引張強度早見表

○建築耐震補強工事向け、施工確認試験の確認強度一覧表

RXタイプ　　カプセル型.回転方式

低騒音耐震補強工事用

アンカー筋	材質	穿孔径 (mm)	埋込深さ (mm)	Fc強度 18	21	24	27	30
				アンカー筋1本当りの引張耐力(kN)				
D10	SD295A	12	80	17.3	18.7	20.0	21.0	21.0
			100	21.0	21.0	21.0	21.0	21.0
			120	21.0	21.0	21.0	21.0	21.0
			150	21.0	21.0	21.0	21.0	21.0
D13	SD295A	15	105	29.7	32.1	34.3	36.4	37.4
			130	37.4	37.4	37.4	37.4	37.4
			160	37.4	37.4	37.4	37.4	37.4
		16	200	37.4	37.4	37.4	37.4	37.4
D13	SD345	15	105	29.7	32.1	34.3	36.4	38.4
			130	43.3	43.7	43.7	43.7	43.7
			160	43.7	43.7	43.7	43.7	43.7
		16	200	43.7	43.7	43.7	43.7	43.7
D16	SD295A	20	130	45.5	49.1	52.5	55.7	58.6
			160	58.6	58.6	58.6	58.6	58.6
			200	58.6	58.6	58.6	58.6	58.6
			240	58.6	58.6	58.6	58.6	58.6
D16	SD345	20	130	45.5	49.1	52.5	55.7	58.7
			160	66.7	68.5	68.5	68.5	68.5
			200	68.5	68.5	68.5	68.5	68.5
			240	68.5	68.5	68.5	68.5	68.5
D19	SD345	24	160	69.1	74.7	79.8	84.6	89.2
			210	98.8	98.8	98.8	98.8	98.8
			250	98.8	98.8	98.8	98.8	98.8
			290	98.8	98.8	98.8	98.8	98.8
D22	SD345	28	180	87.1	94.1	100.5	106.6	112.4
			245	133.6	133.6	133.6	133.6	133.6
			290	133.6	133.6	133.6	133.6	133.6
			330	133.6	133.6	133.6	133.6	133.6
D25	SD345	32	280	174.8	174.8	174.8	174.8	174.8
			330	174.8	174.8	174.8	174.8	174.8
			375	174.8	174.8	174.8	174.8	174.8

Fc強度 18	21	24	27	30
確認強度(kN)※1				
11.6	12.5	13.4	14.1	14.1
14.1	14.1	14.1	14.1	14.1
14.1	14.1	14.1	14.1	14.1
14.1	14.1	14.1	14.1	14.1
19.9	21.4	22.9	24.3	25.0
25.0	25.0	25.0	25.0	25.0
25.0	25.0	25.0	25.0	25.0
25.0	25.0	25.0	25.0	25.0
19.9	21.4	22.9	24.3	25.6
28.9	29.2	29.2	29.2	29.2
29.2	29.2	29.2	29.2	29.2
29.2	29.2	29.2	29.2	29.2
30.4	32.8	35.1	37.2	39.1
39.1	39.1	39.1	39.1	39.1
39.1	39.1	39.1	39.1	39.1
39.1	39.1	39.1	39.1	39.1
30.4	32.8	35.1	37.2	39.2
44.5	45.7	45.7	45.7	45.7
45.7	45.7	45.7	45.7	45.7
45.7	45.7	45.7	45.7	45.7
46.1	49.8	53.3	56.5	59.5
65.9	65.9	65.9	65.9	65.9
65.9	65.9	65.9	65.9	65.9
65.9	65.9	65.9	65.9	65.9
58.1	62.8	67.1	71.1	75.0
89.1	89.1	89.1	89.1	89.1
89.1	89.1	89.1	89.1	89.1
89.1	89.1	89.1	89.1	89.1
116.6	116.6	116.6	116.6	116.6
116.6	116.6	116.6	116.6	116.6
116.6	116.6	116.6	116.6	116.6

アンカー筋	材質	穿孔径 (mm)	埋込深さ (mm)	Fc強度 18	21	24	27	30	Fc強度 18	21	24	27	30
				アンカー筋1本当りの長期許容引張強度(kN)					アンカー筋1本当りの短期引張強度(kN)				
M10	SS400	12	80	6.6	7.2	7.7	8.1	8.6	10.0	10.8	11.5	12.2	12.9
			100	9.4	9.4	9.4	9.4	9.4	14.2	14.2	14.2	14.2	14.2
			120	9.4	9.4	9.4	9.4	9.4	14.2	14.2	14.2	14.2	14.2
			150	9.4	9.4	9.4	9.4	9.4	14.2	14.2	14.2	14.2	14.2
M12	SS400	14	105	11.5	12.5	13.3	13.7	13.7	17.3	18.7	20.0	20.6	20.6
		14.5	130	13.7	13.7	13.7	13.7	13.7	20.6	20.6	20.6	20.6	20.6
			160	13.7	13.7	13.7	13.7	13.7	20.6	20.6	20.6	20.6	20.6
		15	200	13.7	13.7	13.7	13.7	13.7	20.6	20.6	20.6	20.6	20.6
M16	SS400	19	130	17.6	19.0	20.3	21.6	22.7	26.4	28.5	30.5	32.4	34.1
			160	25.6	25.6	25.6	25.6	25.6	38.4	38.4	38.4	38.4	38.4
		20	200	25.6	25.6	25.6	25.6	25.6	38.4	38.4	38.4	38.4	38.4
		21	240	25.6	25.6	25.6	25.6	25.6	38.4	38.4	38.4	38.4	38.4
M20	SS400	23	160	26.5	28.6	30.6	32.5	34.2	39.8	43.0	45.9	48.7	51.4
			210	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
		24	250	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
			290	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
M22	SS400	26	180	33.8	36.5	39.0	41.4	43.6	50.7	54.7	58.5	62.1	65.4
			245	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
		28	290	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
			330	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
M24	SS400	30	280	55.3	55.3	55.3	55.3	55.3	82.9	82.9	82.9	82.9	82.9
			330	55.3	55.3	55.3	55.3	55.3	82.9	82.9	82.9	82.9	82.9
M10	SUS304	12	80	6.6	7.2	7.7	7.9	7.9	10.0	10.8	11.5	11.8	11.8
			100	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
			120	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
			150	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
M12	SUS304	14	105	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
		14.5	130	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
			160	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
		15	200	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
M16	SUS304	19	130	17.6	19.0	20.3	21.4	21.4	26.4	28.5	30.5	32.1	32.1
			160	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
		20	200	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
		21	240	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
M20	SUS304	23	160	26.5	28.6	30.6	32.5	33.4	39.8	43.0	45.9	48.7	50.2
			210	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
		24	250	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
			290	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
M22	SUS304	26	180	33.8	36.5	39.0	41.4	41.4	50.7	54.7	58.5	62.1	62.1
			245	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
		28	290	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
			330	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
M24	SUS304	30	280	48.2	48.2	48.2	48.2	48.2	72.3	72.3	72.3	72.3	72.3
			330	48.2	48.2	48.2	48.2	48.2	72.3	72.3	72.3	72.3	72.3

○ケミカルアンカー許容引張強度一覧表

ELタイプ　　カートリッジ型.注入方式

エポキシアクリレート系樹脂カートシッジ(非スチレン系)

アンカー筋	材質	穿孔径 (mm)	埋込深さ (mm)	Fc強度 18	21	24	27	30
				アンカー筋1本当りの長期許容引張強度(kN)				
D10	SD295A	13	80	6.4	7.0	7.4	7.9	8.3
			100	9.8	10.6	11.3	12.0	12.7
			120	13.6	14.0	14.0	14.0	14.0
			150	14.0	14.0	14.0	14.0	14.0
D13	SD295A	16	105	11.0	11.9	12.8	13.5	14.3
			130	16.5	17.8	19.1	20.2	21.3
			160	22.3	24.1	24.9	24.9	24.9
			200	24.9	24.9	24.9	24.9	24.9
D13	SD345	16	105	11.0	11.9	12.8	13.5	14.3
			130	16.5	17.8	19.1	20.2	21.3
			160	22.3	24.1	25.7	27.3	28.8
			200	27.9	29.1	29.1	29.1	29.1
D16	SD295A	20	130	17.0	18.3	19.6	20.8	21.9
			160	25.1	27.1	29.0	30.7	32.4
			200	34.9	37.6	39.0	39.0	39.0
			240	39.0	39.0	39.0	39.0	39.0
D16	SD345	20	130	17.0	18.3	19.6	20.8	21.9
			160	25.1	27.1	29.0	30.7	32.4
			200	34.9	37.6	40.3	42.7	45.0
			240	41.8	45.2	45.6	45.6	45.6
D19	SD345	24	160	25.6	27.7	29.6	31.4	33.1
			210	42.8	46.3	49.5	52.5	55.3
			250	52.3	56.5	60.4	64.1	65.8
			290	60.7	65.5	65.8	65.8	65.8
D22	SD345	28	180	32.6	35.2	37.7	40.0	42.1
			245	58.3	63.0	67.3	71.4	75.3
			290	70.8	76.5	81.8	86.7	89.0
			330	80.6	87.0	89.0	89.0	89.0
D25	SD345	32	280	76.2	82.3	88.0	93.3	98.4
			330	92.1	99.5	106.3	112.8	116.5
			375	104.7	113.0	116.5	116.5	116.5
M10	SS400	12	80	6.4	6.9	7.4	7.8	8.2
			100	9.4	9.4	9.4	9.4	9.4
			120	9.4	9.4	9.4	9.4	9.4
			150	9.4	9.4	9.4	9.4	9.4
M12	SS400	14	105	10.9	11.7	12.5	13.3	13.7
			130	13.7	13.7	13.7	13.7	13.7
			160	13.7	13.7	13.7	13.7	13.7
			200	13.7	13.7	13.7	13.7	13.7
M16	SS400	18	130	16.7	18.1	19.3	20.5	21.6
			160	24.8	25.6	25.6	25.6	25.6
			200	25.6	25.6	25.6	25.6	25.6
			240	25.6	25.6	25.6	25.6	25.6

Fc強度 18	21	24	27	30
アンカー筋1本当りの短期引張強度(kN)				
9.7	10.5	11.2	11.9	12.5
14.7	15.9	17.0	18.1	19.0
20.4	21.0	21.0	21.0	21.0
21.0	21.0	21.0	21.0	21.0
16.6	17.9	19.2	20.3	21.4
24.8	26.8	28.6	30.4	32.0
33.5	36.1	37.3	37.3	37.3
37.3	37.3	37.3	37.3	37.3
16.6	17.9	19.2	20.3	21.4
24.8	26.8	28.6	30.4	32.0
33.5	36.1	38.6	41.0	43.2
41.8	43.7	43.7	43.7	43.7
25.5	27.5	29.4	31.2	32.9
37.6	40.7	43.5	46.1	48.6
52.3	56.5	58.5	58.5	58.5
58.5	58.5	58.5	58.5	58.5
25.5	27.5	29.4	31.2	32.9
37.6	40.7	43.5	46.1	48.6
52.3	56.5	60.4	64.1	67.5
62.8	67.8	68.5	68.5	68.5
38.5	41.6	44.4	47.1	49.7
64.3	69.4	74.2	78.7	83.0
78.5	84.8	90.6	96.1	98.8
91.0	98.3	98.8	98.8	98.8
49.0	52.9	56.5	60.0	63.2
87.5	94.5	101.0	107.2	113.0
106.2	114.7	122.7	130.1	133.5
120.9	130.6	133.5	133.5	133.5
114.3	123.5	132.0	140.0	147.6
138.2	149.2	159.5	169.2	174.8
157.0	169.6	174.8	174.8	174.8
9.6	10.4	11.1	11.7	12.4
14.2	14.2	14.2	14.2	14.2
14.2	14.2	14.2	14.2	14.2
14.2	14.2	14.2	14.2	14.2
16.3	17.6	18.8	20.0	20.6
20.6	20.6	20.6	20.6	20.6
20.6	20.6	20.6	20.6	20.6
20.6	20.6	20.6	20.6	20.6
25.1	27.1	29.0	30.8	32.5
37.2	38.4	38.4	38.4	38.4
38.4	38.4	38.4	38.4	38.4
38.4	38.4	38.4	38.4	38.4

M20	SS400	22	160	25.4	27.4	29.3	31.1	32.8	38.1	41.1	44.0	46.6	49.2
			210	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
			250	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
			290	38.3	38.3	38.3	38.3	38.3	57.5	57.5	57.5	57.5	57.5
M22	SS400	25	180	32.1	34.7	37.1	39.4	41.5	48.2	52.1	55.7	59.1	62.3
			245	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
			290	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
			330	47.4	47.4	47.4	47.4	47.4	71.2	71.2	71.2	71.2	71.2
M24	SS400	28	280	55.3	55.3	55.3	55.3	55.3	82.9	82.9	82.9	82.9	82.9
			330	55.3	55.3	55.3	55.3	55.3	82.9	82.9	82.9	82.9	82.9
			375	55.3	55.3	55.3	55.3	55.3	82.9	82.9	82.9	82.9	82.9
M10	SUS304	12	80	6.4	6.9	7.4	7.8	7.9	9.6	10.4	11.1	11.7	11.8
			100	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
			120	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
			150	7.9	7.9	7.9	7.9	7.9	11.8	11.8	11.8	11.8	11.8
M12	SUS304	14	105	10.9	11.5	11.5	11.5	11.5	16.3	17.2	17.2	17.2	17.2
			130	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
			160	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
			200	11.5	11.5	11.5	11.5	11.5	17.2	17.2	17.2	17.2	17.2
M16	SUS304	18	130	16.7	18.1	19.3	20.5	21.4	25.1	27.1	29.0	30.8	32.1
			160	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
			200	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
			240	21.4	21.4	21.4	21.4	21.4	32.1	32.1	32.1	32.1	32.1
M20	SUS304	22	160	25.4	27.4	29.3	31.1	32.8	38.1	41.1	44.0	46.6	49.2
			210	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
			250	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
			290	33.4	33.4	33.4	33.4	33.4	50.2	50.2	50.2	50.2	50.2
M22	SUS304	25	180	32.1	34.7	37.1	39.4	41.4	48.2	52.1	55.7	59.1	62.1
			245	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
			290	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
			330	41.4	41.4	41.4	41.4	41.4	62.1	62.1	62.1	62.1	62.1
M24	SUS304	28	280	48.2	48.2	48.2	48.2	48.2	72.3	72.3	72.3	72.3	72.3
			330	48.2	48.2	48.2	48.2	48.2	72.3	72.3	72.3	72.3	72.3
			375	48.2	48.2	48.2	48.2	48.2	72.3	72.3	72.3	72.3	72.3

※　1kgf=9.80665N

※1　上表の確認強度は計算で得られたアンカー筋1本当りの引張耐力の2/3の数値を表記しております。

注1）上表のカプセル方式、異形鉄筋（D筋）仕様は財団法人日本建築防災協会発行
「既存鉄筋コンクリート造建築物の耐震改修設計指針同解説（2001年改訂版）」
に準じて計算しております。それ以外は日本デコラックス㈱発行
「ケミカルアンカー設計指針」（（社）建築研究振興協会監修）に準じて計算した許容引張強度計算値です。

注2）上表はピッチ及びへりあきの影響を受けない場合の計算値です。

注3）現場試験の確認強度は該当現場によって違い、特記によります。特記が無い場合は、
監督者様・設計者様に提案し、必ず承諾後に試験を行って下さい。

注4）異型棒鋼の場合　：SD295A…$s\sigma y$=295N/㎟　SD345…$s\sigma y$=345N/㎟
全ネジボルトの場合：　SS400相当材…$s\sigma y$=245N/㎟（M16以下）、
$s\sigma y$=235N/㎟（M20以上）　SUS304…$s\sigma y$=205N/㎟

注5）短期許容引張強度は、長期許容引張強度の1.5倍の数値です。