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Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: marking and labelling

Use of the terms "mark" and "marking" in the Model Regulations

Transmitted by the expert from the United Kingdom¹

Background

- 1. During discussions of the Secretariat's paper ST/SG/AC.10/C.3/2012/96 at the 42nd session, experts queried the distinction between the terms "mark" and "marking" as used in the Model Regulations. Neither is defined in Chapter 1.2. The expert from the United Kingdom delegate explained her understanding orally and agreed to provide a paper on the subject during the next biennium (see ST/SG/AC.10/C.3/84,para 47).
- 2. The expert from the United Kingdom distinguished between the two terms by saying that a/the "mark" should indicate the letters/numbers/symbols/pictogram appearing on dangerous goods packaging for the purpose of providing information, e.g. about the packaging material or the contents, while "marking" ("to mark") should be used to indicate the actual act of applying a mark. Marked' is used to indicate that marking has been carried out/a mark has been applied.
- 3. It is however apparent that, at least in the first sense, the two terms have often been used interchangeably in the Model Regulations, sometimes within a single point. Examples are:

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In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

3.4.8.1, final paragraph

The **marking** shall be in the form of a square set at an angle of 45 degrees (diamond shaped). The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be 100mm x 100mm and the minimum width of line forming the diamond shall be 2mm. The symbol "Y" shall be placed at the centre of the **mark** and shall be clearly visible.

and

6.1.3.

- **NOTE 1:** The **marking** indicates that the packaging which bears it correctly corresponds to a successfully tested design type and that it complies with the requirements of this Chapter which are related to the manufacture, but not to the use, of the packaging. In itself, therefore, the **mark** does not necessarily confirm that the packaging may be used for any substance: generally the type of packaging (e.g. steel drum), its maximum capacity and/or mass, and any special requirements are specified for each substance in Part 3 of these Regulations.
- 4. The mark or marking may also be either all or part of a descriptive sequence. For example:
 - 6.1.3.7 Any additional markings authorised by a competent authority shall still enable the **parts of the mark** to be correctly identified with reference to 6.1.3.1.

and

6.2.2.9.2 (h) The country mark and the manufacturer's mark shall be separated by a space or a slash

or

6.3.4.3 Marking shall be applied in the sequence shown in 6.3.4.2. (a) to (g); **each element of the marking** required in these sub paragraphs shall be clearly separated, e.g. by a dash or space, so as to be clearly identifiable. For example, see 6.3.4.4.

The primary **marking** required above **shall be applied in the sequence** of the subparagraph.

- 5. While none of these usages are actually inaccurate and sometimes appear to be for stylistic purposes, greater consistency would clearly be desirable, especially to assist accurate translation. The United Kingdom therefore proposes that usage could be rationalised, in line with the explanation given above. This would generally involve changing "marking(s)" to "mark(s)" in cases where "marking" has been used to indicate the mark which appears on the package/transport unit. In a few cases it is necessary to change from the singular to the plural form in making this amendment. (NB The use of the term "marked" was also considered, but it is consistently used in the Model Regulations to indicate that a mark or marking has been/must be applied and no amendments are needed.)
- 6. Some of the examples where change is proposed relate to radioactive materials and it may be necessary to seek the views of the IAEA.
- 7. Finally, it is also apparent that there is some confusion between what is a mark(ing) and what is a label or placard. For example:
 - SP 301 When it is required to ensure liquid dangerous goods remain in their intended orientation, package orientation **labels** meeting the specifications of ISO 780:1997 shall be affixed.

5.1.2.3 Each package bearing **package orientation markings** as prescribed in 5.2.1.7 of these Regulations.....

As a "mark" can be made either directly on to a surface or on to a label/placard which is then affixed to packaging or a cargo transport unit, it may be helpful to define all three terms (mark, label, placard). The result is likely to be that while some hazard warnings (principally those indicating Class) could only appear on a label or placard, others could either, for example, be stencilled on to packaging or stuck on as a label (orientation arrows, or symbols for elevated temperature, environmentally hazardous, limited quantities or excepted quantities).

8. The proposal below therefore includes definitions and shows the examples where the United Kingdom believes an amendment to the text in respect of mark/marking could be adopted. A complete list of references noting where "marking" and "markings", as well as "(to) mark" and "marked", appear in the text (excluding the Table of Contents) is attached at Annex A, to indicate the instances where no amendment is judged necessary.

Proposal

9. Add the following definitions to Chapter 1.2:

Mark means a word or words, letters or numbers individually or in a sequence, or a pictogram, placed either directly (by e.g. stencilling, stamping, engraving, etching) on packaging or a cargo transport unit, or appearing on a label or placard, and providing information about the dangerous goods contained, or about the packaging. Marking or to mark indicates the act of putting a mark in place.

Label means a piece of paper, plastic or other material affixed to packaging and incorporating a mark or marks. Labelling or to label indicates the act of putting a label in place.

Placard (a large label) means a notice or sign affixed to a cargo transport unit and incorporating a mark or marks. *Placarding* or *to placard* indicates the act of putting a placard in place.

10. Make the following amendments to the text of the Model Regulations:

Reference	Comment
2.7.2.4.1.3 (b)	Each instrument or manufactured article bears the marking "RADIOACTIVE" on its external surface
	 (ii) Consumer products that either have received regulatory approval in accordance with 1.5.1.4 (e) or do not individually exceed the activity limit for an exempt consignment in Table 2.7.2.2.1 (column 5) provided such products are transported in a package that bears the marking "RADIOACTIVE" on its internal surface (iii) Other instruments or articles too small to bear the marking "RADIOACTIVE", provided that they are transported in a package that bears the marking "RADIOACTIVE"
2.7.2.4.1.4 (b)	The package bears the marking mark "RADIOACTIVE" on either
3.1.2.2	When conjunctions such as "and" or "or" are in lower case or when segments of the name are punctuated by commas, the entire name of the entry need not be shown in the transport document or package markings.
3.1.2.3	Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are used as part of the proper shipping name, their sequence on documentation or <u>in</u> package mark ing s is optional.

Reference	Comm				
3.4.7.1	Except for air transport, packages containing dangerous goods in limited quantities shall bear the marking shown in figure 3.4.1: Figure 3.4.1 Marking for packages containing limited quantities				
	The marking shall be readily visible. Legible and able to withstand open weather exposure without a substantial reduction in effectiveness. The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped).				
3.4.7.2	If the size of the package so requires, the minimum outer dimensions shown Figure 3.4.1 may be reduced to be not less than 50mm x 50 mm provided the marking remains clearly visible.				
3.4.8.1	Packages containing dangerous goods packed in conformity with the provisions of Part 3, Chapter 4 of the ICAO Technical Instructions for the Transport of Dangerous Goods may bear the marking shown in Figure 3.4.2 certify conformity with these provisions:				
	(Figure 3.4.2.) Marking_ for packages containing limited quantities conforming to Part 3, Chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air				
	The mark ing shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness.				
	The marking shall be in the form of a square				
3.4.8.2	If the size of the package so requires, the minimum outer dimensions shown Figure 3.4.2 may be reduced to be not less than 50mm x 50 mm provided the marking remains clearly visible.				
3.4.9	Packages containing dangerous goods bearing the marking shown in 3.4.8, with or without the additional labels and markings for air transport, shall be deemed to meet the provisions of section 3.4.1 as appropriate and of sections 3.4.2 and 3.4.4 of this Chapter and need not bear the marking shown in 3.4.7				
3.4.10	Packages containing dangerous goods in limited quantities bearing the marks shown in 3.4.7				
3.4.11	When packages containing dangerous goods in limited quantities are placed an overpack, the overpack shall be marked with the word "OVERPACK" and the markings required by this Chapter unless the markings representative of a dangerous goods in the overpack are visible.				
3.5.2 (e)	Each package shall be of such a size that there is adequate space to apply all necessary markings;				
3.5.4.2	The marking -shall be in the form of a square.				
3.5.4.3	An overpack containing dangerous goods in excepted quantities shall display the markings required by 3.5.4.1 unless such markings on packages within the overpack are clearly visible.				
4.1.1.5	Inner packagings containing liquids shall be packed with their closures upward and placed within outer packagings consistent with the orientation markings prescribed in 5.2.1.7				
4.1.1.19.1 Note	A salvage pressure receptacle may be used as an overpack in accordance wit 5.1.2. When used as an overpack, markings shall be in accordance with 5.1.2.1 instead of 5.2.1.3.				

Reference	Comment		
4.1.2.4.	Except for routine maintenance of metal, rigid plastics, composite and flexible IBCs performed by the owner of the IBC, whose State and name r authorised symbol is durably marked on the IBC, the party performing routine maintenance shall durably mark the IBC near the manufacturer's UN design type marking to show		
4.1.4.1, P205 (6)	Metal hydride storage systems shall be filled with hydrogen at a pressure not exceeding the rated charging pressure shown in the permanent markings on the system		
P650 (10)	When packages are placed in an overpack, the package markings required by this packing instruction shall either be clearly visible or be reproduced on the outside of the overpack.		
4.1.6.1.12 (c)	Pressure receptacles shall not be offered for filling:c) unless the required certification, retest, and filling markings are legible.		
4.1.6.1.13 (d)	Filled pressure receptacles shall not be offered for transport:d) unless the required certification, retest, and filling markings are legible.		
4.1.8.4	Before an empty packaging is returned to the consignor, or sent elsewhere, it shall be disinfected or sterilised to nullify any hazard and any label or marking indicating that it had contained an infectious substance shall be removed or obliterated.		
4.2.1.13.14	The marking as required in 6.7.2.20.2 shall include the UN number and the technical name with the approved concentration of the substance concerned.		
4.2.4.5.6	MEGCs shall not be offered for filling:		
	e) unless the required certification, retest, and filling markings are legible		
4.2.4.6 (d)	Charged MEGCs shall not be offered for transport: d) unless the required certification, retest, and filling markings are legible		
5.1.2.1	An overpack shall be marked with the word "OVERPACK", with the proper shipping name and the UN number and labelled, as required for packages by Chapter 5.2, for each item of dangerous goods contained in the overpack unless markings and labels representative of all dangerous goods in the overpack are visible, except as required in 5.2.2.1.12. The lettering of the "OVERPACK" marking shall be at least 12mm high.		
	NOTE: The size requirement for the "OVERPACK" marking shall apply as from 1 January 2016.		
5.1.2.2.	The "overpack" marking_ is an indication of compliance with this requirement.		
5.1.2.3	Each package bearing package orientation markings as prescribed in 5.2.1.7 of these Regulations and which is overpacked or placed in a large packaging shall be oriented in accordance with such markings.		
5.2.1.1.	In the case of unpackaged articles the marking shall be displayed on the article, on its cradle or on its handling, storage or launching device. For goods of Division 1.4, Compatibility Group S, the division and compatibility group letter shall also be marked unless the label for 1.4S is displayed. A typical package marking is: Corrosive liquid, acidic, organic, n.o.s. Caprylyl chloride) UN 3265		
	NOTE: The size requirements for the UN number mark ing shall apply as from I January 2014.		

Reference	Comment
5.2.1.2	All package mark ings required by 5.2.1.1:
	(d) Shall not be located with other package markings that could substantially reduce their effectiveness.
5.2.1.3	The lettering of the "SALVAGE" marking shall be at least 12mm high.
	NOTE: The size requirement for the "SALVAGE" mark ing shall apply as from I January 2016.
5.2.1.5.1	Each overpack shall be legibly and durably marked on the outside of the overpack with an identification of either the consignor or consignee, or both unless these markings of all packages within the overpack are clearly visible.
5.2.1.5.7	Where LSA-I or SCO-I material is contained in receptacles or wrapping materials and is transported under exclusive use as permitted by 4.1.9.2.4, the outer surface of these receptacles or wrapping materials may bear the marking "RADIOACTIVE LSA0I" or "RADIOACTIVE SCO-I", as appropriate.
5.2.1.6.2	The environmentally hazardous substance mark shall be located adjacent to the markings required by 5.2.1.1. The requirements of 5.2.1.2 and 5.2.1.4 shall be met.
5.2.1.6.3	The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped.)If the size of the package so requires, the dimensions/line thickness may be reduced, provided the marking remains clearly visible.
5.2.2.1.	NOTE:However, additional markings or symbols indicating precautions to be taken in handling or storing a package (e.g. a symbol representing an umbrella indicting that a package shall be kept dry) may be displayed on a package if appropriate.
5.2.2.1.6 (a), (b)	Except as provided in 5.2.2.2.1.2, each label shall:
	(a) Be located on the same surface of the package near the proper shipping name marking, if the package dimensions are adequate;
	(b) Be so placed on the packaging that they are not covered or obscured by any part or attachment to the packaging or any other label or marking
5.2.2.1.12.1	Labels shall not cover the markings specified in 5.2.1
5.3.2.2	The mark ing shall be an equilateral triangle.
5.5.2.3.2	The marking shall be a rectangle. The minimum dimensions shall be 400 mm wide x 300 mm high and the minimum width of the outer line shall be 2 mm. The marking shall be in black print
5.5.3.4.2	The markings shall be durable, legible and placed in such a location and of such a size relative to the package as to be readily visible.
5.5.3.6.2	The marking shall be a rectangle.
6.1.3.	Marks ing NOTE 1: The marking indicates that the package which bears it corresponds to a successfully tested design type and that it complies with the requirements of this Chapter NOTE 2: The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, carriers and regulatory authorities. In relation to the use of a new packaging, the original marking is a means for its manufacturer(s) to identify the type and to indicate those performance test regulations that have been met. NOTE 3: The marking does not always provide full details of the test levels,
	etc and these may need to be taken further into account, e.g. by reference to a test certificate, to test reports or to a register of successfully tested packagings. For example, a packaging having an X or Y marking may be used

Reference	Comment
.1.3.1	Each packaging intended for use according to these Regulations shall bear markings which are durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30kg, the markings or a duplicate thereof shall appear on the tope or on a side of the packaging
	The marking shall show:
	(e)Packagings of types 1H and 3H shall also be appropriately marked with the month of manufacture; this may be marked on the packaging in a different place from the remainder of the marking
	In such a case the two digits of the year in the type approval marking and in the inner circle of the clock shall be inserted.
.3.2	In addition to the durable markings prescribed in 6.1.3.1, every new metal drum
.3.3	For packagings other than metal drums of a capacity greater than 100 litres, these permanent marks may replace the corresponding durable markings prescribed in 6.1.3.1.
1.3.4	(NB typing mistake in previous sentence, 'indicted' instead of 'indicated'.) For remanufactured metal drums, if there is no change to the packaging type and no replacement or removal of integral structural components, the required markings need not be permanent (e.g. embossed). Every other remanufactured metal drum shall bear the markings in 6.1.3.1 (a) to (e)
.3.5	Metal drums made from material (e.g. stainless steel) designed to be reused repeatedly may bear the markings indicated in 6.1.3.1 (f) and (g) in a permanent form (e.g. embossed).
1.3.7	Marks ing—shall be applied in the sequence shown in 6.1.3.1; each element of the marksing required in these sub-paragraphs and when appropriate (h) to (j) of 6.1.3.8, shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable
	Any additional markings authorised by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.1.3.1.
3.8	After reconditioning a package, the reconditioner shall apply to it, in sequence, a durable marking showing
1.3.9	When, after reconditioning, the markings required by 6.1.3.1 (a) to (d) no longer appear on the top head or the side of a metal drum, the reconditioner shall apply them in a durable form followed by 6.1.3.8 (h), (i) and (j). These markings shall not identify a greater performance capability than that for which the original design type had been tested and marked.
1.3.10	Examples of mark ing s for NEW packagings
3.11	Examples of mark ing s for RECONDITIONED packagings
.3.12	Example of marking for SALVAGE packagingsNOTE: The markings, for which examples are given in 6.1.3.10, 6.1.3.11 and 6.1.3.12, may be applied in a single line or in multiple lines provided the correct sequence is respected.
.1.5.5.4	This pressure is the one to be included in the marking required by 6.1.3.1 (d).
.2.1.1.2	In recognition of scientific and technological advances, and recognising that pressure receptacles other than those that are marked with a UN certification marking may be used on a national or regional basis
.2.1.5.1(i)	An inspection of the markings on the pressure receptacles

Reference	Сотте			
6.2.1.6.1(a)	Check of the external conditions of the pressure receptacle and verification of the equipment and external mark ing s			
6.2.2.5.2.1	In instances where the competent authority that approves a pressure receptacle is not the competent authority in the country of manufacture, the marks of the approval country and the country of manufacture shall be indicated in the pressure receptacle marking (see 6.2.2.7 and 6.2.2.8).			
6.2.2.5.5	The application of the pressure receptacle marking_shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of this conformity assessment system and these Regulations. The inspection body shall affix or delegate the manufacturer to affix the pressure receptacle certification marking and the registered mark of the inspection body to each approved pressure receptacle.			
6.2.2.6.2.1	In instances where the competent authority that approves a body performin periodic inspection and test of a pressure receptacle is not the competent authority of the country approving the manufacture of the pressure receptacle the marks of the approval country of periodic inspection and test shall be indicated in the pressure receptacle marking (see 6.2.2.7).			
6.2.2.6.5	Indicated in the pressure receptacle marking (see 6.2.2.7). The application of the periodic inspection and test marking to a pressure receptacle shall be considered a declaration that the pressure receptacle complies with the applicable pressure receptacle standards and the requirements of these Regulations. The periodic inspection and test body sha affix the periodic inspection and test marking, including its registered mark, teach approved pressure receptacle (see 6.2.2.7.7.).			
6.2.2.7.5	The following is an example of the markings applied to a cylinder.			
6.2.2.7.7(a)	This marking is not required if this body is approved by the competent authority of the country approving manufacture;			
6.2.2.8.3	NOTE: Non-refillable pressure receptacles may, on account of their size, substitute this marking by a label for this permanent mark.			
6.2.2.9.4 (a)	This marking is not required if this body is approved by the competent authority of the country approving manufacture;			
6.2.3.5	The marking shall include the water capacity and test pressure of the salvag pressure receptacle.			
6.3.4 Heading,	Mark <u>sing</u>			
Notes 1-3	NOTE 1: The marking indicates that the packaging which bears it correspond to a successfully tested design type and that it complies with the requirements of this Chapter			
	NOTE 2: The marking is intended to be of assistance to packaging			
	manufacturers, reconditioners, packaging users, carriers and regulatory authorities.			
	NOTE 3: The marking does not always provide full details of the test levels, etc. and these may need to be taken further into account, e.g. by reference to test certificate, to test reports or to a register of successfully tested packaging			
6.3.4.1	Each packaging intended for use according to these Regulations shall bear markings which are durable, legible and placed in a location and of such a siz relative to the packaging as to be readily visible. For packages with a gross mass of more than 30kg, the markings or a duplicate thereof shall appear on the top or on a side of the packaging.			
6.3.4.2 (g)	For packagings meeting the requirements of 6.3.5.1.6, the letter "U", inserted immediately following the marking required in (b) above.			

Reference	Comment			
6.3.4.3	Markings shall be applied in the sequence shown in 6.3.4.2. (a) to (g); each element of the marking required in these sub-paragraphs shall be clearly separated, e.g. by a slash or space, so as to be easily identifiable. For example, see 6.3.4.4.			
	Any additional markings authorised by a competent authority shall still enable the parts of the mark to be correctly identified with reference to 6.3.4.1.			
6.3.4.4	.Example of mark ing			
6.3.5.1.6 (g)	In addition to the markings prescribed in 6.3.4.2. (a) to (f), packagings shall be marked in accordance with 6.3.4.2 (g).			
6.4.23.12 (a)	Each certificate and each package shall bear the appropriate identification mark, comprising the symbols prescribed in 6.4.23.11 (a), (b), (c) and (d) above, except that, for packages, only the applicable design type codes including, if applicable, the symbols "-96", shall appear following the second stroke, that is, the "T" or "X" shall not appear in the identification marking on the package.			
6.5.2.1.1	Each IBC manufactured and intended for use according to these Regulations shall bear markings which are durable, legible and placed in a location so as to be readily visible			
	(a)For metal IBCs on which the marking is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;			
	Marks ing shall be applied in the sequence shown in (a) to (h); each element of the marking required in these subparagraphs and when appropriate, in 6.5.2.2, shall be clearly separated			
6.5.2.1.2	Examples of markings for various types of IBC in accordance with (a) to (h) above:			
6.5.2.2.1	Each IBC shall bear the markings required in 6.5.2.1.			
	(in table) Additional marks ing			
6.5.2.2.3	In addition to the markings required in 6.5.2.1, flexible IBCs may bear a pictogram indicating recommended lifting methods.			
6.5.2.2.4	The inner receptacles of composite IBCs manufactured after 1 January 2011 shall bear the markings indicated in 6.5.2.1.1 (b), (c), (d) where this date is that of the manufacture of the plastics inner receptacle, (e) and (f)The marks ing shall be applied in the sequence shown in 6.5.2.1.1			
	The date of the manufacture of the plastics inner receptacle may alternatively be marked on the inner receptacle adjacent to the remainder of the marking			
	In such a case, the two digits of the year in the primary marking and in the inner circle of the clock shall be identical.			
6.5.2.3	The marking indicates that IBCs correspond to a successfully tested design type			
6.5.2.4	The marks ing specified in 6.5.2.1.1 and 6.5.2.2 shall be removed from the original IBC or made permanently illegible and new markings shall be applied to an IBC remanufactured in accordance with these Regulations.			
6.5.4.4.1(a) (i)	conformity to design type including marks ing			
6.5.4.5.3	The Pparty performing the tests and inspections after the repair shall durably mark the IBC near the manufacturer's UN design type marking			
6.6.3.1	Each large packaging manufactured and intended for use according to these Regulations shall bear markings which are durable, legible and placed in a location so as to be readily visible.			
	(a)For metal large packagings on which the mark ing is stamped or embossed, the capital letters "UN" may be applied instead of the symbol;			

Reference	Comment			
	The primary marking required above shall be applied in the sequence of the sub paragraphs.			
	NOTE The size requirement for the primary marking shall apply for large packagings manufactured as from 1 January 2014.			
6.6.3.2	Examples of the marks ing			
6.7.2.19.8 (g)	Required markings on the portable tank are legible and in accordance with the applicable requirements			
6.7.2.20.1 fig	Example of an identification plate marking			
6.7.3.15.8 (f)	Required markings on the portable tank are legible and in accordance with the applicable requirements;			
6.7.3.16.1 fig	Example of identification plate marking			
6.7.4.14.9 (e)	Required markings on portable tanks are legible and in accordance with the applicable requirements			
6.7.4.15.1 fig	Example of an identification plate marking			
6.7.5.12.6 (e)	Required markings on the MEGC are legible and in accordance with the applicable requirements;			
6.7.5.13.1 fig	Example of an identification plate marking			
6.8.5.5.1	Each flexible bulk container manufactured and intended for use according to these Regulations shall bear mark ing s that are durable, legible and placed in a location so as to be readily visible			
	Mark <u>s</u> ing shall be applied in the sequence shown in (a) to (h); each element of the marking required in these subparagraphs shall be clearly separated			
6.8.5.5.2	Example of <u>a</u> mark ing			
7.1.9.2	Information reported shall include at least the description of the goods as provided in 5.4.1.4, description of the accident/incident, date and location, estimated loss of dangerous goods, containment information (e.g., packaging or tank type, identification markings, capacity and quantity) and cause and type of any packaging or tank failure that resulted in a release of dangerous goods.			

Annex A

(Chapters 1-7, excluding Table of Contents)

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
1.1.1.1				1
1.3.2	1		2	
1.5.5.1	1			
2.6.3.2.3.8				1
2.6.3.2.3.9				2
2.7.2.4.1.3 (b)	4			
2.7.2.4.1.4 (b)	1		1	
3.1.2.2		1		
3.1.2.3		1		
3.3.1 29				1
3.3.1 172 (c)	1			
3.3.1 188 (b) (f) (g)				3
3.3.1 219				1
3.3.1 274	1			
3.3.1 294	1			
3.3.1 295			1	1
3.3.1 319				1
3.3.1 331			1	
3.3.1 339				1
3.3.1 348				1
3.3.1 361 (e)				1
3.3.1 367	1			
3.3.1 372				1
3.3.1 376				1
3.3.1 377				1
3.4.7	1			
3.4.7.1	4			
3.4.7.2	1			
3.4.8	1			
3.4.8.1	4		1	
3.4.8.2	1			
3.4.9	2	1		
3.4.10	1		1	
3.4.11	1	1		1
3.5.2 (e)		1		
3.5.4	1			
3.5.4.1			3	1
3.5.4.2	1		2	
3.5.4.3		2		
Notes to the index - 7.	1			
4.1.1.5		1		

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
4.1.1.10				8
4.1.1.19.1 Note		1		
4.1.2.4.	1		1	1
4.1.3.5				3
4.1.3.6.9	1			
P101				1
P137, PP70				1
P200			2	
P203			1	
P205 (4) (6)		1	1	
P208 (13)			1	
P601 (3)				1
P620 2 (b)				1
P650		1	4	2
P804				1
P904			3	
4.1.6.1.12 (c)		1		
4.1.6.1.13 (d)		1		
4.1.8.4	1			
4.2.1.13.14	1			
4.2.3.7.2	-			1
4.2.3.8 (e)				1
4.2.4.5.6		1		
4.2.4.6 (d)		1		
4.2.5.3 TP34				1
4.2.6	3			1
4.3.2.4.2 (c)				1
5.1.1.1	1			
5.1.1.2				1
5.1.2.1	2	1		1
5.1.2.2.	1			-
5.1.2.3		2		
5.1.3.1		_		1
5.1.4				1
5.1.5.1.4 (d)			1	
5.1.5.2.1			1	
5.1.5.4.1			-	1
5.1.5.4.2 (a)			1	1
5.2	1		1	
5.2.1	1			
5.2.1.1.	3			1
5.2.1.2	3	2		1
5.2.1.3	2	2		1
5.2.1.4	2			1
5.2.1.5	1			1
J.4.1.J	1			

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
5.2.1.5.1		1		2
5.2.1.5.2	1			
5.2.1.5.3				1
5.2.1.5.4				3
5.2.1.5.5			1	1
5.2.1.5.6				1
5.2.1.5.7	1			
5.2.1.5.8	1			
5.2.1.6	1			
5.2.1.6.1			1	1
5.2.1.6.2		1	1	
5.2.1.6.3	2		3	
5.2.1.7.1				1
5.2.1.7.3				1
5.2.1.8			1	1
5.2.2.1.		1		
5.2.2.1.6 (a), (b)	2			
5.2.2.1.12.1		1		
5.3	1			
5.3.1.2.1			1	
5.3.2	1			
5.3.2.2	1		3	
5.3.2.3			1	
5.3.2.3.1			1	1
5.3.2.3.2			1	
5.4.1.5.7.1 (g)			1	
5.4.1.6.1				2
5.4.2.1. (g) (h)				2
5.4.4.2 Fig 5.4.1			2	1
5.5.2.1.2	1			
5.5.2.3	1			
5.5.2.3.1			2	1
5.5.2.3.2	2		2	
5.5.2.3.3			1	1
5.5.2.3.4			1	
5.5.2.4.4			1	1
5.5.3.4	1			
5.5.3.4.1				1
5.5.3.4.2		1		
5.5.3.6	1			
5.5.3.6.1			2	1
5.5.3.6.2	1		2	
6.1.3 Heading and Notes 1-3	6		1	
6.1.3.1	3	2	1	2

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
6.1.3.2		1	2	1
6.1.3.3		1	3	
6.1.3.4		2		
6.1.3.5		1		
6.1.3.6			2	1
6.1.3.7	2	1	1	
6.1.3.8	1			
6.1.3.9		2		1
6.1.3.10		1		
6.1.3.11		1		
6.1.3.12	1	1		
6.1.5.1.7 (h)			1	2
6.1.5.1.11				2
6.1.5.5.4	1			
6.2.1.1.2	1			1
6.2.1.3.6.3				1
6.2.1.5.1 (i)		1		
6.2.1.6.1 (a)		1		
6.2.2.5.2.1	1		1	
6.2.2.5.2.3			2	
6.2.2.5.5	2		1	
6.2.2.6.2.1	1		1	
6.2.2.6.2.3			1	
6.2.2.6.4.4			1	
6.2.2.6.5	2		1	
6.2.2.7	3			
6.2.2.7.1			4	1
6.2.2.7.2	1		2	
6.2.2.7.3			2	
6.2.2.7.4			6	
6.2.2.7.5		1	4	
6.2.2.7.6			4	
6.2.2.7.7	1		3	1
6.2.2.8	1			
6.2.2.8.1			6	1
6.2.2.8.2			1	
6.2.2.8.3 Note	1			
6.2.2.8.4			3	
6.2.2.9	1			
6.2.2.9.1			4	1
6.2.2.9.2	1		8	
6.2.2.9.3			3	
6.2.2.9.4	1		3	1
6.2.2.10	1		3	1
6.2.2.10.1	1			1

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
6.2.2.10.2			3	1
6.2.2.10.3			4	
6.2.2.10.4			6	
6.2.3.2				1
6.2.3.4	1			
6.2.3.5	3			
6.3.4 Heading, Notes 1-3	4			
6.3.4.1		2		
6.3.4.2	1		1	1
6.3.4.3	3		1	
6.3.4.4	1			
6.3.5.1.6 (g)		1		1
6.3.5.2.2				1
6.4.23.11			4	
6.4.23.12	1		11 + 1 re-marking	5
6.4.23.13			1	
6.4.23.14			1	
6.4.23.15			1	
6.4.23.16			1	
6.4.23.17			1	
6.4.23.18			1	
6.4.24.2				1
6.5.1.1.3	1			
6.5.2	1			
6.5.2.1	1			
6.5.2.1.1	3	1	2	
6.5.2.1.2		1		
6.5.2.2	1			
6.5.2.2.1	2	1		
6.5.2.2.2			1	1
6.5.2.2.3		1		
6.5.2.2.4	4	1		1
6.5.2.2.5				1
6.5.2.3	1			
6.5.2.4	2	1		
6.5.4.3			1	
6.5.4.4.1	1			
6.5.4.4.3	1			
6.5.4.5.3	1		1	
6.6.3	1			
6.6.3.1	4	1	1	
6.6.3.2	1			
6.6.3.3			1	1
6.6.5.1.9				2

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
6.6.5.4.1			1	
6.7.2.5.5				1
6.7.2.7.1				1
6.7.2.13	1			
6.7.2.13.1				1
6.7.2.13.2				1
6.7.2.18.1			1	
6.7.2.19.8 (g)		1		
6.7.2.20	1			
6.7.2.20.1			3	2
6.7.2.20.1 fig	1			
6.7.2.20.2				1
6.7.2.20.3				1
6.7.3.5.8				1
6.7.3.9	1			
6.7.3.9.1				1
6.7.3.9.2				1
6.7.3.14			1	
6.7.3.15.8 (f)		1		
6.7.3.16	1			
6.7.3.16.1			3	2
6.7.3.16.1 fig	1			
6.7.3.16.2				1
6.7.3.16.3				1
6.7.4.5.7				1
6.7.4.8	1			
6.7.4.8.1				1
6.7.4.8.2				1
6.7.4.13.1			1	
6.7.4.14.9 (e)s		1		
6.7.4.15	1			
6.7.4.15.1			3	2
6.7.4.15 1 Fig	1			
6.7.4.15.2				1
6.7.4.15.3				1
6.7.5.3.3				1
6.7.5.6	1			
6.7.5.6.1				1
6.7.5.6.2				1
6.7.5.11.1			1	
6.7.5.12.6		1		
6.7.5.13		1		
6.7.5.13.1			3	2
6.7.5.13.1 Fig	1			
6.7.5.13.2				1

Reference	Occurrence of "marking"	Occurrence of "markings"	Occurrence of "mark(s)"	Occurrence of "marked"
6.8.3.4	1			
6.8.3.4.1				1
6.8.5.5	1			
6.8.5.5.1	2	1	2	
6.8.5.5.2	1			
7.1.1.2 (a)				1
7.1.1.4				1
7.1.7.1.1				2
7.1.7.12				1
7.1.9.2		1		