

**REGULATIONS AMENDING THE REGULATIONS RELATING TO THE DESIGN AND MOUNTING OF SORTING GRIDS IN SHRIMP TRAWLS**

*On 29 May 2002, pursuant to section 3 of the Regulations of 10 October 1989 relating to mesh size, bycatches, minimum sizes, etc., in the trawl fisheries for shrimps and Norway lobster, laid down by the Ministry of Fisheries, the Director General of Fisheries prescribed as follows:*

**I**

The Regulations of 14 September 2000 relating to the design and mounting of sorting grids in shrimp trawls have been amended as follows:

§ 15, second paragraph, is repealed.

**II**

These regulations enter into force immediately.

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The regulations as amended read as follows:

**REGULATIONS RELATING TO THE DESIGN AND MOUNTING OF SORTING GRIDS IN SHRIMP TRAWLS**

*On 14 September 2000, pursuant to section 3 of the Regulations of 10 October 1989 relating to mesh size, bycatches, minimum sizes, etc., in the trawl fisheries for shrimps and Norway lobster, laid down by the Ministry of Fisheries, section 6 of the Regulations of 21 September 1994 relating to mesh size, bycatches, minimum sizes, etc., in fishing operations in the fisheries protection zone around Svalbard and section 6 of the Regulations of 21 September 1994 relating to mesh size, bycatches, minimum sizes, etc., in fishing operations in the territorial waters and internal waters of Svalbard, the Director General of Fisheries prescribed as follows:*

**CHAPTER 1. GENERAL PROVISIONS****§ 1 Distance between bars**

The distance between the bars of the sorting grid shall not exceed 19 mm.

**§ 2 Mounting**

The sorting grid shall be mounted across the trawl, in such a way that all sides of the grid are attached to the trawl, and that the centre of the grid is attached to the lastridges, or to the natural midpoint of the extension if there is only one lastridge. The sorting grid is to be

mounted in front of the codend or in the extension of the codend if the circumference of the extension is the same as that of the codend.

### § 3 Fish outlet

There shall be a fish outlet in the upper panel of the trawl, in front of the upper edge of the sorting grid, to direct fish that have been separated from the catch away from the trawl.

The opening of the fish outlet shall be in front of the upper edge of the sorting grid. The rear edge of the fish outlet shall be of the same width as the sorting grid. The opening is made by means of bar cuts running from the top corners of the grid to form a triangle.

### § 4 Plastic sorting grids

If a sorting grid of plastic is used, the specifications set out in items 1-4 of Appendix, 1, Part A, shall be followed.

The manufacturer's specifications for the plastic used in the sorting grid shall be carried on board the vessel and so that they can be produced at any time in the event of control. It shall be possible to compare the specifications with the requirements set out in item 1 of Appendix 1, Part A.

A type of plastic that cannot be shown to satisfy standards corresponding to the specifications set out in item 1 of Appendix 1, Part A may be approved for use if the National Institute of Technology finds after carrying out tests that the material satisfies the requirements in force at any time.

## CHAPTER 2. STANDARD GRID

### § 5 Length and breadth of the sorting grid

When a standard grid is used, the length and breadth of the sorting grid shall be as follows:

a) metal grid:

A grid made of metal (aluminium or steel shall be used) shall not exceed 1.5 m in length.

The breadth of the sorting grid shall not exceed 1.3 m.

b) plastic grid:

A grid made of plastic shall not exceed 1.5 m in length.

The breadth of the sorting grid shall not exceed 1.5 m.

### § 6 Angle of inclination of the grid

The angle at which the sorting grid is mounted shall not exceed 50°.

### § 7 Guiding funnel/panel

The distance between the lower edge of the sorting grid and the guiding funnel or panel shall be at least 50 cm.

The mesh size of the guiding funnel or panel may be less than 35 mm.

#### § 8 Dimensions of the frame and bars

In a standard metal grid, the frame of the grid shall be made of materials at least 20 mm in diameter.

The bars of the grid shall be at least 12 mm in diameter if they are made of aluminium. If steel is used, the bars of the grid shall be at least 10 mm in diameter

The sorting grid shall have at least two transverse bars of the same minimum dimensions as the bars.

#### § 9 Supporting chain or supporting rope

If a supporting chain or supporting rope is used to stabilize the angle of the grid, the minimum length of the chain or rope shall be the distance from the point where the grid is attached to the lastridge to the point where the supporting chain or rope is attached to the lastridge, plus half the installation length of the grid, as measured along the lastridge.

The supporting chain or rope shall be attached a minimum of 1.6 m in front of the sorting grid, measured from the point where the grid is attached to the lastridge to the point where the supporting chain or rope is attached to the lastridge.

### CHAPTER 3. LONG GRID

#### § 10 Length and breadth of the sorting grid

When a long grid is used, the length and breadth of the sorting grid shall be as follows:

a) metal grid:

A grid made of metal (aluminium or steel) shall not exceed 2.5 m in length.

The breadth of the sorting grid shall not exceed 1.3 m.

b) plastic grid:

A grid made of plastic shall not exceed 2 m in length.

The breadth of the sorting grid shall not exceed 1.5 m.

#### § 11 Angle of inclination of the grid

The angle at which the sorting grid is mounted shall not exceed 30° for a long metal grid. The angle at which a long plastic grid is mounted shall not exceed 50°.

#### § 12 Guiding funnel/panel

The distance between the lower edge of the sorting grid and the guiding funnel or panel shall be at least 100 cm.

The mesh size of the guiding funnel or panel may be less than 35 mm.

#### § 13 Dimensions of the frame and bars

In a long metal grid, the frame of the grid shall be made of materials at least 20 mm in diameter.

The bars of the grid shall be at least 12 mm in diameter if they are made of aluminium. If steel is used, the bars of the grid shall be at least 10 mm in diameter

The sorting grid shall have at least two transverse bars of the same minimum dimensions as the bars.

#### § 14 Supporting chain or supporting rope

If a supporting chain or supporting rope is used to stabilize the angle of the grid, the minimum length of the chain or rope shall be the distance from the point where the grid is attached to the lastridge to the point where the supporting chain or rope is attached to the lastridge, plus half the installation length of the grid, as measured along the lastridge.

The supporting chain or rope shall be attached a minimum of 2 m in front of the sorting grid, measured from the point where the grid is attached to the lastridge to the point where the supporting chain or rope is attached to the lastridge.

### CHAPTER 4. ENTRY INTO FORCE

#### § 15 Entry into force

These regulations enter into force immediately. From the same date, the Regulations relating to the design and mounting of sorting grids in shrimp trawls, issued by the Director General of Fisheries on 21 March 1997 and 13 July 2000, are repealed.

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Appendices:	Appendix 1:	specifications (Part A) and recommendations (Part B), 4 pages
	Appendix 2:	Drawings, 3 pages

The enclosures may be accessed at [www.fiskeridir.no/sider/pdf/reke.pdf](http://www.fiskeridir.no/sider/pdf/reke.pdf)

**APPENDIX TO THE REGULATIONS RELATING TO THE DESIGN AND MOUNTING OF SORTING GRIDS IN SHRIMP TRAWLS LAID DOWN BY THE DIRECTOR GENERAL OF FISHERIES ON 14 SEPTEMBER 2000**

**Appendix 1**

**Part A**

**SORTING GRID OF PLASTIC**

The sorting grid shall be designed according to the specifications set out below in items 1-4.

1. The grid shall be made of plastic that satisfies the following minimum standards, drawn up by the National Institute of Technology in Oslo.

**REQUIREMENTS**

**Alternative 1**

a)

The following must be documented for plastic material made of black Polyethylene (PE) (carbon-black) according to the European standard:

	Standard	Requirement	Comments:
Tensile strength, yield	EN ISO 527, 1-3	> 15 MPa	Speed: 50 mm/min
Ultimate elongation	EN ISO 527, 1-3	> 600 %	Speed: 50 mm/min
Flexural modulus	EN IS 527	> 750 MPa	
Charpy impact strength	EN ISO 179/1A	> 10 ml/mm <sup>2</sup>	Notch type
Water absorption	ISO 62, method 1	< 1%	

b)

Addendum to a). If a material other than black Polyethylene (PE) is used, the following shall be documented in addition to the above:

Impact resistance at 23°C and -30°C	ISO 6603/1-1985, method A	The impact resistance is not to be reduced by more than 30% compared with the results at 23°C.	The sample to be cooled in a freezing chamber. The tests are to be done within three minutes after removing them from the chamber.
UV properties	ISO/DIS 4892 - plastics	700 hours	Tensile strength not reduced by more than 10 %

**Alternative 2**

a) The following must be documented for plastic material made of black Polyethylene (PE) (carbon-black) according to the standard:

	Standard	Requirement	Comments:
Tensile strength	ASTM D 638	> 15 MPa	Speed: 50 mm/min, type IV
Ultimate elongation	ASTM D 638	> 600 %	Speed: 50 mm/min, type IV
Flexural modulus	ASTM D 790, method B	> 1000 MPa	
Environmental stress crack resistance (RSCR)	ASTM D 1693, method A	> 30 hours	50°C, (10% Igepal CO-630)
Water absorption	ASTM D 570	< 1%	

b) Addendum to a). If a material other than black Polyethylene (PE) is used, the following shall be documented in addition to the above:

Impact resistance at 23°C and -30°C	ASTM D 256, method A	The impact resistance is not to be reduced by more than 30% compared with the results at 23°C.	
UV properties	ISO/DIS 4892 - plastics	700 hours	Flexural modulus is not to be reduced by more than 10%
Brittleness temperature	ASTM D 746	> -40°C	

2. The smallest cross-section of the bars shall be at least 20 mm. The smallest cross-section of the frame shall be at least 20 mm.

3. The aperture between each cross bar in the longitudinal direction shall not exceed 44 cm in a long sorting grid and 31 cm in a standard sorting grid. The width of the frame and the cross bars shall be at least 52 mm.

4. Any attachment points for mounting the grid on the trawl shall be placed such that there is a minimum free width of 52 mm without deformation by holes, attachment points, etc around the entire frame.

#### Part B

To obtain the maximum benefit from using a sorting grid of plastic in a shrimp trawl, the following points are also recommended:

5. The leading edge of the bars should be rounded (the aft end can also be rounded if so desired).

6. The leading edge of the grid should be smooth.

#### SORTING GRID OF METAL (see figures 3, 4, 5 and 8)

To obtain the maximum benefit from using a sorting grid of metal in a shrimp trawl, the following specifications are recommended for its design:

1. The material used should be solid seawater-resistant aluminium or stainless or acid-proof steel.

2. If a long sorting grid is used, double bolts should be used in the outer frame.
3. Supporting ropes should be used from the two upper corners of the grid and forward to the lastridge rope on either side of the belly.

#### MOUNTING (see figures 1, 2a, 2b and 6).

To obtain the maximum benefit from using a sorting grid of metal in a shrimp trawl, the following specifications are recommended for mounting it:

1. The optimal angle to prevent loss of shrimps is  $45^{\circ}$  -  $48^{\circ}$  for a standard grid and  $40^{\circ}$  -  $50^{\circ}$  for a long plastic grid. For a long metal grid, the optimal angle to prevent loss of shrimps is  $22^{\circ}$  -  $30^{\circ}$ .
2. In a standard metal grid, 2-16 eight-inch floats should be used on the sorting grid. In a long metal grid, 38 eight-inch floats should be used. The floats should be placed behind the grid and inside the trawl, attached to the upper half of the frame of the grid. In a long grid, the floats can also be attached along the lastridge ropes on each side, in front of and behind the middle of the grid. On a standard plastic grid, floats should not be used. On a long plastic grid, up to 6 eight-inch floats should be used. These should be attached three on each side on the upper part of the frame of the grid.
3. The circumference of the front (entrance) of the guiding funnel should be the same as that of the trawl where the funnel is mounted and attached mesh by mesh to the trawl with adjustments if necessary.
4. The guiding funnel should be made of polyethylene (PE), and the mesh size should be as close to the permitted minimum as possible.
5. The rear end (exit) of the guiding funnel may be of the same width as the sorting grid, and the underside of the funnel should be fastened to the bottom panel of the trawl.
6. As an alternative to a guiding funnel, a single guiding panel (flapper) may be used. The rear edge of the guiding panel should be of the same width as the sorting grid.
7. The height of the rear end (exit) of the guiding tunnel or panel should not exceed 30 cm.