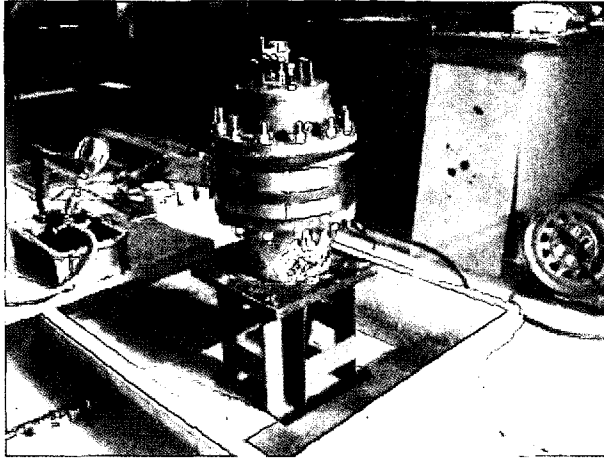


付録E. 裏込石 1 個を用いた遮水シートの耐圧試験に関する詳細結果

E.1 実験装置

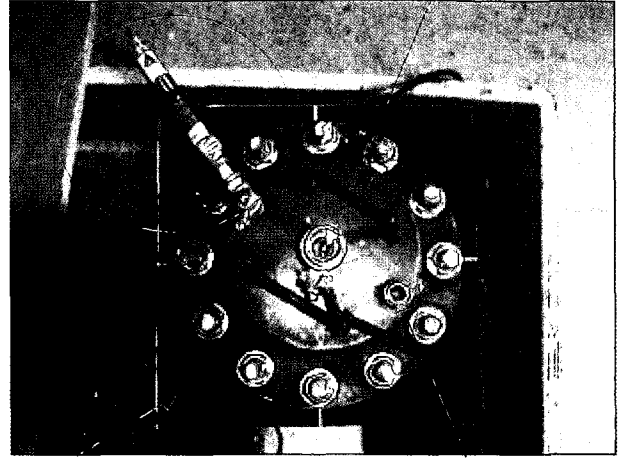
写真-E.1に実験装置の全景および各 부품の写真を示す.



(a) 実験装置全景

水圧計

石膏・水注入口

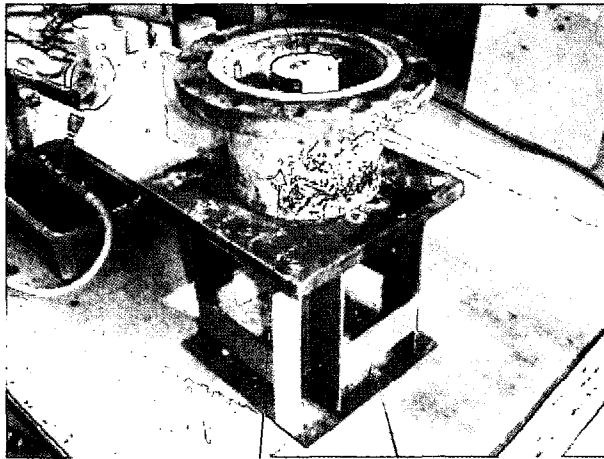


遮水シート

(b) 実験装置平面図

水圧载荷用注水口

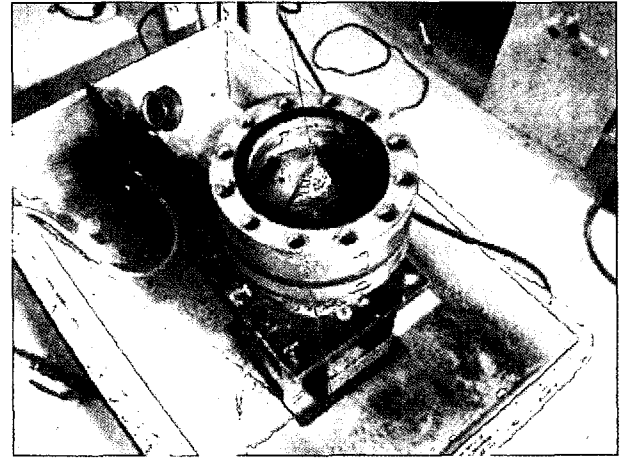
ロードセル



下部セル 架台

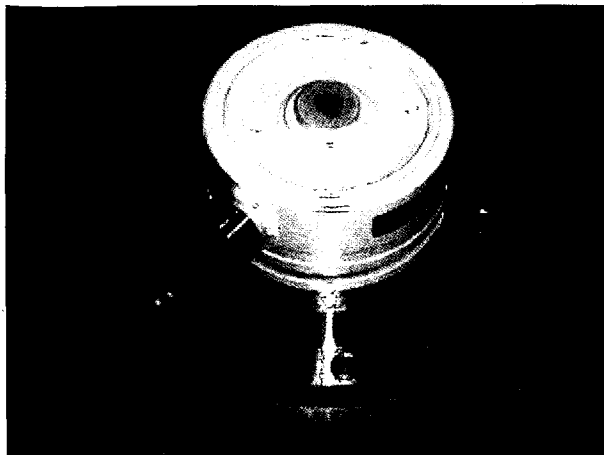
(c) 下部セルおよびロードセル

裏込石

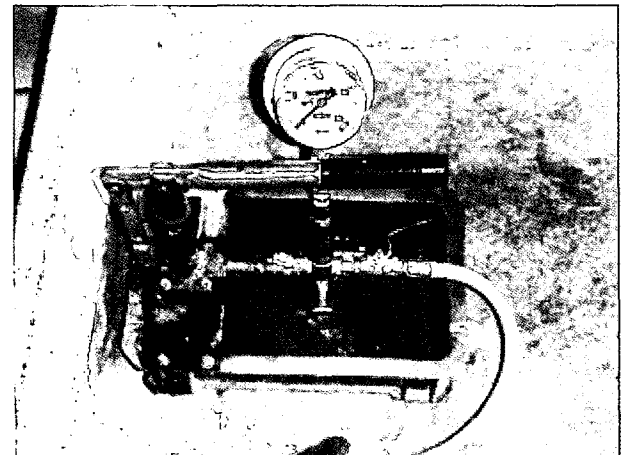


嵩上げ用リング

(d) 嵩上げ用リング



(e) ロードセル



(f) 水圧ポンプ

写真-E.1 実験装置

## E.2 遮水シートのひずみ計測線

図-E.1に遮水シートひずみ計測用計測線の寸法を示す。

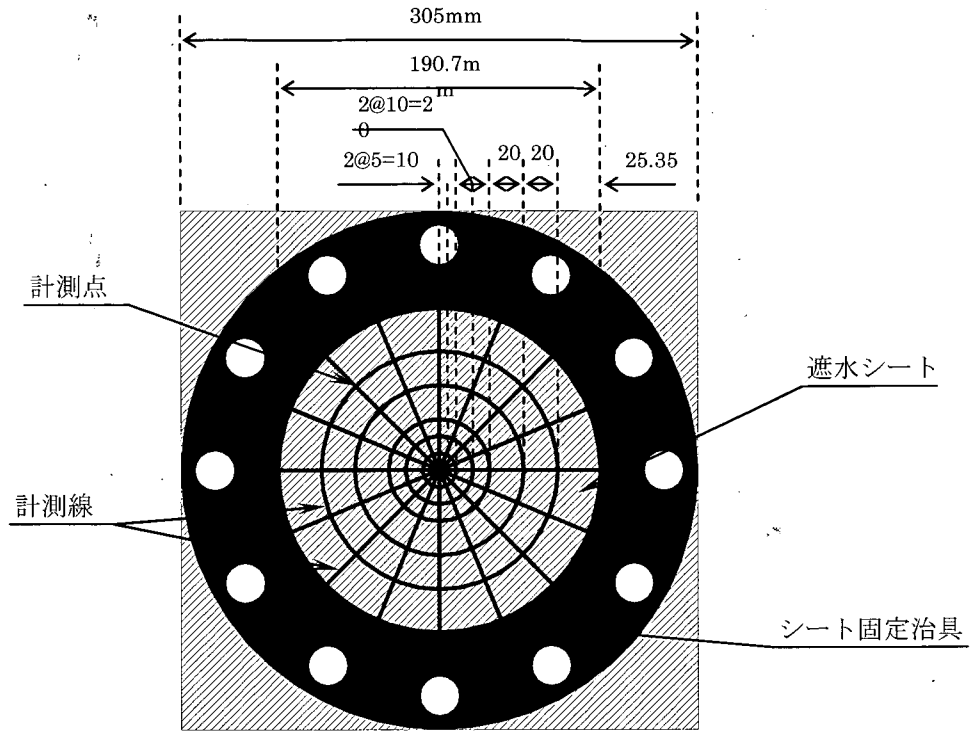
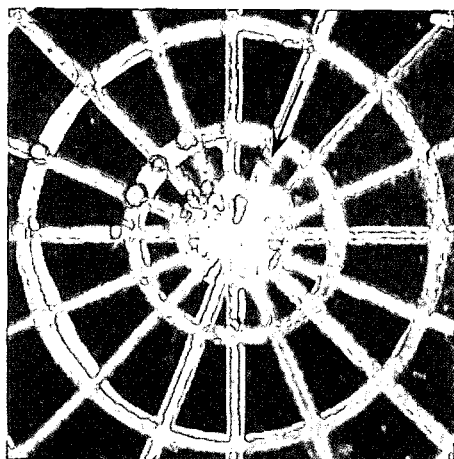


図-E.1 シートひずみ計測用計測線及び計測点

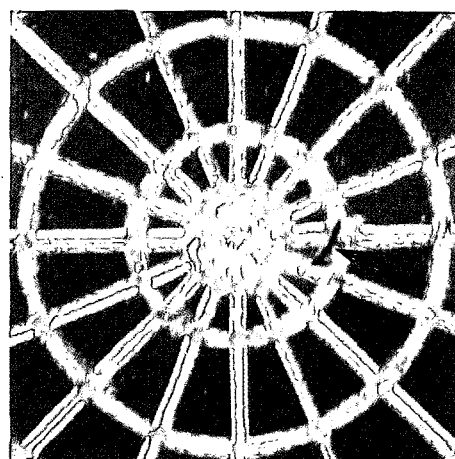
### E.3 耐圧試験結果

#### (1) 遮水シートの状態

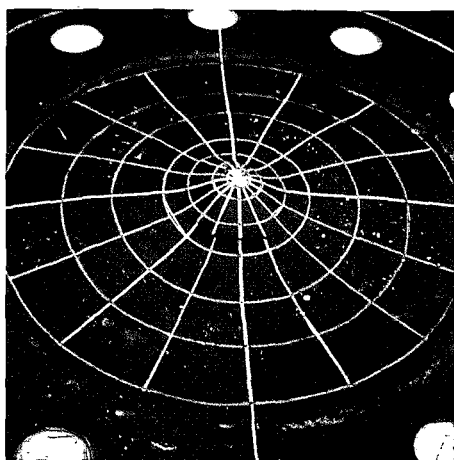
破損まで载荷した実験ケースにおける遮水シートの破損状況を写真-E.2に示す。



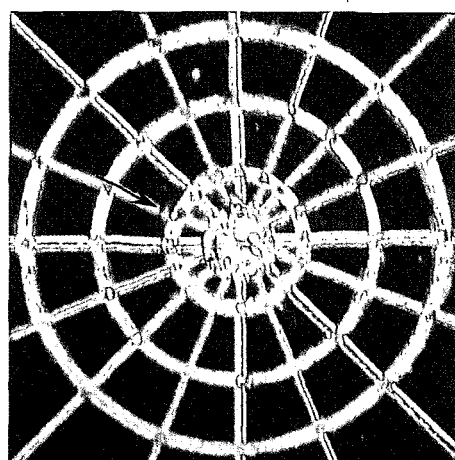
(a) ケース3-1



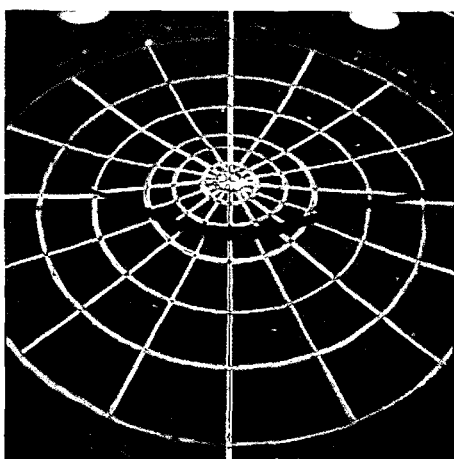
(b) ケース3-2



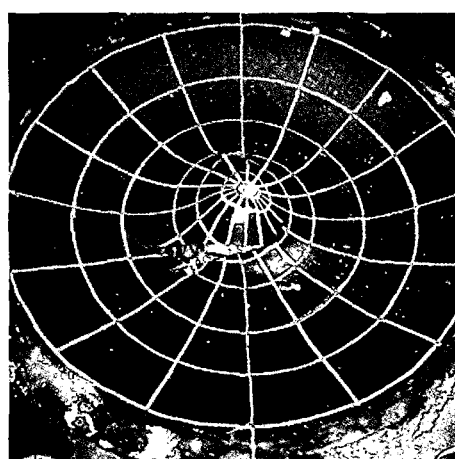
(c) ケース3-4



(d) ケース3-6



(e) ケース3-7

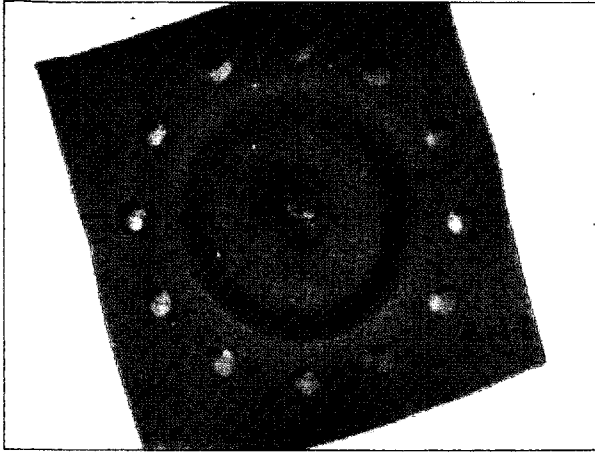


(f) ケース3-9

写真-E.2 遮水シートの実験後の破損状況

(2) 不織布の状態

ケース3-1における実験後の不織布の破損状況を写真-E.3に示す。



(a) 全体図

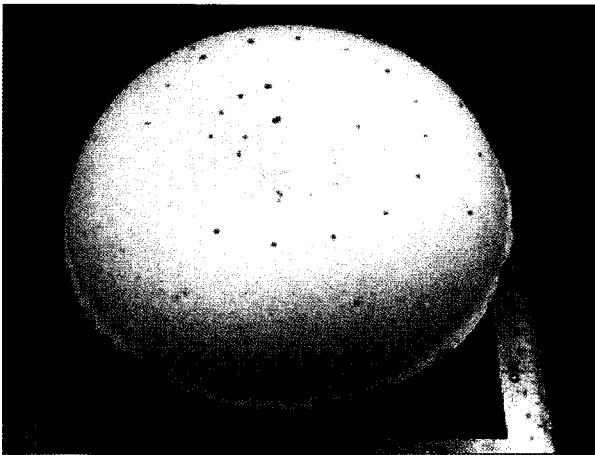


(b) 拡大図

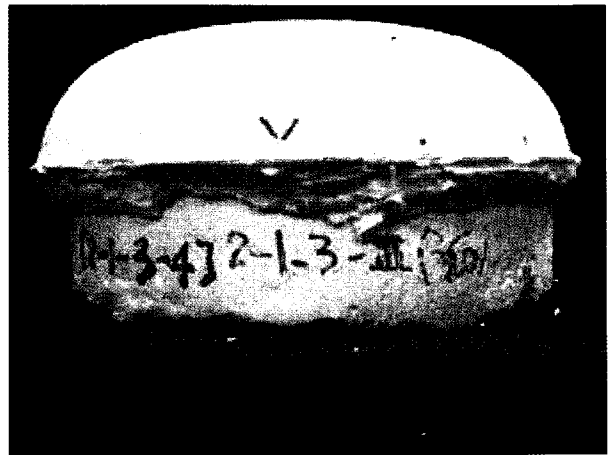
写真-E.3 実験後の不織布 (ケース3-1)

(3) シート変形の型取り

ケース3-3においてシート変形の型取りに用いた石膏を写真-E.4に示す。



(a) 全体図



(b) 断面図

写真-E.4 石膏による型取り (ケース3-3)

(4) 遮水シートひずみ分布

遮水シートを損傷させない実験においては、水圧の载荷を停止させたときの遮水シートのひずみ分布を測定した。なおひずみ $\epsilon$ は、付録DのD.3(2)と同様の方法で算定した。

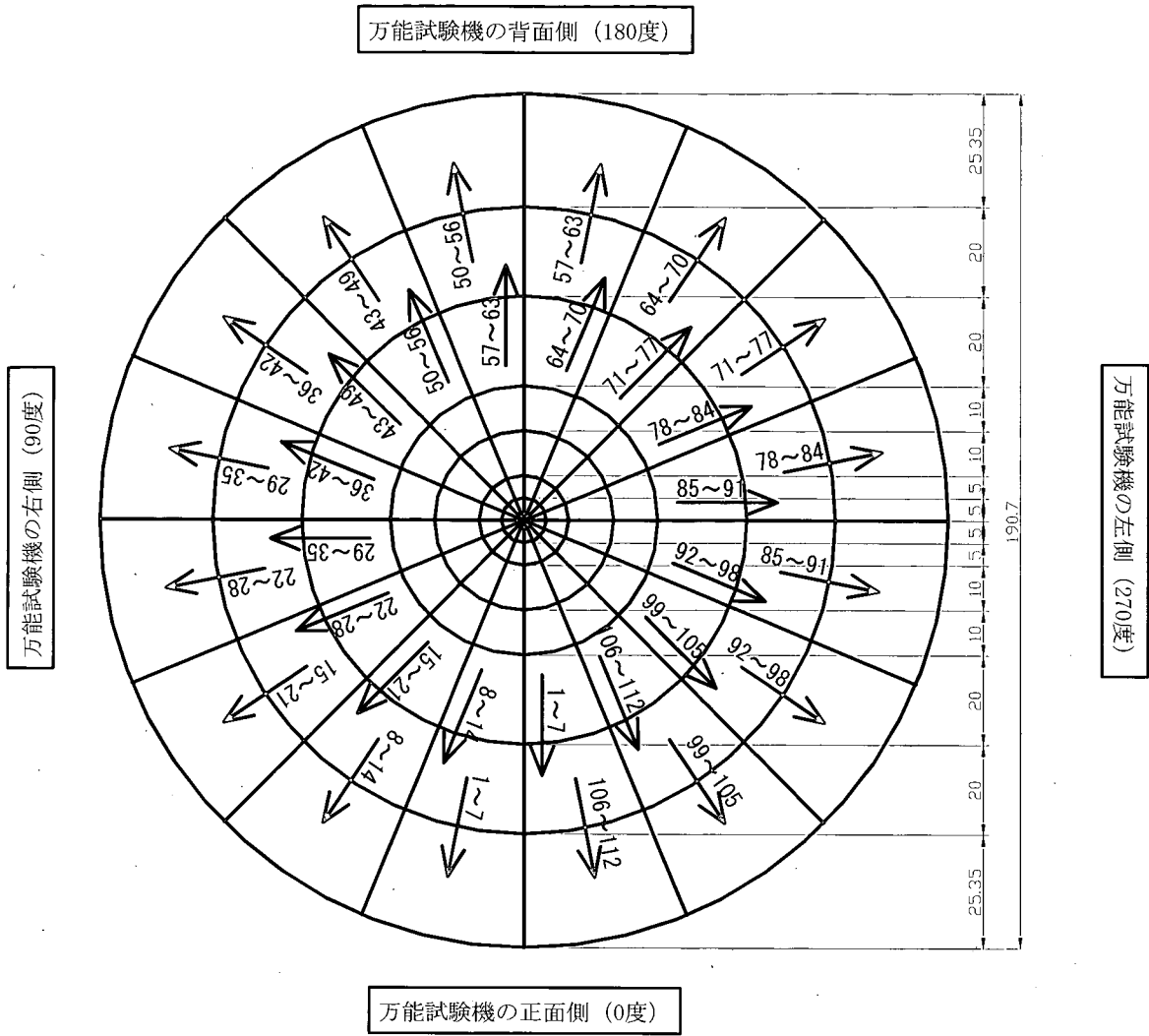


図-E.2 遮水シートひずみ計測線番号

表-E.1 放射方向分布におけるひずみ測定位置

ひずみの方向	各グラフのタイトル	ひずみ測定位置 (数字は図-E.2 におけるひずみ計測線番号)
放射方向ひずみ	線ひずみ (0° ,180° )	7,6,5,4,3,2,1,57,58,59,60,61,62,63
	線ひずみ (22.5° ,202.5° )	14,13,12,11,10,9,8,64,65,66,67,68,69,70
	線ひずみ (45° ,225° )	21,20,19,18,17,16,15,71,72,73,74,75,76,77
	線ひずみ (67.5° ,247.5° )	28,27,26,25,24,23,22,78,79,80,81,82,83,84
	線ひずみ (90° ,270° )	35,34,33,32,31,30,29,85,86,87,88,89,90,91
	線ひずみ (112.5° ,292.5° )	42,41,40,39,38,37,36,92,93,94,95,96,97,98
	線ひずみ (135° ,315° )	49,48,47,46,44,43,99,100,101,102,103,104,105
	線ひずみ (157.5° ,337.5° )	56,55,54,53,52,51,50,106,107,108,109,110,111,112
円周方向ひずみ	線ひずみ (0° ,180° )	7,6,5,4,3,2,1,57,58,59,60,61,62,63
	線ひずみ (22.5° ,202.5° )	14,13,12,11,10,9,8,64,65,66,67,68,69,70
	線ひずみ (45° ,225° )	21,20,19,18,17,16,15,71,72,73,74,75,76,77
	線ひずみ (67.5° ,247.5° )	28,27,26,25,24,23,22,78,79,80,81,82,83,84
	線ひずみ (90° ,270° )	35,34,33,32,31,30,29,85,86,87,88,89,90,91
	線ひずみ (112.5° ,292.5° )	42,41,40,39,38,37,36,92,93,94,95,96,97,98
	線ひずみ (135° ,315° )	49,48,47,46,44,43,99,100,101,102,103,104,105
	線ひずみ (157.5° ,337.5° )	56,55,54,53,52,51,50,106,107,108,109,110,111,112

表-E.2 円周方向分布におけるひずみ測定位置

ひずみの方向	各グラフのタイトル	ひずみ測定位置 (数字は図-E.2 におけるひずみ計測線番号でプロット順に表示)
放射方向ひずみ	線ひずみ (中心~5mm)	1,8,15,22,29,36,43,50,57,64,71,78,85,92,99,106
	線ひずみ (5mm~10mm)	2,9,16,23,30,37,44,51,58,65,72,79,86,93,100,107
	線ひずみ (10mm~20mm)	3,10,17,24,31,38,45,52,59,66,73,80,87,94,101,108
	線ひずみ (20mm~30mm)	4,11,18,25,32,39,46,53,60,67,74,81,88,95,102,109
	線ひずみ (30mm~50mm)	5,12,19,26,33,40,47,54,61,68,75,82,89,96,103,110
	線ひずみ (50mm~70mm)	6,13,20,27,34,41,48,55,62,69,76,83,90,97,104,111
	線ひずみ (70mm~95.35mm)	7,14,21,28,35,42,49,56,63,70,77,84,91,98,105,112
円周方向ひずみ	線ひずみ (中心~5mm)	1,8,15,22,29,36,43,50,57,64,71,78,85,92,99,106
	線ひずみ (5mm~10mm)	2,9,16,23,30,37,44,51,58,65,72,79,86,93,100,107
	線ひずみ (10mm~20mm)	3,10,17,24,31,38,45,52,59,66,73,80,87,94,101,108
	線ひずみ (20mm~30mm)	4,11,18,25,32,39,46,53,60,67,74,81,88,95,102,109
	線ひずみ (30mm~50.8mm)	5,12,19,26,33,40,47,54,61,68,75,82,89,96,103,110
	線ひずみ (50mm~70mm)	6,13,20,27,34,41,48,55,62,69,76,83,90,97,104,111
	線ひずみ (70mm~95.35mm)	7,14,21,28,35,42,49,56,63,70,77,84,91,98,105,112

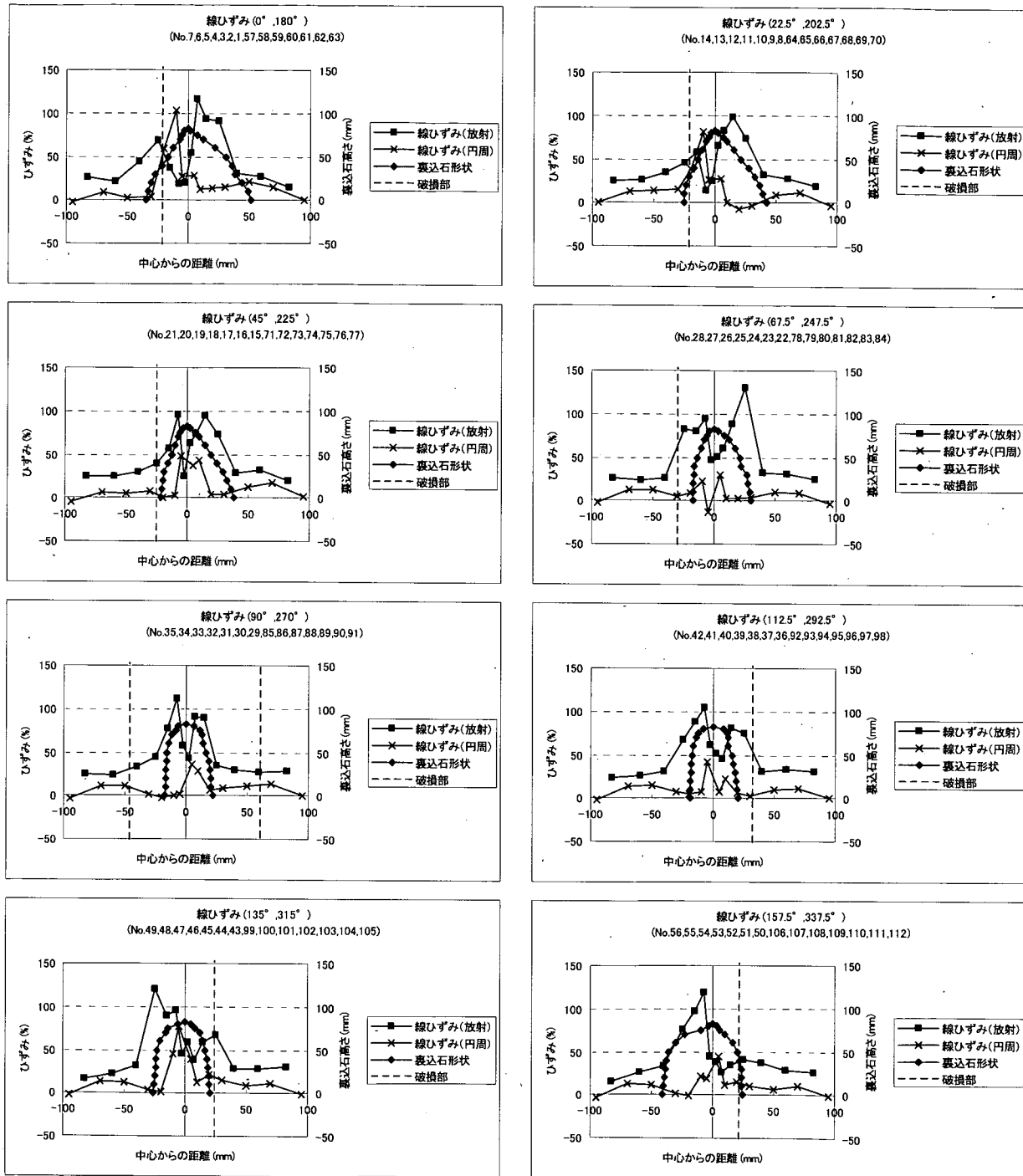


図-E.3 遮水シート線ひずみ分布 (放射方向分布: 角形②; ケース3-8)

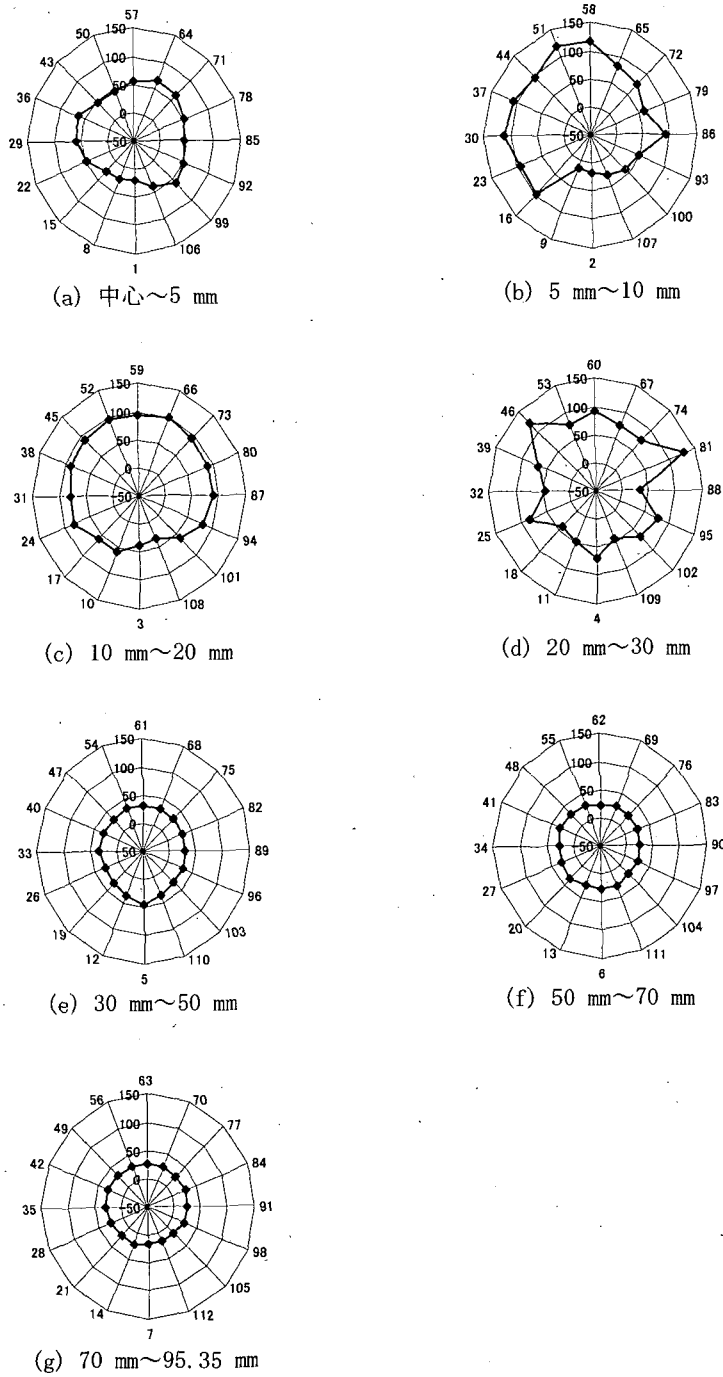
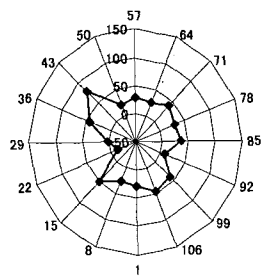
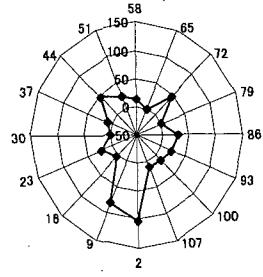


図-E.4 遮水シート線ひずみ分布 (放射方向ひずみ：円周方向分布：角形②；ケース3-8)

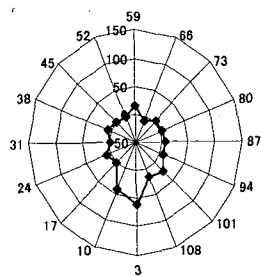




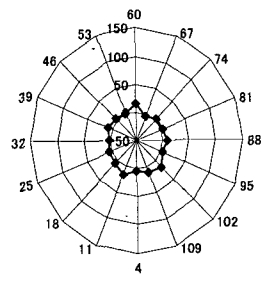
(a) 中心~5 mm



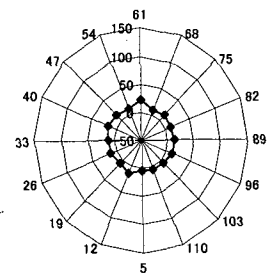
(b) 5 mm~10 mm



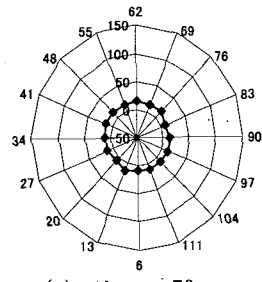
(c) 10 mm~20 mm



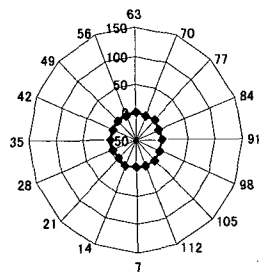
(d) 20 mm~30 mm



(e) 30 mm~50 mm



(f) 50 mm~70 mm



(g) 70 mm~95.35 mm

図-E.5 遮水シート線ひずみ分布 (円周方向ひずみ:円周方向分布:角形②;ケース3-8)

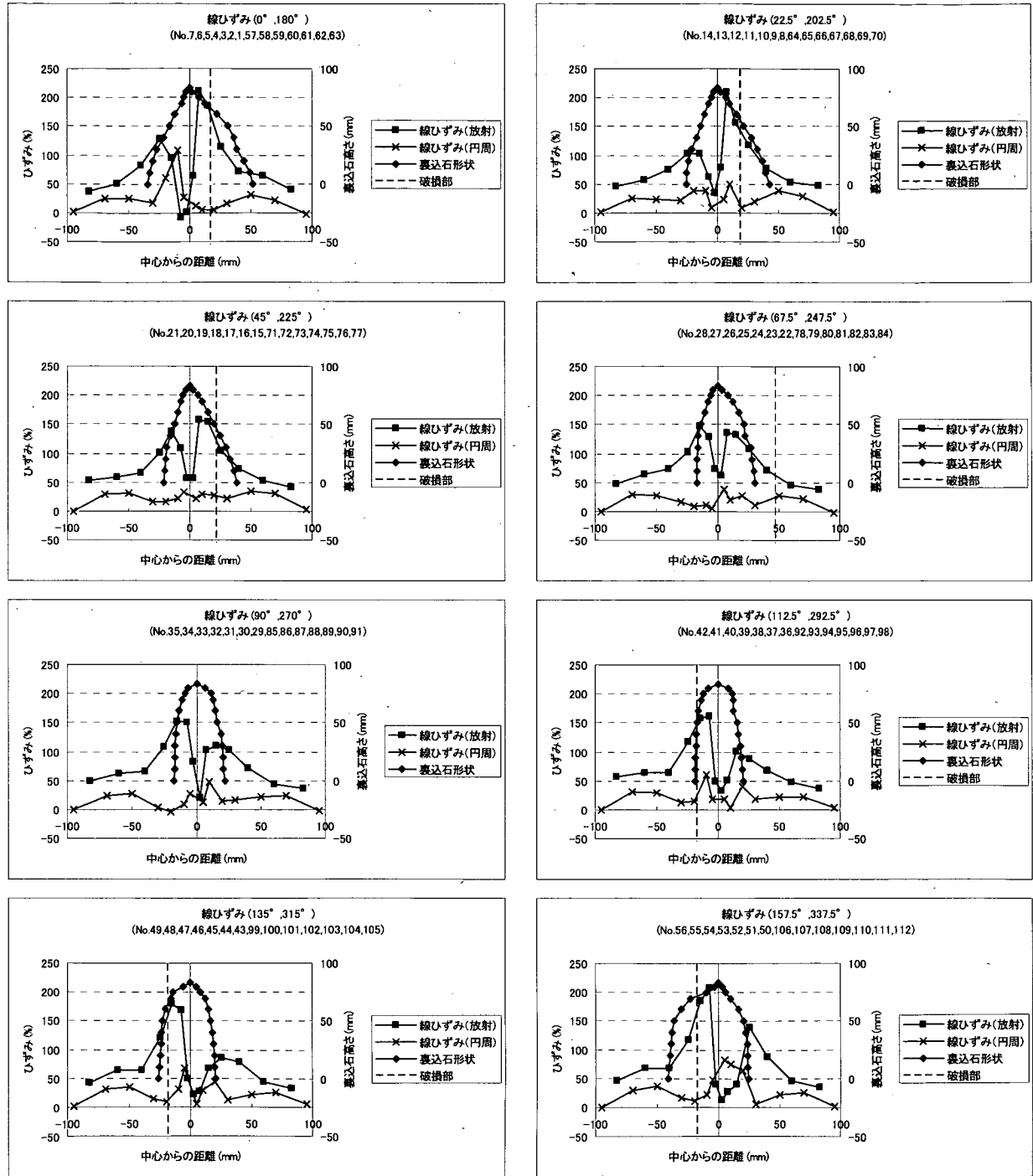


図-E.6 遮水シート線ひずみ分布 (放射方向分布: 角形②; ケース3-10)

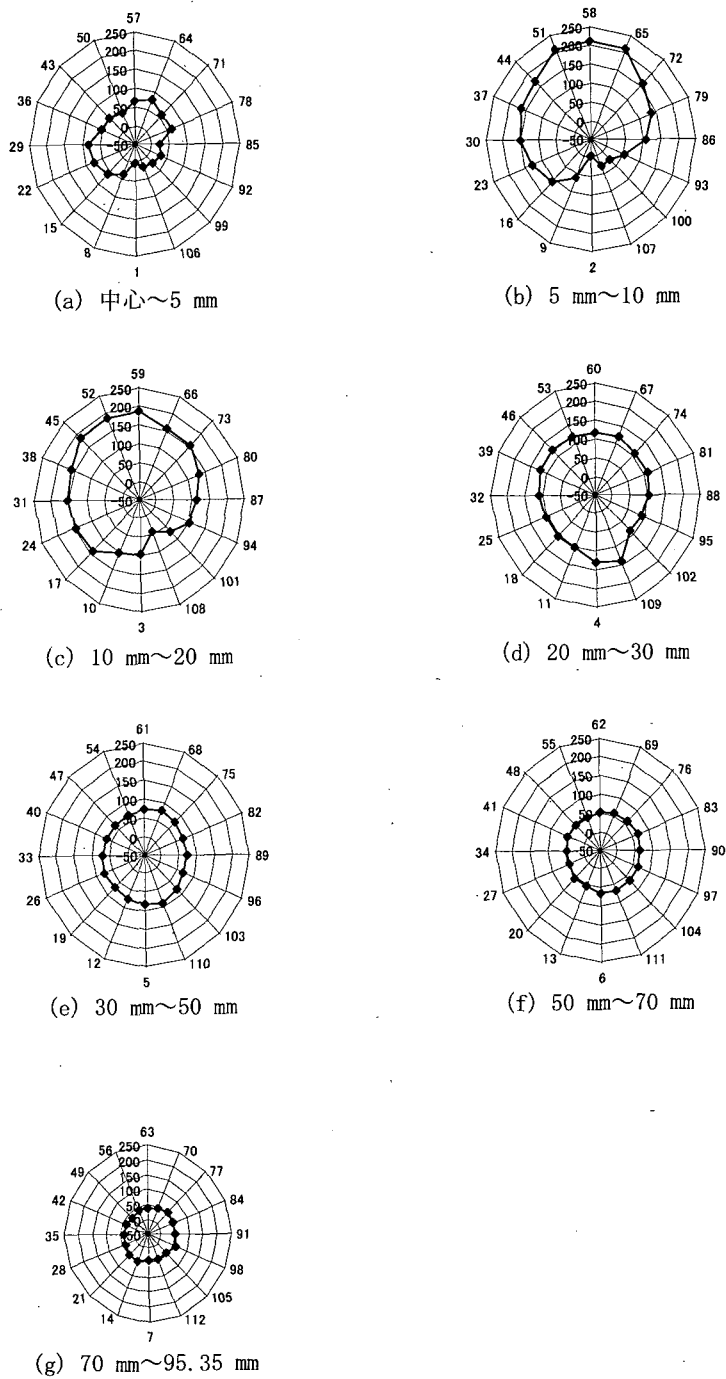


図-E.7 遮水シート線ひずみ分布 (放射方向ひずみ : 円周方向分布 : 角形② ; ケース3-10)

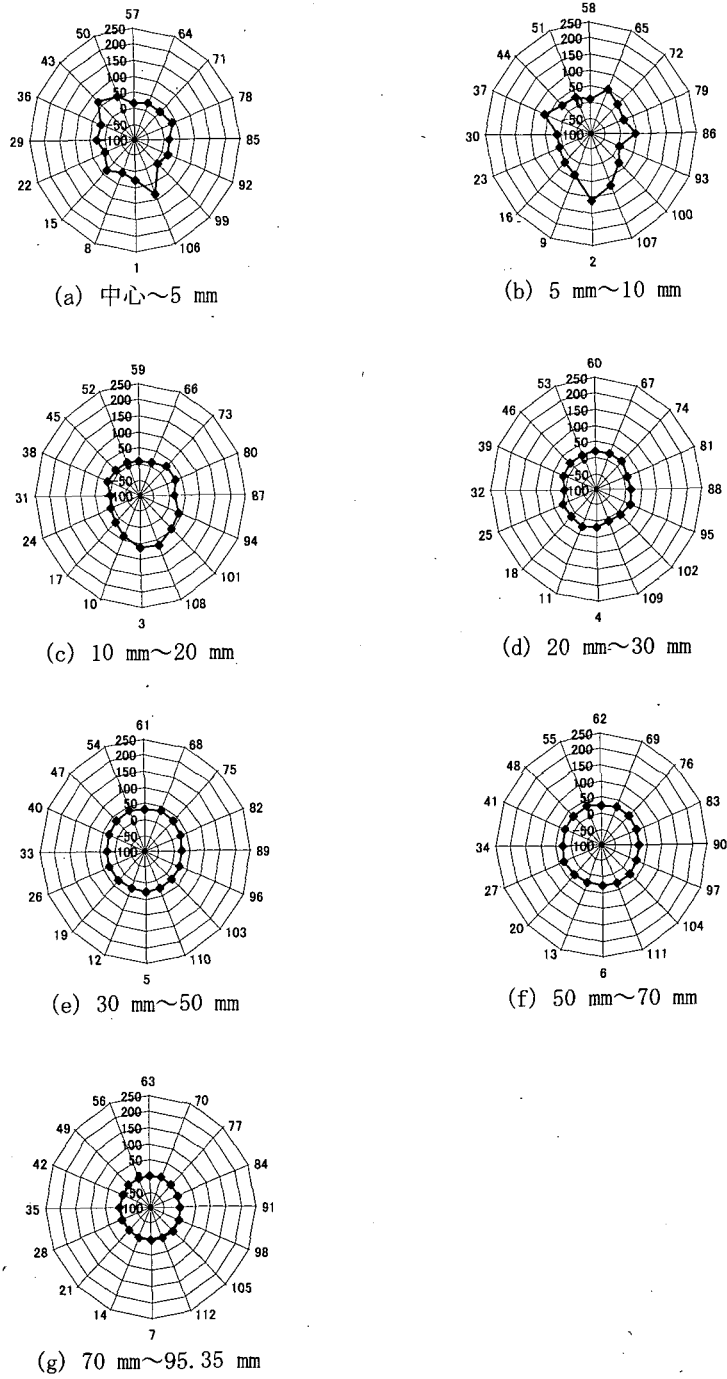


図-E.8 遮水シート線ひずみ分布 (円周方向ひずみ: 円周方向分布: 角形②; ケース3-10)

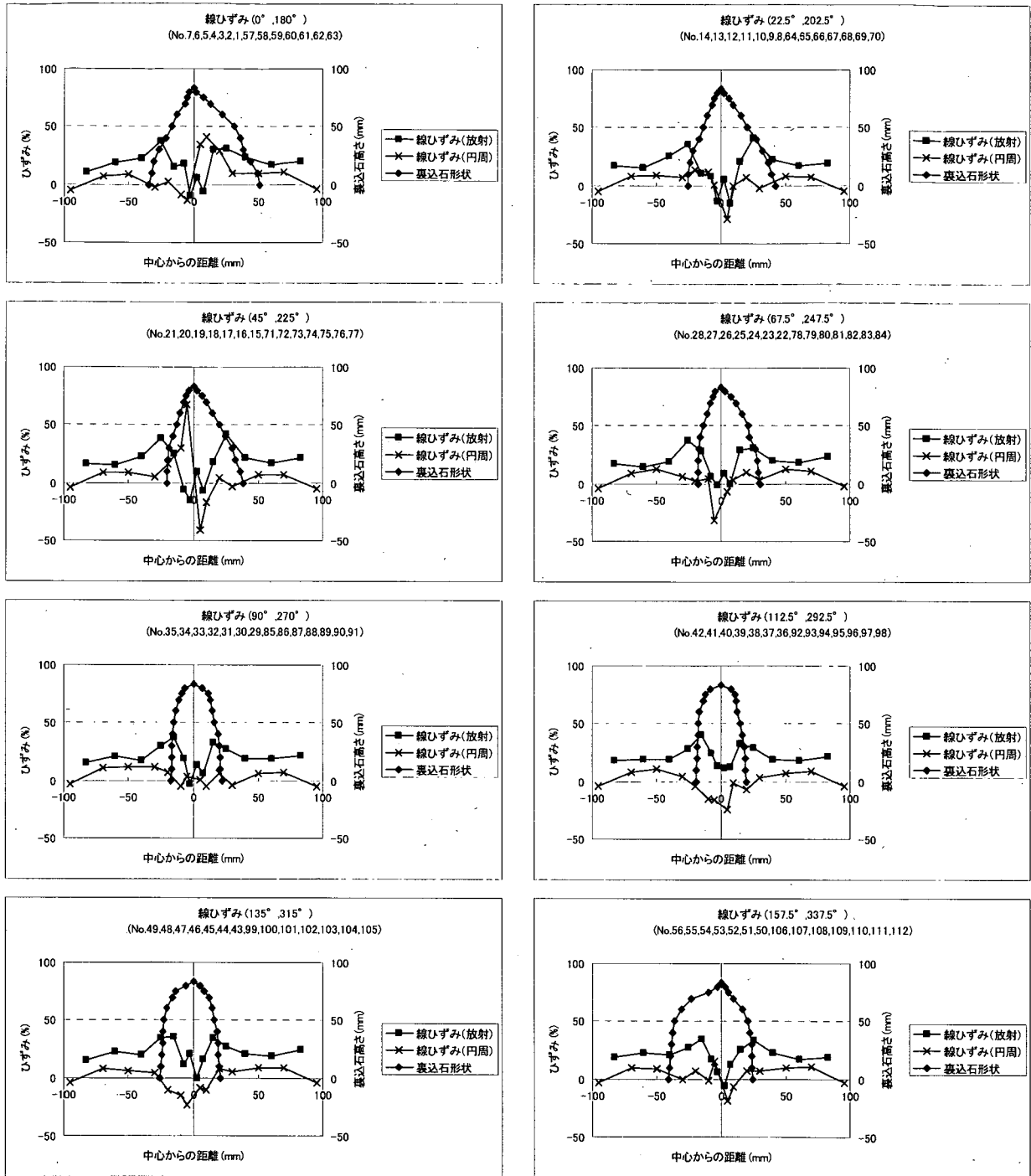
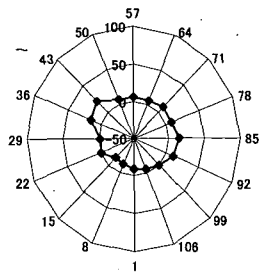
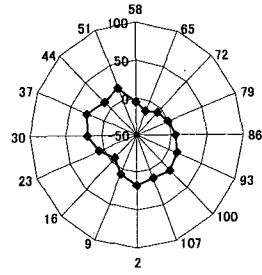


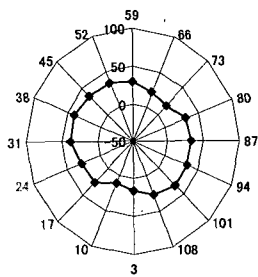
図-E.9 遮水シート線ひずみ分布 (放射方向分布: 丸形①; ケース3-11)



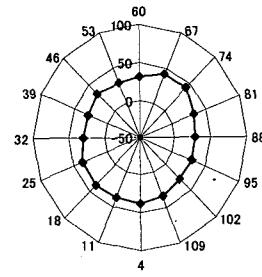
(a) 中心~5 mm



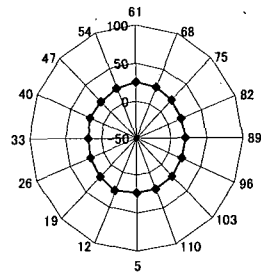
(b) 5 mm~10 mm



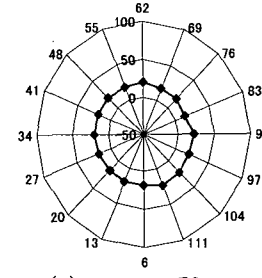
(c) 10 mm~20 mm



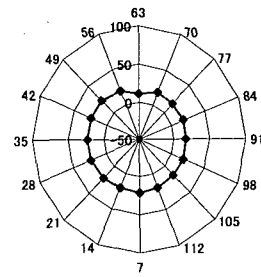
(d) 20 mm~30 mm



(e) 30 mm~50 mm

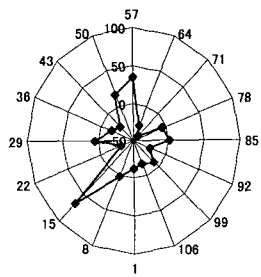


(f) 50 mm~70 mm

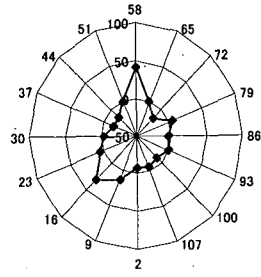


(g) 70 mm~95.35 mm

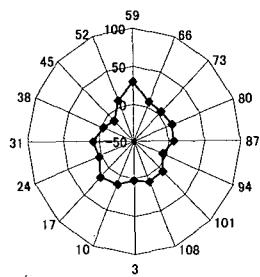
図-E.10 遮水シート線ひずみ分布 (放射方向ひずみ:円周方向分布:丸形①;ケース3-11)



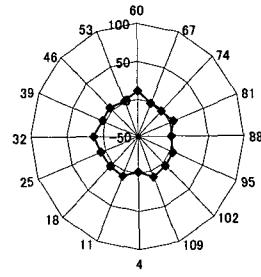
(a) 中心～5 mm



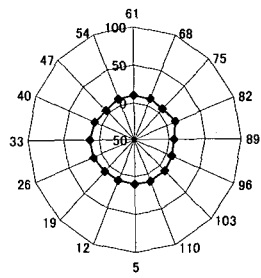
(b) 5 mm～10 mm



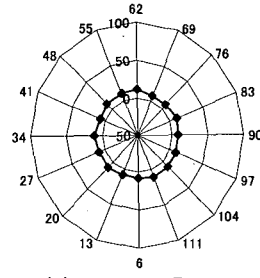
(c) 10 mm～20 mm



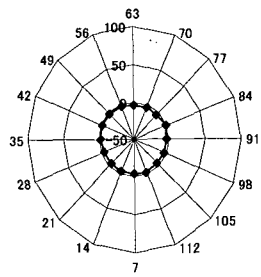
(d) 20 mm～30 mm



(e) 30 mm～50 mm



(f) 50 mm～70 mm



(g) 70 mm～95.35 mm

図-E.11 遮水シート線ひずみ分布 (円周方向ひずみ: 円周方向分布: 丸形①; ケース3-11)

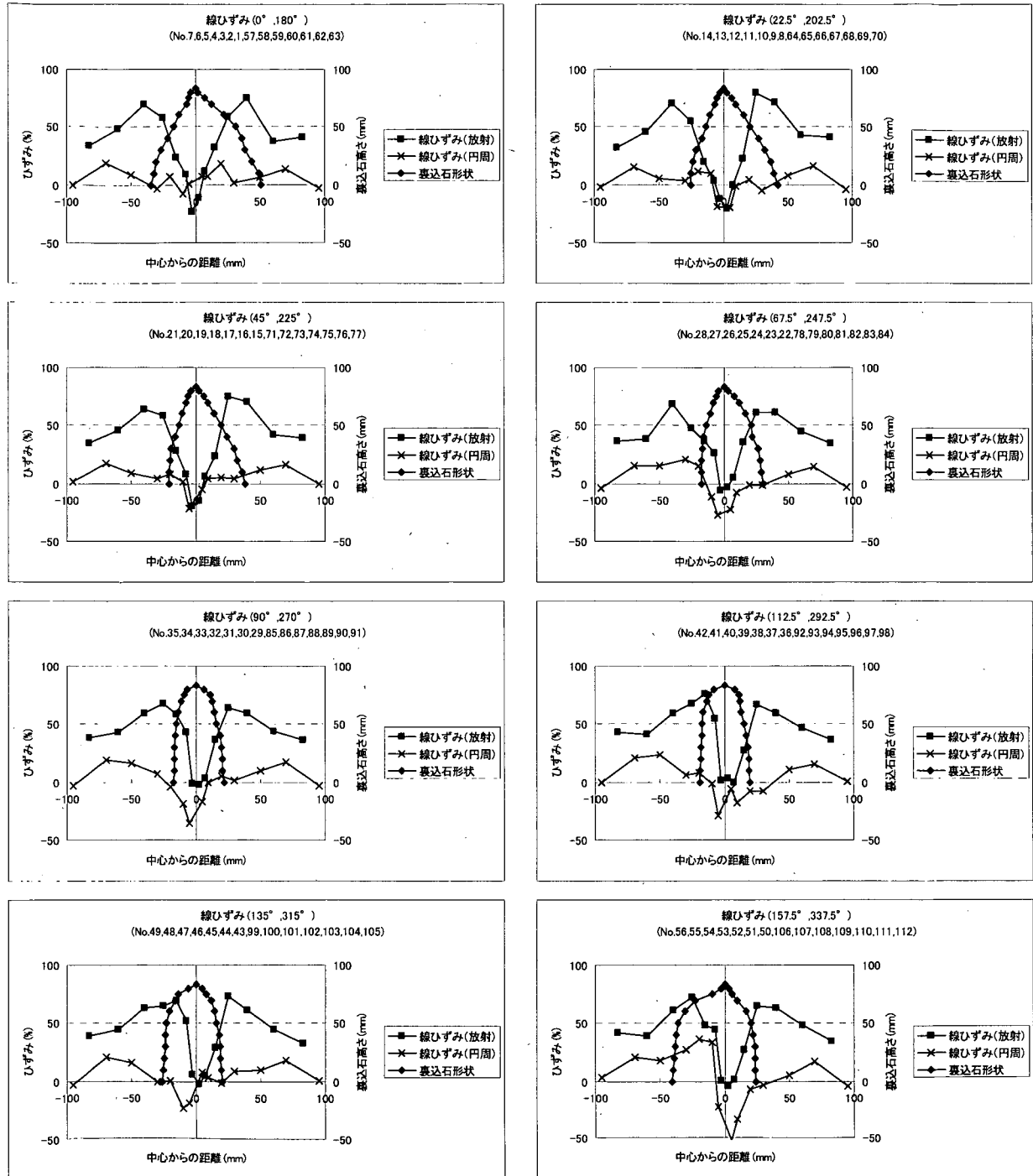
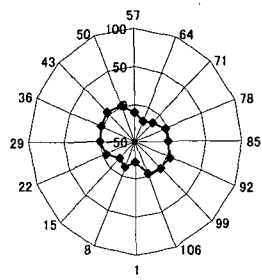
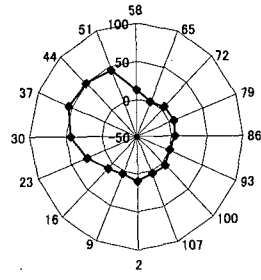


図-E.12 遮水シート線ひずみ分布 (放射方向分布：丸形①；ケース3-12)

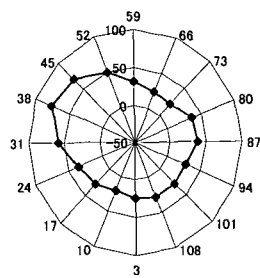




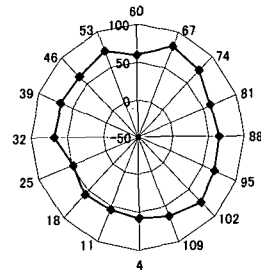
(a) 中心~5 mm



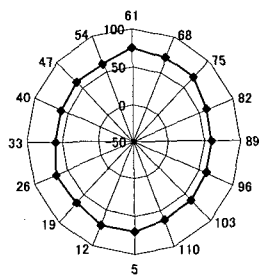
(b) 5 mm~10 mm



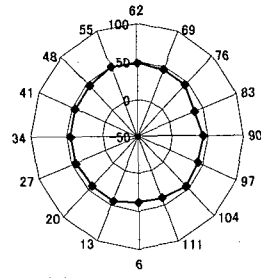
(c) 10 mm~20 mm



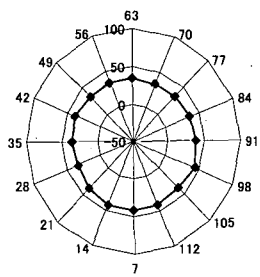
(d) 20 mm~30 mm



(e) 30 mm~50 mm



(f) 50 mm~70 mm



(g) 70 mm~95.35 mm

図-E.13 遮水シート線ひずみ分布 (放射方向ひずみ:円周方向分布:丸形①;ケース3-12)

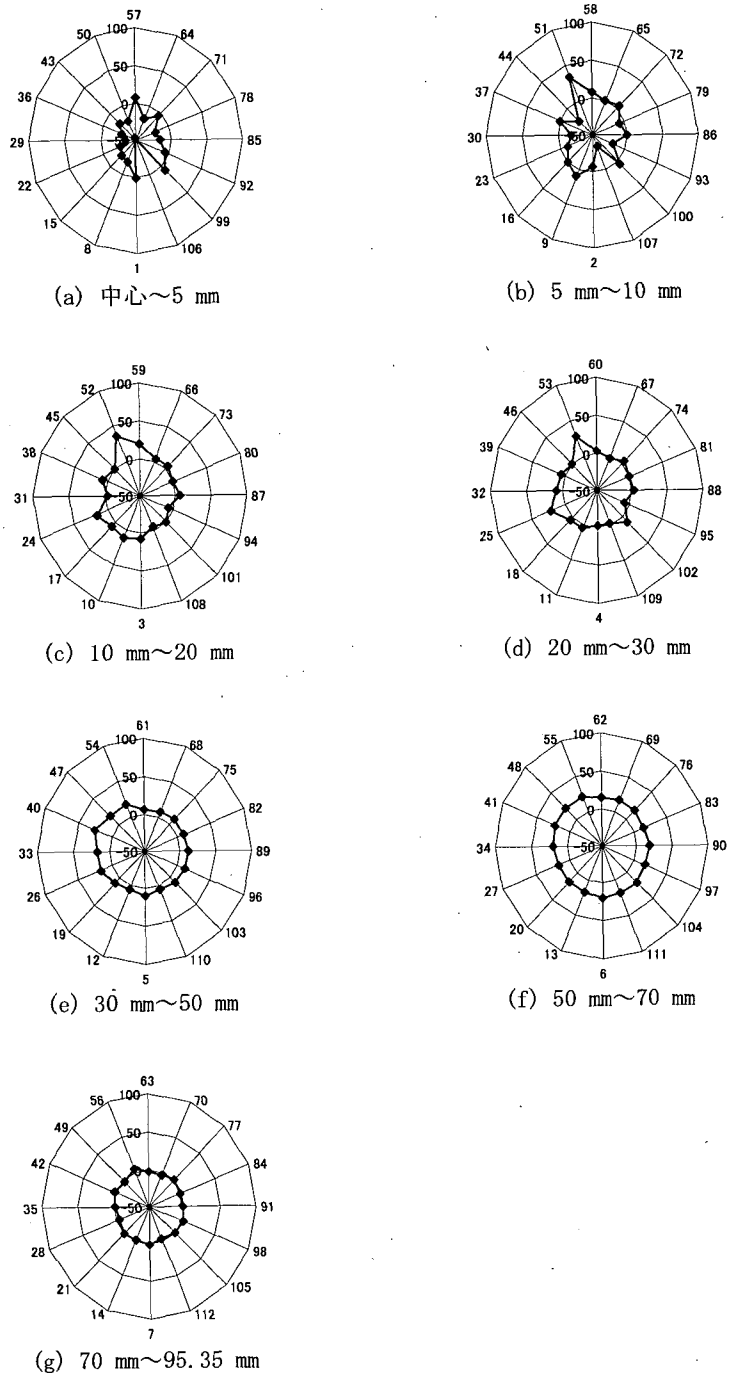


図-E.14 遮水シート線ひずみ分布 (円周方向ひずみ: 円周方向分布: 丸形①; ケース3-12)

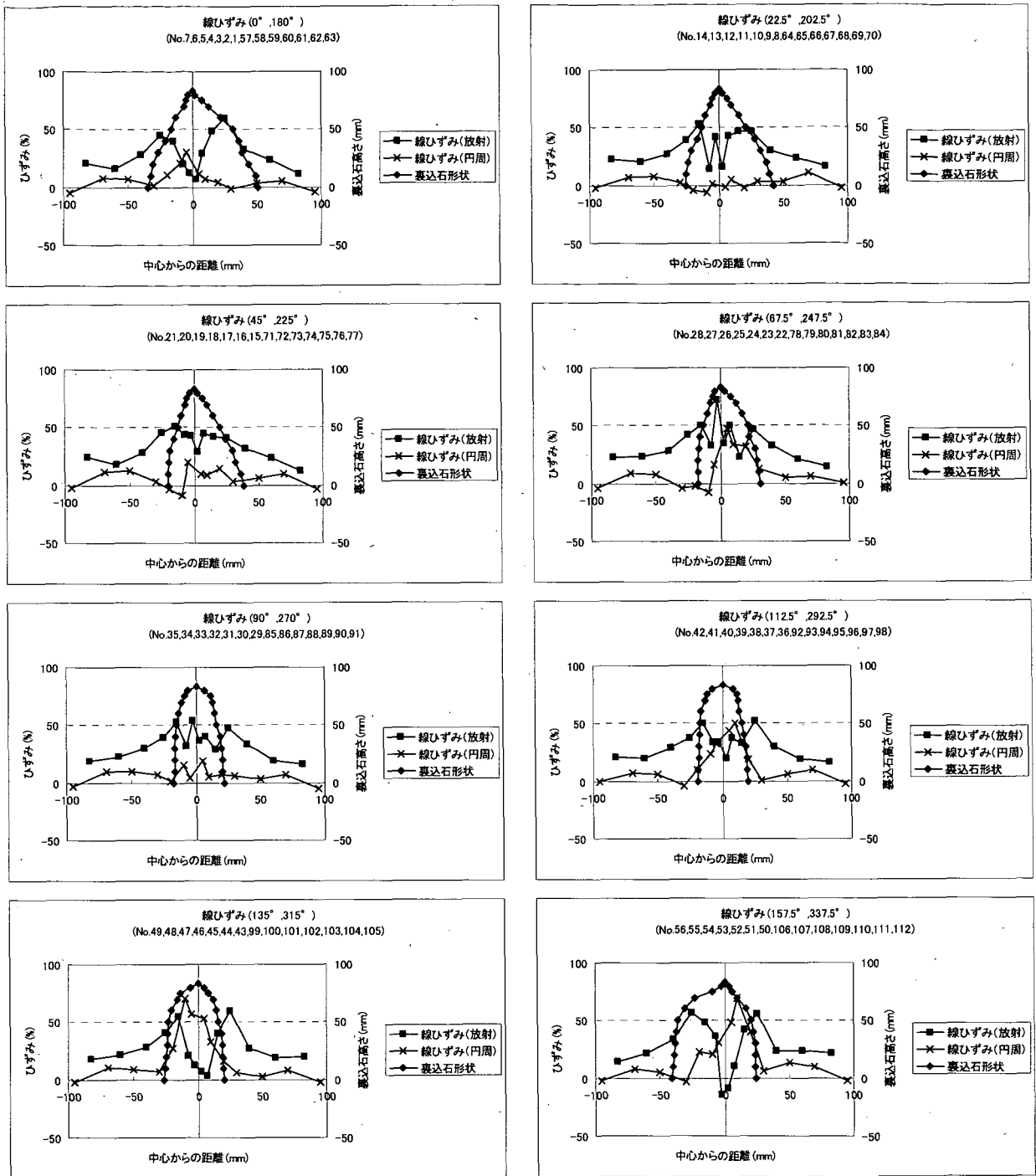
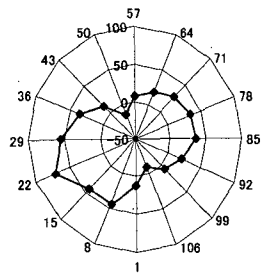
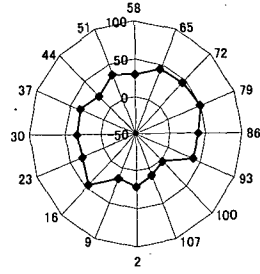


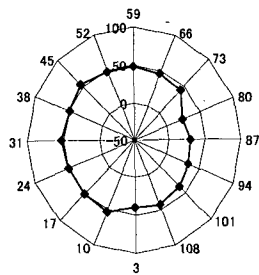
図-E.15 遮水シート線ひずみ分布 (放射方向分布: 丸形②; ケース3-13)



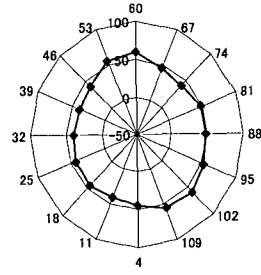
(a) 中心~5 mm



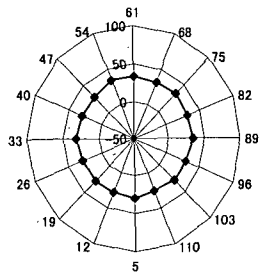
(b) 5 mm~10 mm



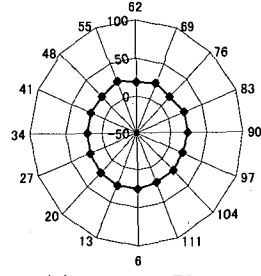
(c) 10 mm~20 mm



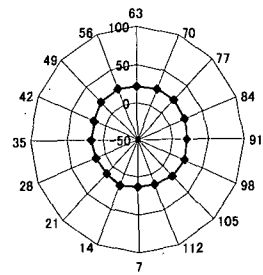
(d) 20 mm~30 mm



(e) 30 mm~50 mm

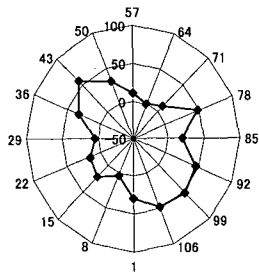


(f) 50 mm~70 mm

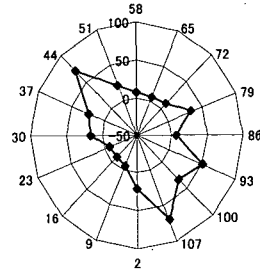


(g) 70 mm~95.35 mm

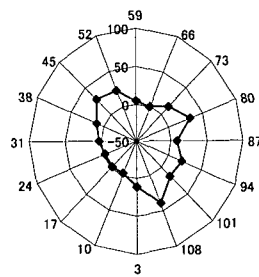
図-E.16 遮水シート線ひずみ分布 (放射方向ひずみ:円周方向分布:丸形②;ケース3-13)



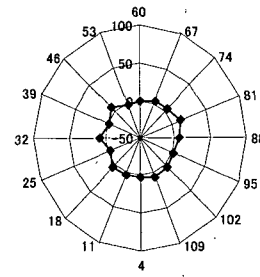
(a) 中心~5 mm



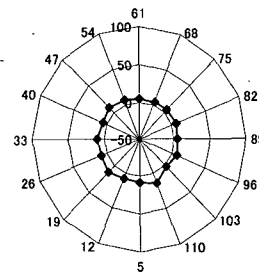
(b) 5 mm~10 mm



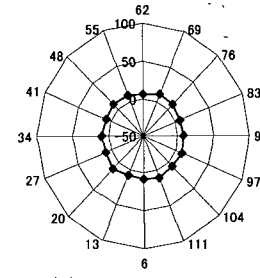
(c) 10 mm~20 mm



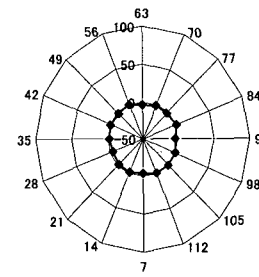
(d) 20 mm~30 mm



(e) 30 mm~50 mm



(f) 50 mm~70 mm



(g) 70 mm~95.35 mm

図-E.17 遮水シート線ひずみ分布 (円周方向ひずみ: 円周方向分布: 丸形②; ケース3-13)

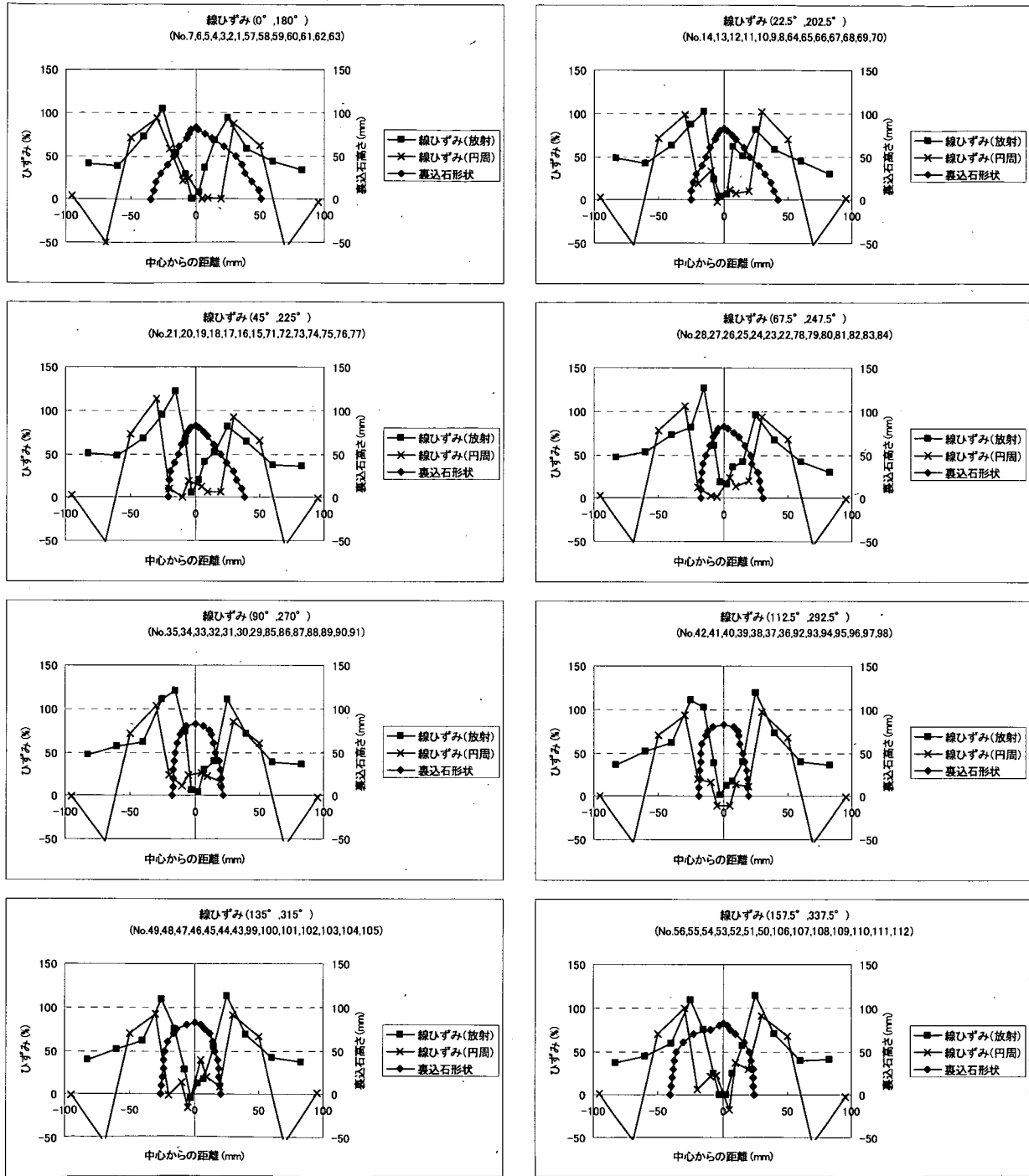
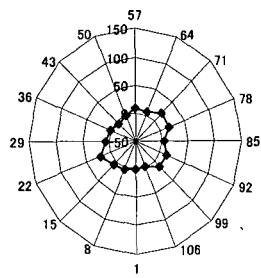
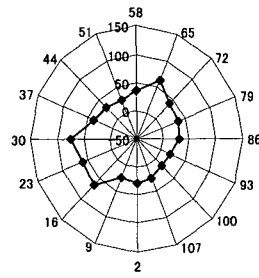


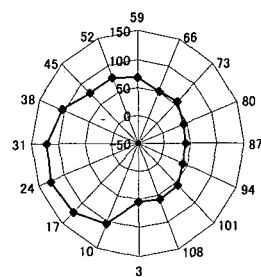
図-E.18 遮水シート線ひずみ分布 (放射方向分布：丸形②；ケース3-14)



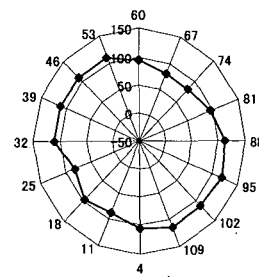
(a) 中心~5 mm



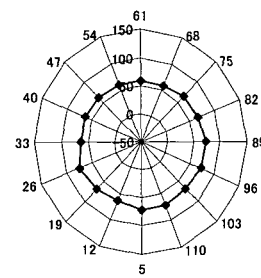
(b) 5 mm~10 mm



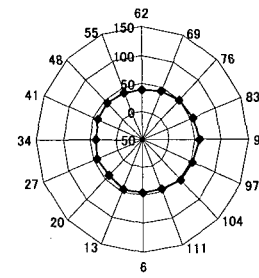
(c) 10 mm~20 mm



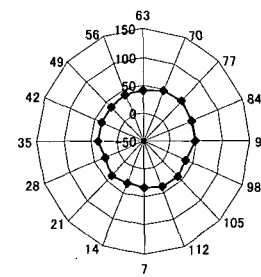
(d) 20 mm~30 mm



(e) 30 mm~50 mm

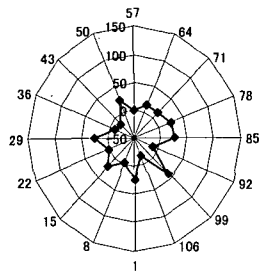


(f) 50 mm~70 mm

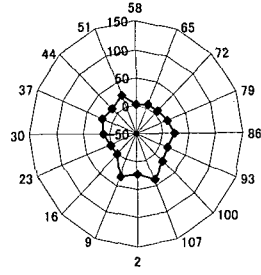


(g) 70 mm~95.35 mm

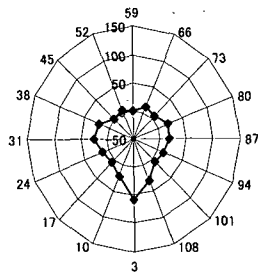
図-E.19 遮水シート線ひずみ分布 (放射方向ひずみ : 円周方向分布 : 丸形② ; ケース3-14)



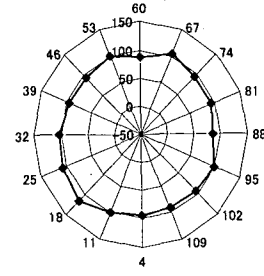
(a) 中心~5 mm



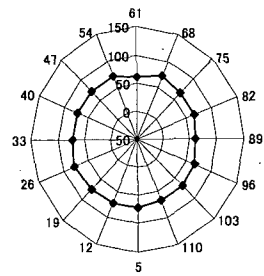
(b) 5 mm~10 mm



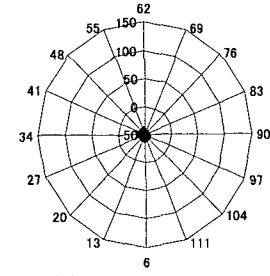
(c) 10 mm~20 mm



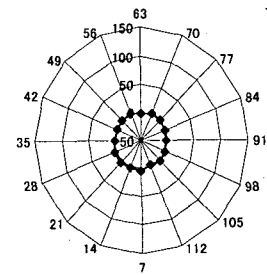
(d) 20 mm~30 mm



(e) 30 mm~50 mm



(f) 50 mm~70 mm



(g) 70 mm~95.35 mm

図-E.20 遮水シート線ひずみ分布 (円周方向ひずみ: 円周方向分布: 丸形②; ケース3-14)