.914 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.990 × 4		= 5.980 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.730 × 2		= 2.730 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.248 × 2		= 2.248 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 3.030 × 4		= 6.060 m <sup>2</sup>
Guss	0.500 × 0.990 × 2 × 2		= 1.980 m <sup>2</sup>
	0.570 × 1.100 × 2 × 1		= 1.254 m <sup>2</sup>
	0.390 × 0.770 × 2 × 4		= 2.402 m <sup>2</sup>
	0.325 × 0.400 × 2 × 2		= 0.520 m <sup>2</sup>
	0.490 × 0.790 × 2 × 2		= 1.548 m <sup>2</sup>
	0.310 × 0.600 × 2 × 16		= 5.952 m <sup>2</sup>
	0.475 × 0.830 × 2 × 4		= 3.154 m <sup>2</sup>
	0.400 × 0.790 × 2 × 8		= 5.056 m <sup>2</sup>
	0.400 × 0.780 × 2 × 6		= 3.744 m <sup>2</sup>
		<b>Σ A4 =</b>	<b>116.695 m<sup>2</sup></b>

ケレン工合計

$$\Sigma A = 1392.64 + 91.56 + 84.48 + 116.70 = 1685.38 \text{ m}^2$$

② 再塗装工

$$A = 1685.38 \text{ m}^2$$

(3)3径間(P2~P3)

① ケレン工

1) 主桁

(G1・G4桁)

U Flg	( 0.016 × 2 + 0.340 - 0.012 ) × 4.050 × 2	= 2.916 m <sup>2</sup>
	( 0.019 × 2 + 0.390 - 0.012 ) × 3.700 × 2	= 3.078 m <sup>2</sup>
	( 0.025 × 2 + 0.530 - 0.012 ) × 5.600 × 2	= 6.362 m <sup>2</sup>
	( 0.028 × 2 + 0.560 - 0.012 ) × 18.300 × 2	= 22.106 m <sup>2</sup>
	( 0.022 × 2 + 0.420 - 0.012 ) × 5.200 × 2	= 4.701 m <sup>2</sup>
	( 0.019 × 2 + 0.370 - 0.012 ) × 4.500 × 2	= 3.564 m <sup>2</sup>
	( 0.022 × 2 + 0.550 - 0.012 ) × 4.500 × 2	= 5.238 m <sup>2</sup>
	( 0.025 × 2 + 0.740 - 0.012 ) × 2.500 × 2	= 3.890 m <sup>2</sup>
		<hr/>
	$\Sigma a1$	= 51.855 m <sup>2</sup>

(G2・G3桁)

U Flg	( 0.014 × 2 + 0.300 - 0.012 ) × 8.550 × 2	= 5.404 m <sup>2</sup>
	( 0.016 × 2 + 0.350 - 0.012 ) × 3.700 × 2	= 2.738 m <sup>2</sup>
	( 0.022 × 2 + 0.470 - 0.012 ) × 5.600 × 2	= 5.622 m <sup>2</sup>
	( 0.025 × 2 + 0.490 - 0.012 ) × 18.300 × 2	= 19.325 m <sup>2</sup>
	( 0.019 × 2 + 0.340 - 0.012 ) × 5.200 × 2	= 3.806 m <sup>2</sup>
	( 0.019 × 2 + 0.440 - 0.012 ) × 4.500 × 2	= 4.194 m <sup>2</sup>
	( 0.022 × 2 + 0.620 - 0.012 ) × 2.500 × 2	= 3.260 m <sup>2</sup>
		<hr/>
	$\Sigma a2$	= 44.349 m <sup>2</sup>

(G1・G4桁)

Web	2.400 × 48.350 × 2 × 2	= 464.160 m <sup>2</sup>
		<hr/>
	$\Sigma a3$	= 464.160 m <sup>2</sup>

(G2・G3桁)

Web	2.400 × 48.350 × 2 × 2	= 464.160 m <sup>2</sup>
		<hr/>
	$\Sigma a4$	= 464.160 m <sup>2</sup>

(G1・G4桁)

L Flg	{ ( 0.014 + 0.380 ) × 2 - 0.012 }	× 4.050 × 2	=	6.286	m <sup>2</sup>
	{ ( 0.016 + 0.460 ) × 2 - 0.012 }	× 3.700 × 2	=	6.956	m <sup>2</sup>
	{ ( 0.022 + 0.590 ) × 2 - 0.012 }	× 5.600 × 2	=	13.574	m <sup>2</sup>
	{ ( 0.025 + 0.630 ) × 2 - 0.012 }	× 15.100 × 2	=	39.200	m <sup>2</sup>
	{ ( 0.030 + 0.630 ) × 2 - 0.012 }	× 1.600 × 2	=	4.186	m <sup>2</sup>
	{ ( 0.028 + 0.630 ) × 2 - 0.012 }	× 1.600 × 2	=	4.173	m <sup>2</sup>
	{ ( 0.019 + 0.490 ) × 2 - 0.012 }	× 9.700 × 2	=	19.516	m <sup>2</sup>
	{ ( 0.028 + 0.540 ) × 2 - 0.012 }	× 4.500 × 2	=	10.116	m <sup>2</sup>
	{ ( 0.032 + 0.660 ) × 2 - 0.012 }	× 2.500 × 2	=	6.860	m <sup>2</sup>
				<hr/>	
				Σ a5	= 110.867 m <sup>2</sup>

(G2・G3桁)

L Flg	{ ( 0.014 + 0.300 ) × 2 - 0.012 }	× 4.050 × 2	=	4.990	m <sup>2</sup>
	{ ( 0.014 + 0.400 ) × 2 - 0.012 }	× 3.700 × 2	=	6.038	m <sup>2</sup>
	{ ( 0.019 + 0.530 ) × 2 - 0.012 }	× 5.600 × 2	=	12.163	m <sup>2</sup>
	{ ( 0.022 + 0.550 ) × 2 - 0.012 }	× 15.100 × 2	=	34.186	m <sup>2</sup>
	{ ( 0.028 + 0.550 ) × 2 - 0.012 }	× 1.600 × 2	=	3.661	m <sup>2</sup>
	{ ( 0.025 + 0.550 ) × 2 - 0.012 }	× 1.600 × 2	=	3.642	m <sup>2</sup>
	{ ( 0.016 + 0.400 ) × 2 - 0.012 }	× 5.200 × 2	=	8.528	m <sup>2</sup>
	{ ( 0.019 + 0.380 ) × 2 - 0.012 }	× 4.500 × 2	=	7.074	m <sup>2</sup>
	{ ( 0.025 + 0.490 ) × 2 - 0.012 }	× 4.500 × 2	=	9.162	m <sup>2</sup>
	{ ( 0.028 + 0.600 ) × 2 - 0.012 }	× 2.500 × 2	=	6.220	m <sup>2</sup>
				<hr/>	
				Σ a6	= 95.664 m <sup>2</sup>

(G1・G4桁)

V Stiff	0.210 × 2.400 × 2 × 2 × 2	=	4.032	m <sup>2</sup>	
	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>	
	0.150 × 2.400 × 2 × 34 × 2	=	48.960	m <sup>2</sup>	
	0.090 × 0.150 × 2 × 34 × 2	=	1.836	m <sup>2</sup>	
				<hr/>	
				Σ a7	= 57.516 m <sup>2</sup>

(G2・G3桁)

V Stiff	0.210 × 2.400 × 2 × 2 × 2	=	4.032	m <sup>2</sup>	
	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>	
	0.150 × 2.400 × 2 × 43 × 2	=	61.920	m <sup>2</sup>	
				<hr/>	
				Σ a8	= 68.640 m <sup>2</sup>

(G1・G4桁)

H Stiff	0.120	×	1.130	×	2	×	31	×	2	=	16.814	m <sup>2</sup>
	0.120	×	0.970	×	2	×	13	×	2	=	6.053	m <sup>2</sup>
	0.120	×	1.120	×	2	×	1	×	2	=	0.538	m <sup>2</sup>
	0.120	×	1.141	×	2	×	2	×	2	=	1.095	m <sup>2</sup>
	0.120	×	0.960	×	2	×	1	×	2	=	0.461	m <sup>2</sup>
										<hr/>		
										Σ a9	=	24.961 m <sup>2</sup>

(G2・G3桁)

H Stiff	0.120	×	1.130	×	2	×	34	×	2	=	18.442	m <sup>2</sup>
	0.120	×	0.970	×	2	×	14	×	2	=	6.518	m <sup>2</sup>
										<hr/>		
										Σ a10	=	24.960 m <sup>2</sup>

・主桁合計

$$\begin{aligned} \Sigma A1 = & 51.855 + 44.349 + 464.160 + 464.160 + 110.867 \\ & + 95.664 + 57.516 + 68.640 + 24.961 + 24.960 = 1407.132 \text{ m}^2 \end{aligned}$$

## 2) 対傾構

### ・端対傾構 (ESW) (1箇所)

$$\begin{aligned}
 & \cdot [ 300 \times 90 \times 9 \times 13 \quad L = 0.300 \times 2 + 0.090 \times 4 - 0.009 \times 2 \\
 & \hspace{15em} = 0.942 \quad \text{m} \\
 & \cdot L \quad 130 \times 130 \times 12 \quad L = 0.130 \times 4 \hspace{10em} = 0.520 \quad \text{m} \\
 & \cdot CT \quad 95 \times 152 \times 8 \times 8 \quad L = ( 0.152 + 0.095 ) \times 2 = 0.494 \quad \text{m} \\
 [ & \quad 0.942 \times 2.246 \times 2 \times 1 \hspace{15em} = 4.231 \quad \text{m}^2 \\
 & \quad 0.942 \times 2.266 \times 1 \times 1 \hspace{15em} = 2.135 \quad \text{m}^2 \\
 L & \quad 0.520 \times 1.850 \times 3 \times 1 \hspace{15em} = 2.886 \quad \text{m}^2 \\
 & \quad 0.520 \times 1.890 \times 3 \times 1 \hspace{15em} = 2.948 \quad \text{m}^2 \\
 CT & \quad 0.494 \times 2.270 \times 3 \times 1 \hspace{15em} = 3.364 \quad \text{m}^2 \\
 Guss & \quad 0.320 \times 0.380 \times 2 \times 6 \times 1 \hspace{15em} = 1.459 \quad \text{m}^2 \\
 & \quad 0.340 \times 0.400 \times 2 \times 3 \times 1 \hspace{15em} = 0.816 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.380 \times 2 \times 6 \times 1 \hspace{15em} = 1.368 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a1 = 19.207 \quad \text{m}^2
 \end{aligned}$$

### ・中間対傾構

#### (SW-1) (4箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 \hspace{10em} = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 \hspace{10em} = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 4 \hspace{15em} = 21.600 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 4 \hspace{15em} = 8.726 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 4 \hspace{15em} = 8.424 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 4 \hspace{15em} = 6.768 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 4 \hspace{15em} = 2.376 \quad \text{m}^2 \\
 & \quad 0.230 \times 0.300 \times 2 \times 6 \times 4 \hspace{15em} = 3.312 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a2 = 51.206 \quad \text{m}^2
 \end{aligned}$$

#### (SW-2) (3箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 \hspace{10em} = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 \hspace{10em} = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 3 \hspace{15em} = 16.200 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 3 \hspace{15em} = 6.545 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 3 \hspace{15em} = 6.318 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 3 \hspace{15em} = 5.076 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 3 \hspace{15em} = 1.782 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.320 \times 2 \times 6 \times 3 \hspace{15em} = 3.456 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a3 = 39.377 \quad \text{m}^2
 \end{aligned}$$

### ・対傾構合計

$$\Sigma A2 = 19.207 + 51.206 + 39.377 = 109.790 \quad \text{m}^2$$

### 3) 横桁

#### ・分配横桁 (F.B) (2箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
Web	1.900	× 2.486	× 3 × 2	=	28.340	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 2	=	3.040	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 2	=	0.874	m <sup>2</sup>
H Stiff	0.100	× 2.248	× 2 × 6 × 2	=	5.395	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 2	=	0.722	m <sup>2</sup>
Guss	0.380	× 0.390	× 2 × 8 × 2	=	4.742	m <sup>2</sup>
					<hr/>	
					Σ a1	= 56.965 m <sup>2</sup>

#### ・中間支点上横桁 (ISW) (1箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.123	× 2 × 1	=	2.187	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.118	× 1 × 1	=	1.091	m <sup>2</sup>
Web	1.900	× 2.366	× 3 × 1	=	13.486	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.123	× 2 × 1	=	2.187	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.118	× 1 × 1	=	1.091	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 1	=	1.520	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 1	=	0.437	m <sup>2</sup>
H Stiff	0.100	× 2.128	× 2 × 6 × 1	=	2.554	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 1	=	0.361	m <sup>2</sup>
Guss	0.400	× 0.465	× 2 × 7 × 1	=	2.604	m <sup>2</sup>
					<hr/>	
					Σ a2	= 27.518 m <sup>2</sup>

#### ・横桁合計

$$\Sigma A3 = 56.965 + 27.518 = 84.483 \text{ m}^2$$

4) 横構

	・ CT 144x204x12x10	L = ( 0.144 + 0.204 ) × 2 =	0.696 m
	・ CT 118x178x10x8	L = ( 0.118 + 0.178 ) × 2 =	0.592 m
CT	0.696 × 3.070 × 20		= 42.734 m <sup>2</sup>
	0.696 × 2.950 × 1		= 2.053 m <sup>2</sup>
	0.696 × 2.248 × 1		= 1.565 m <sup>2</sup>
	0.592 × 3.050 × 16		= 28.890 m <sup>2</sup>
PL	( 0.150 + 0.012 ) × 2 × 3.120 × 2		= 2.022 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.238 × 1		= 0.725 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.720 × 1		= 0.881 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.980 × 2		= 1.931 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 3.310 × 2		= 3.310 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.248 × 1		= 1.124 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.730 × 1		= 1.365 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.990 × 2		= 2.990 m <sup>2</sup>
Guss	0.390 × 0.590 × 2 × 2		= 0.920 m <sup>2</sup>
	0.315 × 0.400 × 2 × 3		= 0.756 m <sup>2</sup>
	0.390 × 0.600 × 2 × 1		= 0.468 m <sup>2</sup>
	0.310 × 0.600 × 2 × 18		= 6.696 m <sup>2</sup>
	0.325 × 0.400 × 2 × 2		= 0.520 m <sup>2</sup>
	0.360 × 0.580 × 2 × 1		= 0.418 m <sup>2</sup>
	0.400 × 0.790 × 2 × 10		= 6.320 m <sup>2</sup>
	0.400 × 0.780 × 2 × 6		= 3.744 m <sup>2</sup>
	0.400 × 0.770 × 2 × 2		= 1.232 m <sup>2</sup>
	0.390 × 0.770 × 2 × 2		= 1.201 m <sup>2</sup>
	0.490 × 0.790 × 2 × 1		= 0.774 m <sup>2</sup>
	0.500 × 0.990 × 2 × 2		= 1.980 m <sup>2</sup>
	0.570 × 1.100 × 2 × 1		= 1.254 m <sup>2</sup>
			<hr/>
		<b>Σ A4 =</b>	<b>115.873 m<sup>2</sup></b>

ケレン工合計

$$\Sigma A = 1407.13 + 109.79 + 84.48 + 115.87 = 1717.27 \text{ m}^2$$

② 再塗装工

$$A = 1717.27 \text{ m}^2$$



(4) 4径間(P3~P4)

① ケレン工

1) 主桁

(G1・G4桁)

U Flg	( 0.019 × 2 + 0.340 - 0.012 ) × 13.250 × 2	= 9.699 m <sup>2</sup>
	( 0.022 × 2 + 0.370 - 0.012 ) × 5.300 × 2	= 4.261 m <sup>2</sup>
	( 0.025 × 2 + 0.450 - 0.012 ) × 16.300 × 2	= 15.909 m <sup>2</sup>
	( 0.019 × 2 + 0.460 - 0.012 ) × 3.200 × 2	= 3.110 m <sup>2</sup>
	( 0.022 × 2 + 0.460 - 0.012 ) × 1.800 × 2	= 1.771 m <sup>2</sup>
	( 0.025 × 2 + 0.600 - 0.012 ) × 2.900 × 2	= 3.700 m <sup>2</sup>
	( 0.028 × 2 + 0.730 - 0.012 ) × 2.100 × 2	= 3.251 m <sup>2</sup>
		<hr/>
	$\Sigma a1$	= 41.701 m <sup>2</sup>

(G2・G3桁)

U Flg	( 0.016 × 2 + 0.310 - 0.012 ) × 13.650 × 2	= 9.009 m <sup>2</sup>
	( 0.019 × 2 + 0.310 - 0.012 ) × 5.300 × 2	= 3.562 m <sup>2</sup>
	( 0.019 × 2 + 0.410 - 0.012 ) × 15.900 × 2	= 13.865 m <sup>2</sup>
	( 0.016 × 2 + 0.420 - 0.012 ) × 3.200 × 2	= 2.816 m <sup>2</sup>
	( 0.019 × 2 + 0.420 - 0.012 ) × 1.800 × 2	= 1.606 m <sup>2</sup>
	( 0.022 × 2 + 0.550 - 0.012 ) × 2.900 × 2	= 3.376 m <sup>2</sup>
	( 0.025 × 2 + 0.640 - 0.012 ) × 2.100 × 2	= 2.848 m <sup>2</sup>
		<hr/>
	$\Sigma a2$	= 37.082 m <sup>2</sup>

(G1・G4桁)

Web	2.400 × 44.850 × 2 × 2	= 430.560 m <sup>2</sup>
		<hr/>
	$\Sigma a3$	= 430.560 m <sup>2</sup>

(G2・G3桁)

Web	2.400 × 44.850 × 2 × 2	= 430.560 m <sup>2</sup>
		<hr/>
	$\Sigma a4$	= 430.560 m <sup>2</sup>

(G1・G4桁)

L Flg	{ ( 0.016 + 0.400 ) × 2 - 0.012 }	} × 13.250 × 2	=	21.730	m <sup>2</sup>
	{ ( 0.019 + 0.430 ) × 2 - 0.012 }	} × 5.300 × 2	=	9.392	m <sup>2</sup>
	{ ( 0.025 + 0.490 ) × 2 - 0.012 }	} × 1.600 × 2	=	3.258	m <sup>2</sup>
	{ ( 0.022 + 0.490 ) × 2 - 0.012 }	} × 13.100 × 2	=	26.514	m <sup>2</sup>
	{ ( 0.028 + 0.490 ) × 2 - 0.012 }	} × 1.600 × 2	=	3.277	m <sup>2</sup>
	{ ( 0.025 + 0.500 ) × 2 - 0.012 }	} × 5.000 × 2	=	10.380	m <sup>2</sup>
	{ ( 0.030 + 0.610 ) × 2 - 0.012 }	} × 2.900 × 2	=	7.354	m <sup>2</sup>
	{ ( 0.034 + 0.690 ) × 2 - 0.012 }	} × 2.100 × 2	=	6.031	m <sup>2</sup>
				<hr/>	
				Σ a5	= 87.936 m <sup>2</sup>

(G2・G3桁)

L Flg	{ ( 0.014 + 0.340 ) × 2 - 0.012 }	} × 13.650 × 2	=	19.001	m <sup>2</sup>
	{ ( 0.016 + 0.360 ) × 2 - 0.012 }	} × 5.300 × 2	=	7.844	m <sup>2</sup>
	{ ( 0.025 + 0.410 ) × 2 - 0.012 }	} × 3.200 × 2	=	5.491	m <sup>2</sup>
	{ ( 0.019 + 0.410 ) × 2 - 0.012 }	} × 12.700 × 2	=	21.488	m <sup>2</sup>
	{ ( 0.022 + 0.480 ) × 2 - 0.012 }	} × 5.000 × 2	=	9.920	m <sup>2</sup>
	{ ( 0.028 + 0.550 ) × 2 - 0.012 }	} × 2.900 × 2	=	6.635	m <sup>2</sup>
	{ ( 0.030 + 0.640 ) × 2 - 0.012 }	} × 2.100 × 2	=	5.578	m <sup>2</sup>
				<hr/>	
				Σ a6	= 75.957 m <sup>2</sup>

(G1・G4桁)

V Stiff	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>
	0.150 × 2.400 × 2 × 31 × 2	=	44.640	m <sup>2</sup>
	0.090 × 0.150 × 2 × 31 × 2	=	1.674	m <sup>2</sup>
			<hr/>	
			Σ a7	= 49.002 m <sup>2</sup>

(G2・G3桁)

V Stiff	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>
	0.150 × 2.400 × 2 × 39 × 2	=	56.160	m <sup>2</sup>
			<hr/>	
			Σ a8	= 58.848 m <sup>2</sup>

(G1・G4桁)

$$\begin{array}{rcll} \text{H Stiff} & 0.130 & \times & 1.118 & \times & 2 & \times & 8 & \times & 2 & & = & 4.651 & \text{m}^2 \\ & 0.130 & \times & 1.180 & \times & 2 & \times & 22 & \times & 2 & & = & 13.499 & \text{m}^2 \\ & 0.130 & \times & 1.020 & \times & 2 & \times & 10 & \times & 2 & & = & 5.304 & \text{m}^2 \\ & & & & & & & & & & & \hline & & & & & & & & & & & \Sigma a9 & = & 23.454 & \text{m}^2 \end{array}$$

(G2・G3桁)

$$\begin{array}{rcll} \text{H Stiff} & 0.130 & \times & 1.118 & \times & 2 & \times & 8 & \times & 2 & & = & 4.651 & \text{m}^2 \\ & 0.130 & \times & 1.180 & \times & 2 & \times & 22 & \times & 2 & & = & 13.499 & \text{m}^2 \\ & 0.130 & \times & 1.020 & \times & 2 & \times & 10 & \times & 2 & & = & 5.304 & \text{m}^2 \\ & & & & & & & & & & & \hline & & & & & & & & & & & \Sigma a10 & = & 23.454 & \text{m}^2 \end{array}$$

・主桁合計

$$\begin{array}{rcl} \Sigma A1 = & 41.701 & + & 37.082 & + & 430.560 & + & 430.560 & + & 87.936 \\ & & & + & 75.957 & + & 49.002 & + & 58.848 & + & 23.454 & + & 23.454 & = & 1258.554 & \text{m}^2 \end{array}$$

## 2) 対傾構

### ・端対傾構 (ESW) (1箇所)

$$\begin{aligned}
 & \cdot [ 300 \times 90 \times 9 \times 13 \quad L = 0.300 \times 2 + 0.090 \times 4 - 0.009 \times 2 \\
 & \hspace{15em} = 0.942 \quad \text{m} \\
 & \cdot L \quad 130 \times 130 \times 12 \quad L = 0.130 \times 4 \hspace{15em} = 0.520 \quad \text{m} \\
 & \cdot CT \quad 95 \times 152 \times 8 \times 8 \quad L = ( 0.152 + 0.095 ) \times 2 = 0.494 \quad \text{m} \\
 [ & \quad 0.942 \times 2.241 \times 2 \times 1 \hspace{15em} = 4.222 \quad \text{m}^2 \\
 & \quad 0.942 \times 2.256 \times 1 \times 1 \hspace{15em} = 2.125 \quad \text{m}^2 \\
 L & \quad 0.520 \times 1.850 \times 3 \times 1 \hspace{15em} = 2.886 \quad \text{m}^2 \\
 & \quad 0.520 \times 1.890 \times 3 \times 1 \hspace{15em} = 2.948 \quad \text{m}^2 \\
 CT & \quad 0.494 \times 2.270 \times 3 \times 1 \hspace{15em} = 3.364 \quad \text{m}^2 \\
 Guss & \quad 0.320 \times 0.380 \times 2 \times 6 \times 1 \hspace{15em} = 1.459 \quad \text{m}^2 \\
 & \quad 0.340 \times 0.400 \times 2 \times 3 \times 1 \hspace{15em} = 0.816 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.380 \times 2 \times 6 \times 1 \hspace{15em} = 1.368 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \quad \Sigma a1 = 19.188 \quad \text{m}^2
 \end{aligned}$$

### ・中間対傾構

#### (SW-1) (4箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 \hspace{15em} = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 \hspace{15em} = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 4 \hspace{15em} = 21.600 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 4 \hspace{15em} = 8.726 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 4 \hspace{15em} = 8.424 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 4 \hspace{15em} = 6.768 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 4 \hspace{15em} = 2.376 \quad \text{m}^2 \\
 & \quad 0.230 \times 0.300 \times 2 \times 6 \times 4 \hspace{15em} = 3.312 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \quad \Sigma a2 = 51.206 \quad \text{m}^2
 \end{aligned}$$

#### (SW-2) (2箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 \hspace{15em} = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 \hspace{15em} = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 2 \hspace{15em} = 10.800 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 2 \hspace{15em} = 4.363 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 2 \hspace{15em} = 4.212 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 2 \hspace{15em} = 3.384 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 2 \hspace{15em} = 1.188 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.320 \times 2 \times 6 \times 2 \hspace{15em} = 2.304 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \quad \Sigma a3 = 26.251 \quad \text{m}^2
 \end{aligned}$$

### ・対傾構合計

$$\Sigma A2 = 19.188 + 51.206 + 26.251 = 96.645 \quad \text{m}^2$$

### 3) 横桁

・分配横桁 (F.B) (2箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
Web	1.900	× 2.486	× 3 × 2	=	28.340	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 2	=	3.040	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 2	=	0.874	m <sup>2</sup>
H Stiff	0.100	× 2.248	× 2 × 6 × 2	=	5.395	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 2	=	0.722	m <sup>2</sup>
Guss	0.380	× 0.390	× 2 × 8 × 2	=	4.742	m <sup>2</sup>
				<hr/>	<b>Σ A3 =</b>	<b>56.965 m<sup>2</sup></b>

#### 4) 横構

	・ CT 144x204x12x10	L = ( 0.144 + 0.204 ) × 2 =	0.696 m
	・ CT 118x178x10x8	L = ( 0.118 + 0.178 ) × 2 =	0.592 m
CT	0.696 × 3.060 × 4		= 8.519 m <sup>2</sup>
	0.696 × 2.960 × 1		= 2.060 m <sup>2</sup>
	0.696 × 2.248 × 1		= 1.565 m <sup>2</sup>
	0.696 × 3.120 × 8		= 17.372 m <sup>2</sup>
	0.592 × 3.110 × 20		= 36.822 m <sup>2</sup>
PL	( 0.150 + 0.012 ) × 2 × 3.110 × 2		= 2.015 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.238 × 1		= 0.725 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.790 × 1		= 0.904 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.960 × 2		= 1.918 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 3.120 × 2		= 3.120 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.248 × 1		= 1.124 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.800 × 1		= 1.400 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.970 × 2		= 2.970 m <sup>2</sup>
Guss	0.390 × 0.580 × 2 × 3		= 1.357 m <sup>2</sup>
	0.315 × 0.400 × 2 × 3		= 0.756 m <sup>2</sup>
	0.310 × 0.600 × 2 × 2		= 0.744 m <sup>2</sup>
	0.325 × 0.400 × 2 × 2		= 0.520 m <sup>2</sup>
	0.360 × 0.400 × 2 × 1		= 0.288 m <sup>2</sup>
	0.400 × 0.790 × 2 × 2		= 1.264 m <sup>2</sup>
	0.400 × 0.780 × 2 × 10		= 6.240 m <sup>2</sup>
	0.300 × 0.580 × 2 × 10		= 3.480 m <sup>2</sup>
	0.400 × 0.800 × 2 × 4		= 2.560 m <sup>2</sup>
	0.300 × 0.600 × 2 × 4		= 1.440 m <sup>2</sup>
	0.390 × 0.750 × 2 × 2		= 1.170 m <sup>2</sup>
	0.490 × 0.770 × 2 × 1		= 0.755 m <sup>2</sup>
			<hr/>
		<b>Σ A4 =</b>	<b>101.088 m<sup>2</sup></b>

#### ケレン工合計

$$\Sigma A = 1258.55 + 96.65 + 56.97 + 101.09 = 1513.26 \text{ m}^2$$

#### ② 再塗装工

$$A = 1513.26 \text{ m}^2$$

(5)5径間(P4~A2)

① ケレン工

1) 主桁

(G1・G4桁)

U Flg	( 0.019 × 2 + 0.340 - 0.012 ) × 13.250 × 2	= 9.699 m <sup>2</sup>
	( 0.022 × 2 + 0.370 - 0.012 ) × 5.300 × 2	= 4.261 m <sup>2</sup>
	( 0.025 × 2 + 0.450 - 0.012 ) × 16.300 × 2	= 15.909 m <sup>2</sup>
	( 0.019 × 2 + 0.460 - 0.012 ) × 3.200 × 2	= 3.110 m <sup>2</sup>
	( 0.022 × 2 + 0.460 - 0.012 ) × 1.800 × 2	= 1.771 m <sup>2</sup>
	( 0.025 × 2 + 0.600 - 0.012 ) × 2.900 × 2	= 3.700 m <sup>2</sup>
	( 0.028 × 2 + 0.730 - 0.012 ) × 2.100 × 2	= 3.251 m <sup>2</sup>
		<hr/>
	$\Sigma a1$	= 41.701 m <sup>2</sup>

(G2・G3桁)

U Flg	( 0.016 × 2 + 0.310 - 0.012 ) × 13.650 × 2	= 9.009 m <sup>2</sup>
	( 0.019 × 2 + 0.310 - 0.012 ) × 5.300 × 2	= 3.562 m <sup>2</sup>
	( 0.019 × 2 + 0.410 - 0.012 ) × 15.900 × 2	= 13.865 m <sup>2</sup>
	( 0.016 × 2 + 0.420 - 0.012 ) × 3.200 × 2	= 2.816 m <sup>2</sup>
	( 0.019 × 2 + 0.420 - 0.012 ) × 1.800 × 2	= 1.606 m <sup>2</sup>
	( 0.022 × 2 + 0.550 - 0.012 ) × 2.900 × 2	= 3.376 m <sup>2</sup>
	( 0.025 × 2 + 0.640 - 0.012 ) × 2.100 × 2	= 2.848 m <sup>2</sup>
		<hr/>
	$\Sigma a2$	= 37.082 m <sup>2</sup>

(G1・G4桁)

Web	2.400 × 44.850 × 2 × 2	= 430.560 m <sup>2</sup>
		<hr/>
	$\Sigma a3$	= 430.560 m <sup>2</sup>

(G2・G3桁)

Web	2.400 × 44.850 × 2 × 2	= 430.560 m <sup>2</sup>
		<hr/>
	$\Sigma a4$	= 430.560 m <sup>2</sup>

(G1・G4桁)

L Flg	{ ( 0.016 + 0.400 ) × 2 - 0.012 }	× 13.250 × 2	=	21.730	m <sup>2</sup>
	{ ( 0.019 + 0.430 ) × 2 - 0.012 }	× 5.300 × 2	=	9.392	m <sup>2</sup>
	{ ( 0.025 + 0.490 ) × 2 - 0.012 }	× 1.600 × 2	=	3.258	m <sup>2</sup>
	{ ( 0.022 + 0.490 ) × 2 - 0.012 }	× 13.100 × 2	=	26.514	m <sup>2</sup>
	{ ( 0.028 + 0.490 ) × 2 - 0.012 }	× 1.600 × 2	=	3.277	m <sup>2</sup>
	{ ( 0.025 + 0.500 ) × 2 - 0.012 }	× 5.000 × 2	=	10.380	m <sup>2</sup>
	{ ( 0.030 + 0.610 ) × 2 - 0.012 }	× 2.900 × 2	=	7.354	m <sup>2</sup>
	{ ( 0.034 + 0.690 ) × 2 - 0.012 }	× 2.100 × 2	=	6.031	m <sup>2</sup>
				<hr/>	
				Σ a5	= 87.936 m <sup>2</sup>

(G2・G3桁)

L Flg	{ ( 0.014 + 0.340 ) × 2 - 0.012 }	× 13.650 × 2	=	19.001	m <sup>2</sup>
	{ ( 0.016 + 0.360 ) × 2 - 0.012 }	× 5.300 × 2	=	7.844	m <sup>2</sup>
	{ ( 0.025 + 0.410 ) × 2 - 0.012 }	× 3.200 × 2	=	5.491	m <sup>2</sup>
	{ ( 0.019 + 0.410 ) × 2 - 0.012 }	× 12.700 × 2	=	21.488	m <sup>2</sup>
	{ ( 0.022 + 0.480 ) × 2 - 0.012 }	× 5.000 × 2	=	9.920	m <sup>2</sup>
	{ ( 0.028 + 0.550 ) × 2 - 0.012 }	× 2.900 × 2	=	6.635	m <sup>2</sup>
	{ ( 0.030 + 0.640 ) × 2 - 0.012 }	× 2.100 × 2	=	5.578	m <sup>2</sup>
				<hr/>	
				Σ a6	= 75.957 m <sup>2</sup>

(G1・G4桁)

V Stiff	0.190 × 2.400 × 2 × 2 × 2	=	3.648	m <sup>2</sup>	
	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>	
	0.150 × 2.400 × 2 × 31 × 2	=	44.640	m <sup>2</sup>	
	0.090 × 0.150 × 2 × 31 × 2	=	1.674	m <sup>2</sup>	
			<hr/>		
				Σ a7	= 52.650 m <sup>2</sup>

(G2・G3桁)

V Stiff	0.190 × 2.400 × 2 × 2 × 2	=	3.648	m <sup>2</sup>	
	0.140 × 2.400 × 2 × 2 × 2	=	2.688	m <sup>2</sup>	
	0.150 × 2.400 × 2 × 39 × 2	=	56.160	m <sup>2</sup>	
			<hr/>		
				Σ a8	= 62.496 m <sup>2</sup>



(G1・G4桁)

$$\begin{array}{rcll} \text{H Stiff} & 0.130 & \times 1.118 & \times 2 \times 8 \times 2 & = & 4.651 & \text{m}^2 \\ & 0.130 & \times 1.180 & \times 2 \times 22 \times 2 & = & 13.499 & \text{m}^2 \\ & 0.130 & \times 1.020 & \times 2 \times 10 \times 2 & = & 5.304 & \text{m}^2 \\ & & & & \hline & \Sigma a9 & = & 23.454 & \text{m}^2 \end{array}$$

(G2・G3桁)

$$\begin{array}{rcll} \text{H Stiff} & 0.130 & \times 1.118 & \times 2 \times 8 \times 2 & = & 4.651 & \text{m}^2 \\ & 0.130 & \times 1.180 & \times 2 \times 22 \times 2 & = & 13.499 & \text{m}^2 \\ & 0.130 & \times 1.020 & \times 2 \times 10 \times 2 & = & 5.304 & \text{m}^2 \\ & & & & \hline & \Sigma a10 & = & 23.454 & \text{m}^2 \end{array}$$

・主桁合計

$$\begin{array}{rcl} \Sigma A1 = & 41.701 & + 37.082 + 430.560 + 430.560 + 87.936 \\ & & + 75.957 + 52.650 + 62.496 + 23.454 + 23.454 & = & 1265.850 & \text{m}^2 \end{array}$$

## 2) 対傾構

### ・端対傾構 (ESW) (1箇所)

$$\begin{aligned}
 & \cdot [ 300 \times 90 \times 9 \times 13 \quad L = 0.300 \times 2 + 0.090 \times 4 - 0.009 \times 2 \\
 & \hspace{15em} = 0.942 \quad \text{m} \\
 & \cdot L \quad 130 \times 130 \times 12 \quad L = 0.130 \times 4 = 0.520 \quad \text{m} \\
 & \cdot CT \quad 95 \times 152 \times 8 \times 8 \quad L = (0.152 + 0.095) \times 2 = 0.494 \quad \text{m} \\
 [ & \quad 0.942 \times 2.241 \times 2 \times 1 = 4.222 \quad \text{m}^2 \\
 & \quad 0.942 \times 2.256 \times 1 \times 1 = 2.125 \quad \text{m}^2 \\
 L & \quad 0.520 \times 1.850 \times 3 \times 1 = 2.886 \quad \text{m}^2 \\
 & \quad 0.520 \times 1.890 \times 3 \times 1 = 2.948 \quad \text{m}^2 \\
 CT & \quad 0.494 \times 2.270 \times 3 \times 1 = 3.364 \quad \text{m}^2 \\
 Guss & \quad 0.320 \times 0.380 \times 2 \times 6 \times 1 = 1.459 \quad \text{m}^2 \\
 & \quad 0.340 \times 0.400 \times 2 \times 3 \times 1 = 0.816 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.380 \times 2 \times 6 \times 1 = 1.368 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a1 = 19.188 \quad \text{m}^2
 \end{aligned}$$

### ・中間対傾構

#### (SW-1) (4箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 4 = 21.600 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 4 = 8.726 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 4 = 8.424 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 4 = 6.768 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 4 = 2.376 \quad \text{m}^2 \\
 & \quad 0.230 \times 0.300 \times 2 \times 6 \times 4 = 3.312 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a2 = 51.206 \quad \text{m}^2
 \end{aligned}$$

#### (SW-2) (2箇所)

$$\begin{aligned}
 & \cdot L \quad 100 \times 100 \times 10 \quad L = 0.100 \times 4 = 0.400 \quad \text{m} \\
 & \cdot L \quad 90 \times 90 \times 10 \quad L = 0.090 \times 4 = 0.360 \quad \text{m} \\
 L & \quad 0.400 \times 2.250 \times 6 \times 2 = 10.800 \quad \text{m}^2 \\
 & \quad 0.360 \times 2.020 \times 3 \times 2 = 4.363 \quad \text{m}^2 \\
 & \quad 0.360 \times 1.950 \times 3 \times 2 = 4.212 \quad \text{m}^2 \\
 Guss & \quad 0.300 \times 0.470 \times 2 \times 6 \times 2 = 3.384 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.330 \times 2 \times 3 \times 2 = 1.188 \quad \text{m}^2 \\
 & \quad 0.300 \times 0.320 \times 2 \times 6 \times 2 = 2.304 \quad \text{m}^2 \\
 & \hspace{15em} \hline
 & \Sigma a3 = 26.251 \quad \text{m}^2
 \end{aligned}$$

### ・対傾構合計

$$\Sigma A2 = 19.188 + 51.206 + 26.251 = 96.645 \quad \text{m}^2$$

### 3) 横桁

#### ・分配横桁 (F.B) (2箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
Web	1.900	× 2.486	× 3 × 2	=	28.340	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.243	× 2 × 2	=	4.621	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.238	× 1 × 2	=	2.305	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 2	=	3.040	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 2	=	0.874	m <sup>2</sup>
H Stiff	0.100	× 2.248	× 2 × 6 × 2	=	5.395	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 2	=	0.722	m <sup>2</sup>
Guss	0.380	× 0.390	× 2 × 8 × 2	=	4.742	m <sup>2</sup>
					<hr/>	
					Σ a1	= 56.965 m <sup>2</sup>

#### ・中間支点上横桁 (ISW) (1箇所)

U Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.163	× 2 × 1	=	2.228	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.158	× 1 × 1	=	1.111	m <sup>2</sup>
Web	1.900	× 2.406	× 3 × 1	=	13.714	m <sup>2</sup>
L Flg	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.163	× 2 × 1	=	2.228	m <sup>2</sup>
	{ ( 0.012 + 0.250 ) × 2 - 0.009 }	× 2.158	× 1 × 1	=	1.111	m <sup>2</sup>
V Stiff	0.100	× 1.900	× 2 × 4 × 1	=	1.520	m <sup>2</sup>
	0.115	× 1.900	× 2 × 1 × 1	=	0.437	m <sup>2</sup>
H Stiff	0.100	× 2.128	× 2 × 6 × 1	=	2.554	m <sup>2</sup>
	0.100	× 0.451	× 2 × 4 × 1	=	0.361	m <sup>2</sup>
Guss	0.400	× 0.465	× 2 × 7 × 1	=	2.604	m <sup>2</sup>
					<hr/>	
					Σ a2	= 27.868 m <sup>2</sup>

#### ・横桁合計

$$\Sigma A3 = 56.965 + 27.868 = 84.833 \text{ m}^2$$

#### 4) 横構

	・ CT 144x204x12x10	L = ( 0.144 + 0.204 ) × 2 =	0.696 m
	・ CT 118x178x10x8	L = ( 0.118 + 0.178 ) × 2 =	0.592 m
CT	0.696 × 3.060 × 4		= 8.519 m <sup>2</sup>
	0.696 × 2.960 × 1		= 2.060 m <sup>2</sup>
	0.696 × 2.248 × 1		= 1.565 m <sup>2</sup>
	0.696 × 3.120 × 8		= 17.372 m <sup>2</sup>
	0.592 × 3.110 × 20		= 36.822 m <sup>2</sup>
PL	( 0.150 + 0.012 ) × 2 × 3.110 × 2		= 2.015 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.238 × 1		= 0.725 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.790 × 1		= 0.904 m <sup>2</sup>
	( 0.150 + 0.012 ) × 2 × 2.960 × 2		= 1.918 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 3.120 × 2		= 3.120 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.248 × 1		= 1.124 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.800 × 1		= 1.400 m <sup>2</sup>
	( 0.240 + 0.010 ) × 2 × 2.970 × 2		= 2.970 m <sup>2</sup>
Guss	0.515 × 1.000 × 2 × 2		= 2.060 m <sup>2</sup>
	0.510 × 1.050 × 2 × 1		= 1.071 m <sup>2</sup>
	0.390 × 0.580 × 2 × 3		= 1.357 m <sup>2</sup>
	0.315 × 0.400 × 2 × 3		= 0.756 m <sup>2</sup>
	0.310 × 0.600 × 2 × 2		= 0.744 m <sup>2</sup>
	0.325 × 0.400 × 2 × 2		= 0.520 m <sup>2</sup>
	0.360 × 0.400 × 2 × 1		= 0.288 m <sup>2</sup>
	0.400 × 0.790 × 2 × 2		= 1.264 m <sup>2</sup>
	0.400 × 0.780 × 2 × 10		= 6.240 m <sup>2</sup>
	0.300 × 0.580 × 2 × 10		= 3.480 m <sup>2</sup>
	0.400 × 0.800 × 2 × 4		= 2.560 m <sup>2</sup>
	0.300 × 0.600 × 2 × 4		= 1.440 m <sup>2</sup>
	0.390 × 0.750 × 2 × 2		= 1.170 m <sup>2</sup>
	0.490 × 0.770 × 2 × 1		= 0.755 m <sup>2</sup>
			<hr/>
		<b>Σ A4 =</b>	<b>104.219 m<sup>2</sup></b>

#### ケレン工合計

$$\Sigma A = 1265.85 + 96.65 + 84.83 + 104.22 = 1551.55 \text{ m}^2$$

#### ② 再塗装工

$$A = 1551.55 \text{ m}^2$$

## 産廃処分費

### ・はく離塗膜

項 目
オープンドラム(再生品)
特管汚泥(鉛含有)処理

処分場 : 鈴木工業(株)  
場所 : 仙台市宮城野区仙台港北2丁目14-3  
運搬距離 : 18.0km  
処分量 :  $8145.9\text{m}^2 \times 1.467\text{kg}/\text{m}^2 = 11.9\text{t}$

### ・プラスト材

項 目
鋳さい

処分場 : (株)ホツマプラント  
場所 : 多賀城市宮内1丁目14-15  
運搬距離 : L=17.5km  
処分量 :  $8145.9\text{m}^2 \times 20\text{kg}/\text{m}^2 = 162.9\text{t}$

足場工 (炭素繊維工+現場塗装の期間に設置する)

TYPE A1	吊り足場 (桁高 $h < 1.5$ )	床版補修工・主構造補強工・環境対策工・塗替塗装工
TYPE A2	吊り足場 (桁高 $h < 1.5$ ) (中段足場含む)	床版補修工・主構造補強工・環境対策工・塗替塗装工
TYPE A3	吊り足場 (足場上で部材移動のある場合や、路下が道路・鉄道等で板張り防護が必要な場合)	床版補修工・主構造補強工・環境対策工・塗替塗装工

足場工の設備は図4-2-1~4-2-15のとおりである

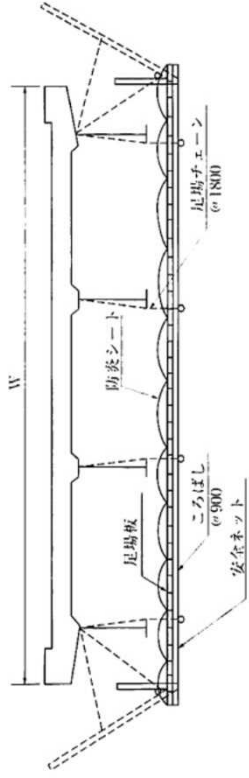


図4-2-1 TYPE A1・A2 吊り足場

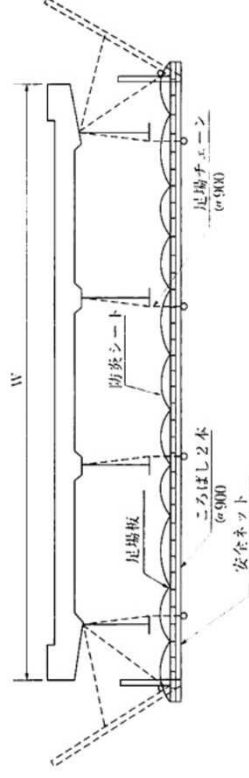


図4-2-2 TYPE A3 吊り足場

(1) 吊り足場 TYPE A2 (中段足場あり)

A1-P1・ P2-P3	L = 144.7m部 面積= 11.550	(48+48) m × (	実数 (46.050 + 45.975) 92.025 +	)m ×	1 箇所	=	1062.9 m <sup>2</sup>	
	P3-A2	L = 89.7m部 面積= 11.550	(45+45) m × (	実数 (42.475 +42.600) 85.075 )m ×	1 箇所	=	982.6 m <sup>2</sup>	
							<b>= 計</b>	<b>2045.5 m<sup>2</sup></b>

(2) 吊り足場 TYPE A3 (中段足場あり) 町道下

P1-P2	面積= 11.550	m × (	45.500 +	)m ×	1 箇所	=	525.5 m <sup>2</sup>	
							<b>= 計</b>	<b>525.5 m<sup>2</sup></b>

(3) 昇降用足場	P2橋脚	枠組み足場	h = 20.0	m	w = 6	m	=	計	120 m <sup>2</sup>
	P4橋脚	枠組み足場	h = 16.5	m	w = 6	m	=	計	99 m <sup>2</sup>

(4) 既設検査路

検査路撤去・再設置	144.000	x	14.7 kg/m	x	2	列	=	4.23	t
手すりパイプ	89.000	x	14.7 kg/m	x	2	列	=	2.62	t
							<b>= 計</b>	<b>6.85</b>	<b>t</b>

1 橋当たり

規制工

(1) 交通誘導員B 町道部上空 吊り足場工

1 式

A1 ~ A2 上部I 検査路

			数 量
3341	H	6	2 930
		8	887
		9	3 587
		小 計	7 404
	F.B	50×6	664
	L	75×75×6	642
	I	125×65×6×8	12 152
	CHH	3.2	5 417
B.N	M16	779	
S.G.P	Pipe	25A	4 831
		15A	2 015
合 計			33 909

合計  
6,846kg

(単位: kg)



A1 ~ P3 上部I 検査路

			数 量
SS41	皮	6	1831
		8	556
		9	2236
		小計	4623
	F.B	50×6	415
	L	75×75×6	401
	I	125×65×6×8	7508
	CH皮	3.2	3346
B.N	M16	488	
S.G.P	Pipe	25A	3799
		15A	1327
合	計		21907

合計  
5,126kg

(単位: kg)

P3 ~ A2 上部I 検査路

			数量
SS41	皮	6	1099
		8	331
		9	1351
		小計	2781
	F.B	50×6	249
	L	75×75×6	241
	I	125×65×6×8	4644
	CH皮	3.2	2071
	B.N	M16	291
	S.G.P	Pipe	25A
15A			688
合計			11997

合計  
1,720kg

(単位: kg)