PLASTICS AND PAINT COATINGS CRACKING AND CHIPPING PHENOMENA REFERENCE STANDARD

1.OBJECT AND FIELD OF APPLICATION

The object of this method is to describe a procedure that allows grading the defects such as cracking and chipping phenomena that can occur on the surface of the paint coating, on the plastics with or without paint coatings, and in depth of these, by using reference standards that illustrate the defects.

2.PRINCIPLE

The method employs a certain number of defect standards that allow grading the characteristics such as type, dimension, and intensity of the defects.

3.PROCEDURE

3.1.GRADING THE TYPE AND THE INTENSITY OF THE DEFECTS

For a general orientation, choose from appendix 1 (all types of cracking: from A to L and of chipping: P and Q, are represented there on a small scale) the type of standard defect which's appearance better corresponds to the observed failure.
Within the series that corresponds to this type, see appendix 2 to identify consequently the standard with the same intensity. Among the 10 degrees of intensity, only the even numbers are presented; the odd degrees (1 - 3 - 5 - 7 - 9) must be estimated.

3.2.GRADING THE AVERAGE DIMENSION

The dimensions of the cracking and chipping considered individually or as a whole can be very different of the proposed standards.
In this case, an overall evaluation is necessary, visually or using optical instruments, and one must determine to what extent the observed dimensions of the cracking and chipping must be magnified or reduced to correspond to the proposed standard of the type.
The required degree results from comparing the standard with the observed deteriorations magnified or reduced mentally. As it is an overall estimate, these ratios are given in round numbers (for example: 1/100, 1/10, or 1/2). A number smaller than 1 means that the actual cracking or chipping dimensions are smaller than those represented by the standards.

3.3.GRADING OF THE DEPTH OF CRACKING OR CHIPPING FOR THE PAINT COATINGS

The depth of the cracking is determined using the diagrams of appendix 3.
The following cross-sections represent:

- a: merely superficial deterioration of the finishing paint coating,
- b: cracking of the finishing paint coating,
- c: cracking of the finishing paint coating and of the intermediate paint coating,
- d: cracking of the intermediate paint coating only (generally recognizable by the shallow grooves visible on the surface of the finishing paint coating),
- e and f: deterioration accompanied by a considerable shrinking of the finishing paint coating, that leaves exposed in the cracking places wide areas of intermediate paint coating.

4.EXPRESSION OF THE RESULTS

4.1.CASE OF CRACKING

The complete description of the observer phenomena following the procedure accounts for the type, the dimensions, the number, and the depth of the cracking.
Indicate successively:

- the number for the dimension,
- the capital letter for the type,
- the small letter for the depth,
- the number corresponding to the degree of intensity of the cracking,

If it is impossible to determine a correspondence with one of the cases of appendix 3 for the depth, this indication can be eliminated.
Examples:

- Fa8 means cracking of type F, of depth a, corresponding to the dimensions and the number per surface unit to those represented by the reproduction no. 8 of the indicated type.

- 1/30 Eb4 means cracking with dimensions of 1/30 of those represented by the reproduction of type E and depth b, from the finishing paint coating down to the intermediate paint coating, and which corresponds to stage 4; therefore, this is hardly visible cracking, but by observing it using a microscope with a magnifying power of 30, it produces an image similar to that of no. 4 of the type E.

If the test specimens shows simultaneously multiple types of cracking, mention them all, successively, with the adequate indication, and classified according to the numbers that correspond to the estimated stages. The type that occurs in most cases must be placed first, independently of the dimensions of the cracking, for example: 1/10 D8, G2.

4.2.CASE OF CHIPPING

As the chipping is considered the most serious defect, it must always be mentioned first if other defects also exist, for example: P3, B9.

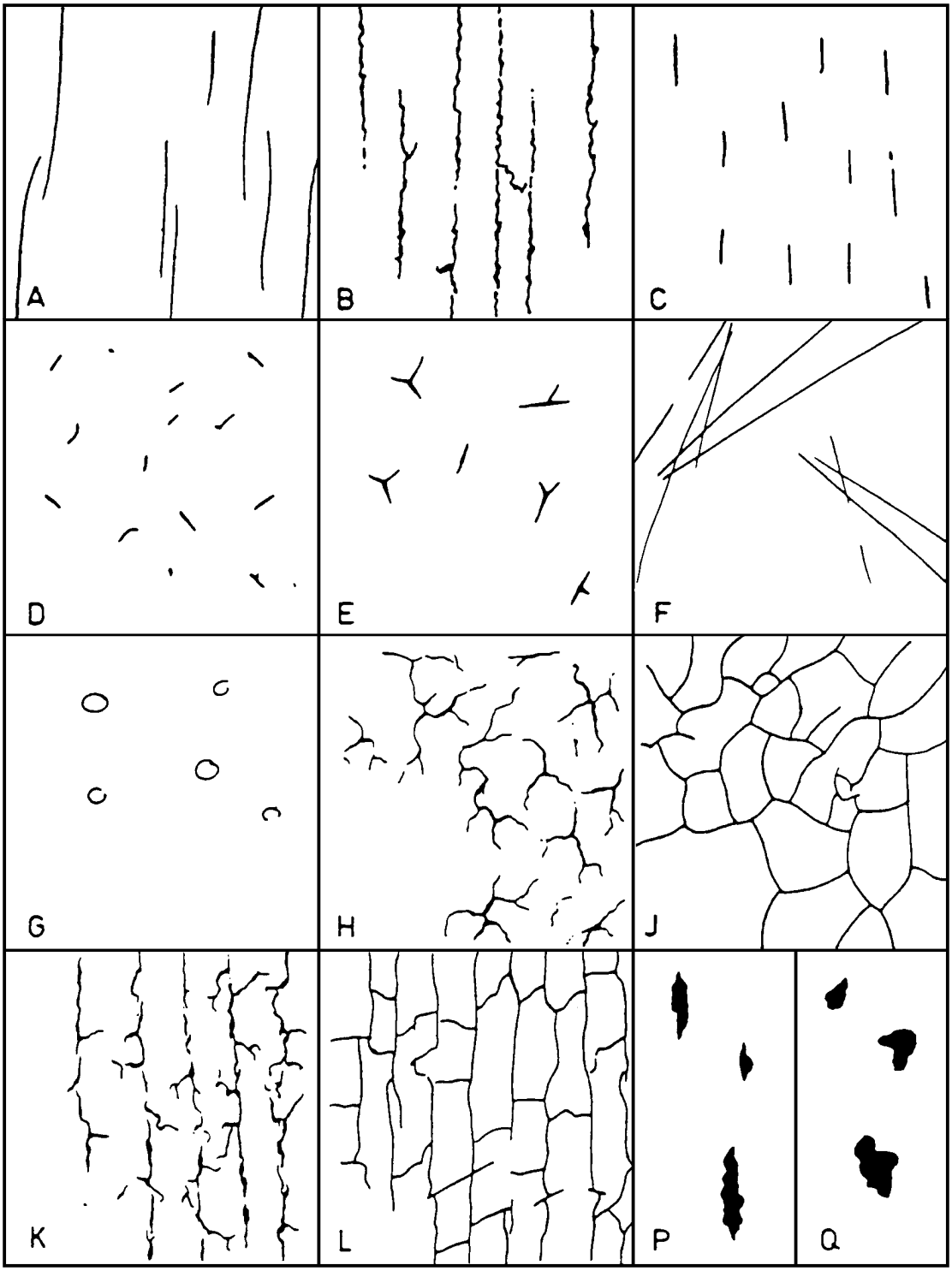
5.TEST REPORT

Besides the obtained results, the test report must indicate:

- the reference to this method,
- the exact reference of the examined test specimen and the name of the supplier,
- the procedure details that are not specified in the method, as well as the possible incidents that might have influenced the results.

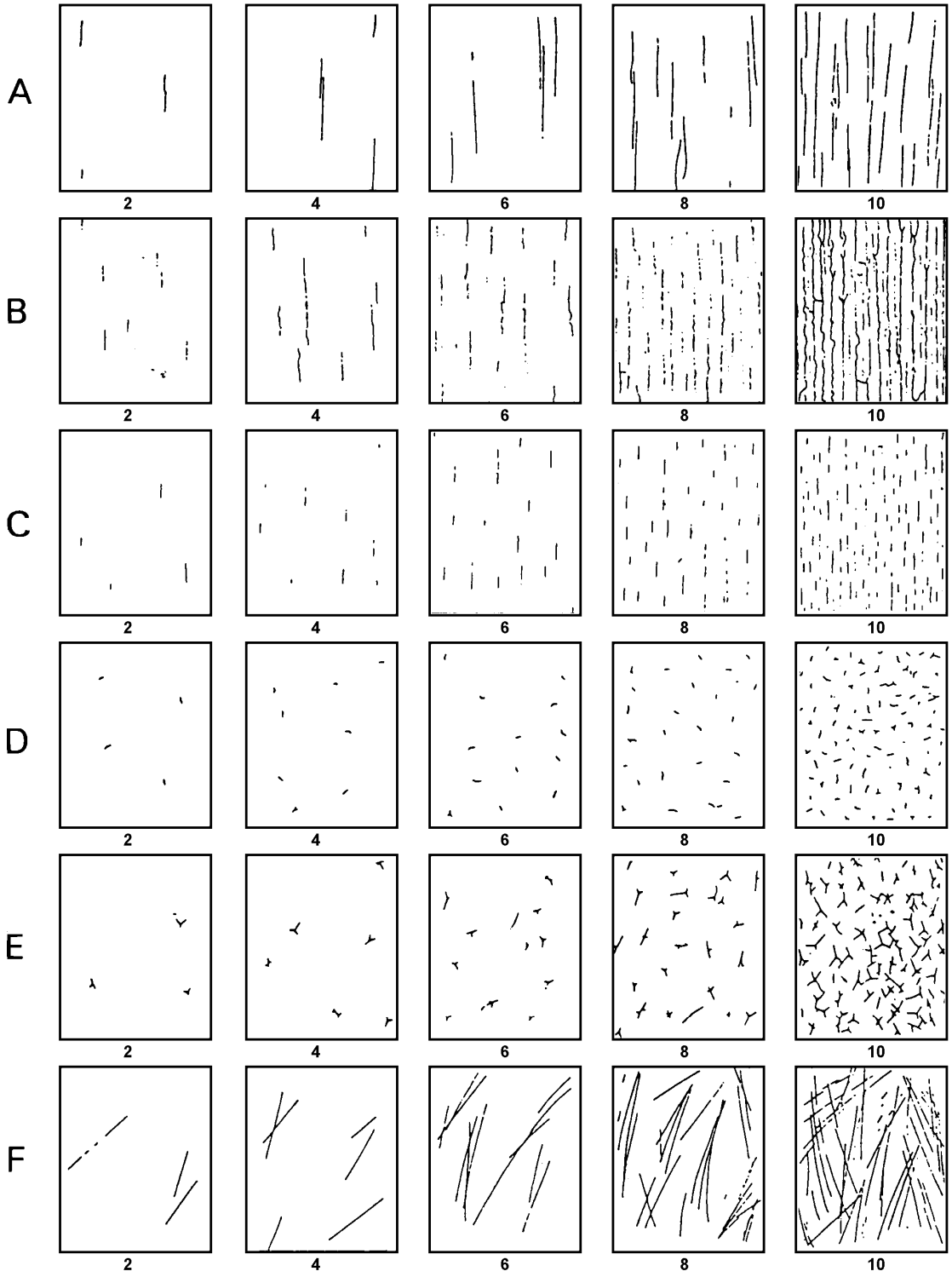
Appendix 1

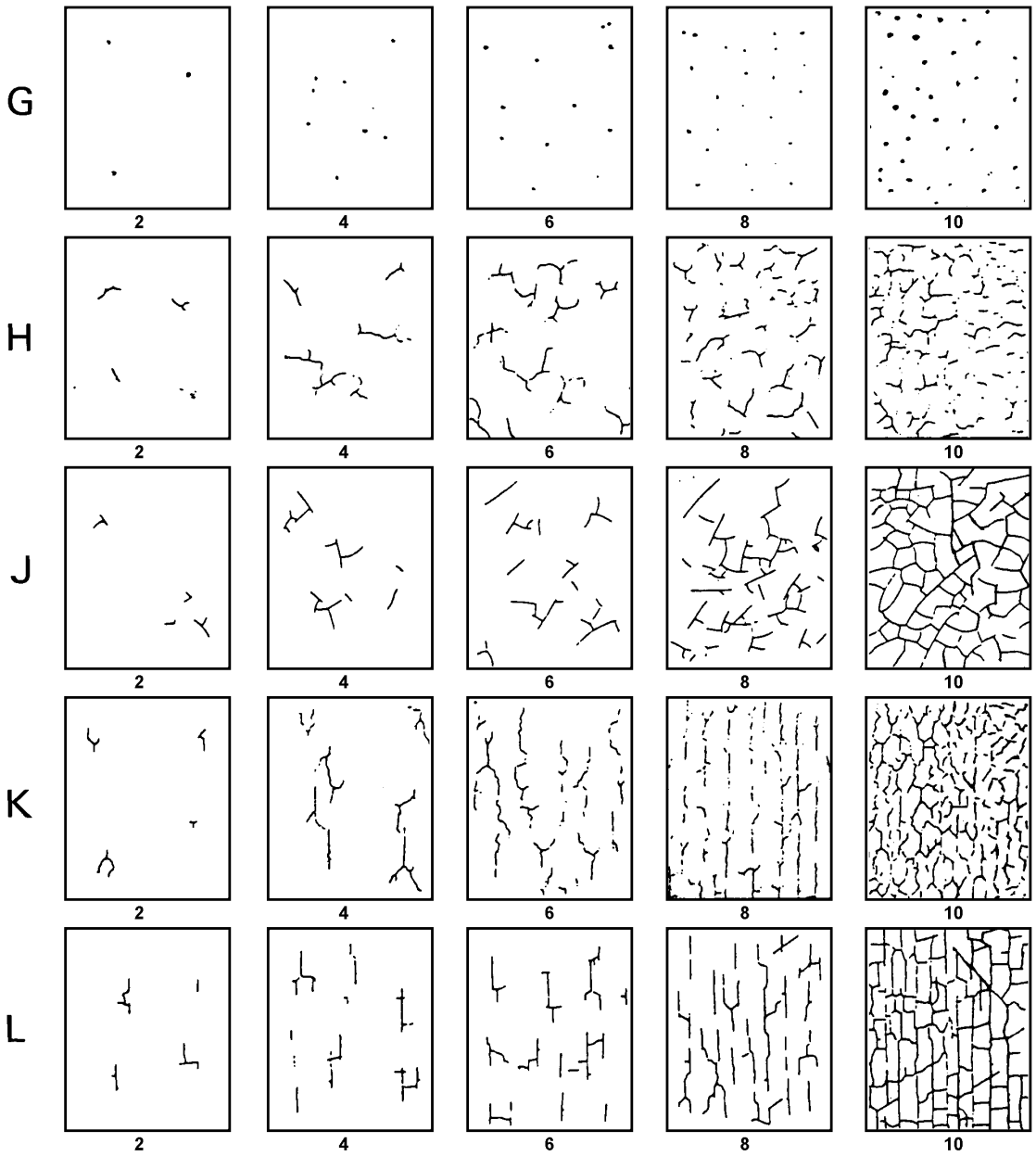
TYPES OF CRACKING AND CHIPPING



Appendix 2

DEGREES OF INTENSITY OF CRACKING AND CHIPPING




G
H
J
K
L
2
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8
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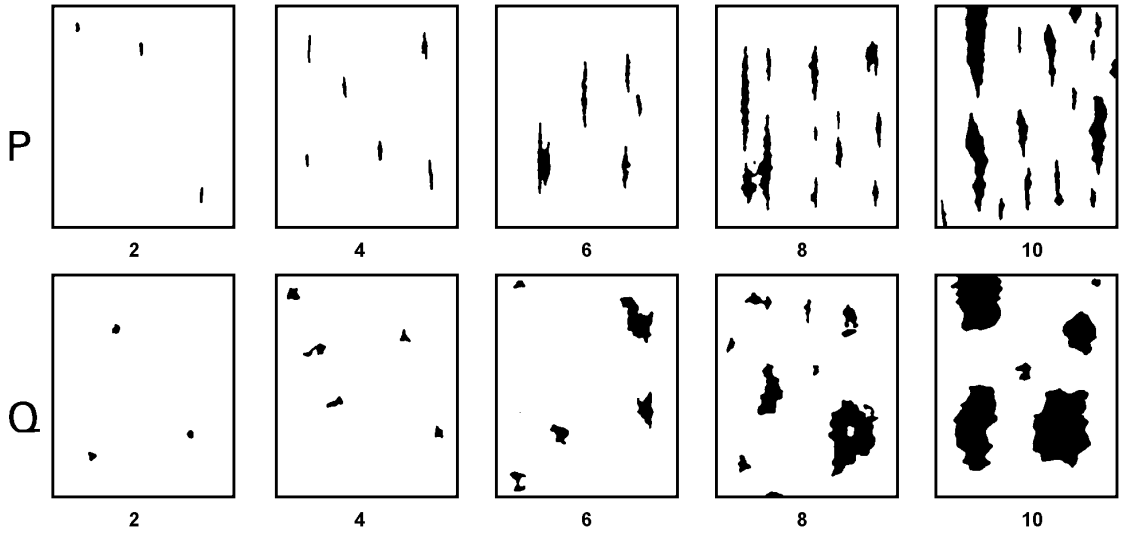
P
2
4
6
8
10
Q
2
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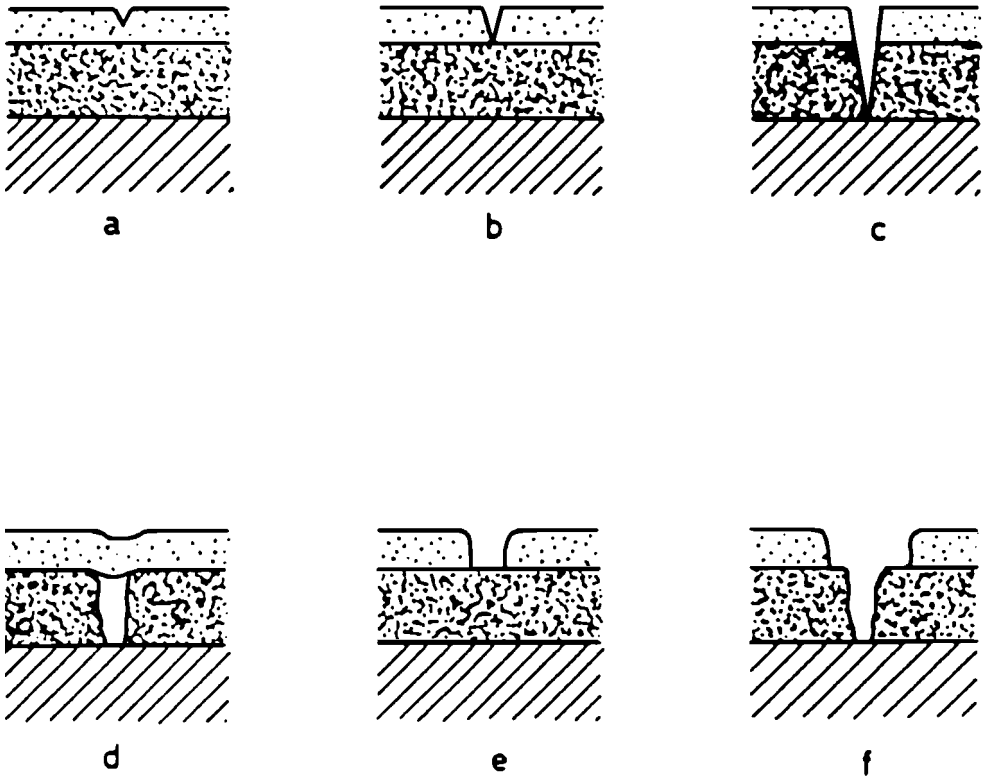
Appendix 3

DIAGRAMS OF THE CROSS-SECTIONS FOR INDICATING THE DEPTH OF CRACKING



6.RECORDS AND REFERENCE DOCUMENTS

6.1.RECORDS

6.1.1.CREATION

- OR: 01/12/1993 - CREATION OF THE NORM.

6.1.2.SUBJECT OF THE MODIFICATION

- **Error! Bookmark not defined.**
- **Error! Bookmark not defined.**

6.2.REFERENCE DOCUMENTS

6.2.1.PSA DOCUMENTS

6.2.1.1.Norms

6.2.1.2.Other

6.2.2.EXTERNAL DOCUMENTS

6.3.EQUIVALENT TO:

6.4.IN CONFORMITY WITH:

6.5.KEYWORDS