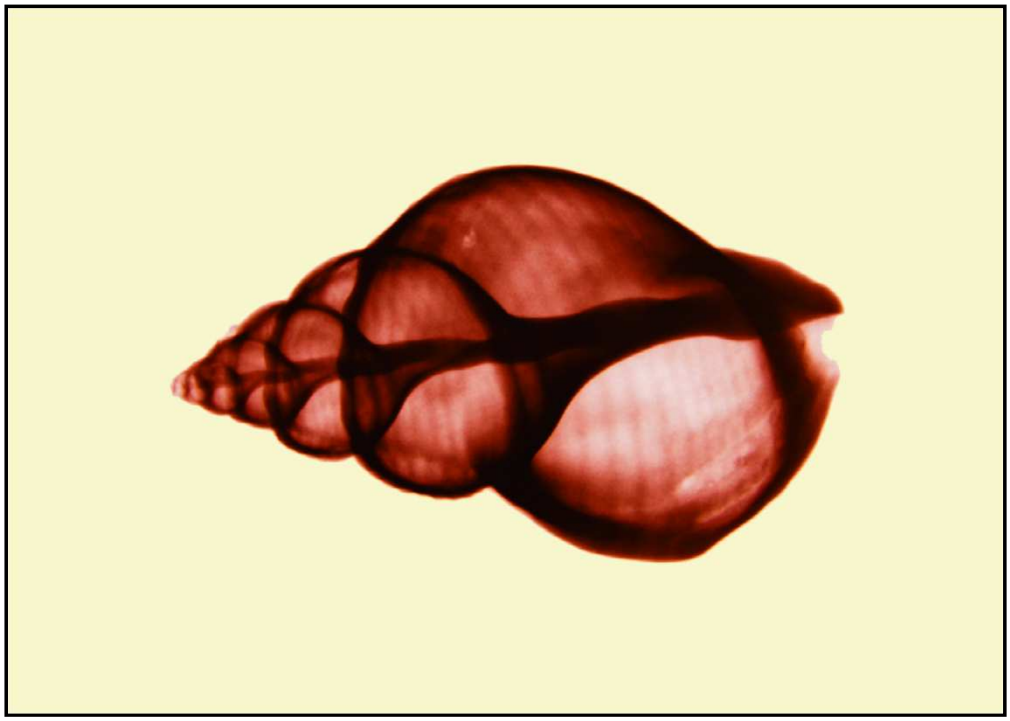
Secondary Radiation Grids



…realising optimum x-ray image quality

CAWO Solutions

Focused grids

L/cm	Ratio	FFD
30	8	105, 180
30	10	105, 180
40	8	105, 180
40	10	105, 180
40	12	105, 180
70	8	105, 180
70	10	105, 180
70	12	105, 180
70	16	105, 180

Parallel grids

L/cm	Ratio	FFD
30	6	∞
30	8	∞
40	8	∞
40	10	∞
70	6	∞

Secondary radiation grids

The use of a grid to eliminate scattered radiation is an important way of achieving optimum image quality. The full metal grids consist of a series of absorbent lead strips interspaced by aluminium strips. Primary radiation will, provided a perfect alignment between x-ray source and grid, pass unhindered onto the image receptor while the scattered radiation to a large extent will be absorbed by the grids lead strips. The number of strips and the height and distance (e.g. ratio) between lead strip and interspace medium will determine the performance of the grid. Our secondary radiation grids are among the best available in the world.

A perfectly aligned focused grid will provide the most effective means of absorbing scatter radiation. This is however not always possible to obtain. In that situation CAWO will offer the best possible alternative solution - the parallel grid. That grid is more forgiving to a slight misalignment. By allowing a relatively large film/focus distance the parallel grid will provide a very satisfactory result.
In the case of stationary grids CAWO recommends the use of a grid with a high number of lines (70 lines/cm or more) in order to eliminate a disturbing gridline pattern to be visible on the image. In addition, a high line grid will, in most cases, help eliminating moiré pattern that sometimes appear on digital radiography (DR) images.

Minimum and maximum focus grid distances according to IEC 60627 for focused grids

Width	**Ratio 8 FFD 105**	**Ratio 8 FFD 180**	**Ratio 10 FFD 105**	**Ratio 10 FFD 180**	**Ratio 12 FFD 105**	**Ratio 12 FFD 180**
18 cm	66-250		71-198	100-900	76-172	108-545
24 cm	73-187	103-720	78-162	112-450	81-148	120-360
30 cm	77-162	112-450	82-146	122-346	85-136	129-300
35 cm	81-150	199-370	85-138	128-305	87-131	134-273
43 cm	84-139	127-310	88-130	135-269	90-125	141-250

Thickness of secondary radiation grids in mm

	Ratio 6	**Ratio 8**	**Ratio 10**	**Ratio 12**	**Ratio 16**
N30	2.25	2.75	3.25		
N40	1.80	2.15	2.55	2.95	
N70	1.20	1.40	1.55	1.75	2.20

L/cm: Lines per cm
FFD: Film-Focus-Distance

Business Contact:
CAWO Solutions
P.O. Box 11 29
D - 86521 Schrobenhausen
Phone: (++49) 8252 9109-21
Internet: www.cawo.com
E-mail: cawo@agfa.com

CAWO Solutions

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