

FOREWORD

Amendment 1 to ISO Recommendation R 1457-1970 (originally Draft ISO Recommendation No. 2357) was drawn up by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*.

It was approved in October 1971 by the Member Bodies of the following countries :

Australia	Ireland	South Africa, Rep. of
Austria	Israel	Sweden
Egypt, Arab Rep. of	Italy	Switzerland
France	Netherlands	Thailand
Germany	New Zealand	United Kingdom
Hungary	Romania	U.S.S.R.

No Member Body expressed disapproval of the document.

Amendment 1 – May 1972 – to ISO Recommendation R 1457-1970

Amendment 1

to ISO Recommendation R 1457-1970

**ELECTROPLATED COATINGS FOR COPPER PLUS NICKEL
PLUS CHROMIUM ON STEEL (OR IRON)**

Clause 6.3.3

Delete the symbol "m" for micro-cracked chromium and substitute the symbol "mc".

Add the following text after the paragraph now beginning "mc – for micro-cracked chromium" :

"mp – for micro-porous chromium***, containing a minimum of 10 000 pores per cm² when determined by the method given in Annex D, section D.2, and having a minimum thickness of 0.3 µm. The pores should be invisible to the unaided eye.

There may be some loss of lustre after a period of service in the case of mp chromium deposits which could be unacceptable in some applications. This tendency can be reduced by increasing the chromium deposit thickness in every case where micro-porous chromium is specified in Table 1. The modified designation to be used in such cases in place of Cr mp is as follows :

Cr mp 0.5

The figure refers to the minimum thickness of chromium in micrometres."

Add the following footnote :

"*** This is commonly achieved by depositing chromium over a special thin nickel layer which contains inert non-conducting particles and is applied on top of normal b, p and d nickel."

Delete "Fe/Cu20 Ni25b Cr m" and substitute "Fe/Cu20 Ni25b Cr mc".

Delete Table 1 and its footnote and substitute the following :

Service condition number	Classification number
4	Fe/Cu20 Ni25b Cr mc Fe/Cu20 Ni25b Cr mp Fe/Cu20 Ni30p Cr r Fe/Cu20 Ni25p Cr mc Fe/Cu20 Ni25p Cr mp Fe/Cu20 Ni30d Cr r Fe/Cu20 Ni30d Cr f Fe/Cu20 Ni25d Cr mc Fe/Cu20 Ni25d Cr mp
3	Fe/Cu20 Ni30b Cr r Fe/Cu20 Ni20b Cr mc Fe/Cu20 Ni20b Cr mp Fe/Cu15 Ni25p Cr r Fe/Cu15 Ni20p Cr mc Fe/Cu15 Ni20p Cr mp Fe/Cu15 Ni25d Cr r Fe/Cu15 Ni25d Cr f Fe/Cu15 Ni20d Cr mc Fe/Cu15 Ni20d Cr mp
2*	Fe/Cu20 Ni10b Cr r
1*	Fe/Cu10 Ni5b Cr r

* p or d nickel may be substituted for b nickel and f, mc or mp chromium may be substituted for r chromium for service condition numbers 2 and 1.

Annex D

Delete the title of Annex D and substitute the following :

“Determination of cracks and pores in chromium coatings”.

Delete the heading of section D.2 and substitute the following :

“Copper deposition for determination of cracks and pores”.

Delete the text of clause D.2.1 and substitute the following :

“Electrodeposition of copper from an acid sulphate solution at low current density or low voltage occurs only on the underlying nickel that is exposed through cracks and other discontinuities.

This method provides a rapid means of visual inspection for uniformity of distribution of cracks or pores but, if counting of cracks or pores is required, the optical aid described in section D.1 should be employed.”