



International  
Standard

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**Information security — Message  
authentication codes (MACs)**

Part 2:  
**Mechanisms using a dedicated hash-  
function**

**TECHNICAL CORRIGENDUM 1**

*Sécurité de l'information — Codes d'authentification de message  
(MAC)*

*Partie 2:  
Mécanismes utilisant une fonction de hachage dédiée*

*RECTIFICATIF TECHNIQUE 1*

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# Information security — Message authentication codes (MACs) —

## Part 2:

### Mechanisms using a dedicated hash-function

#### TECHNICAL CORRIGENDUM 1

##### Clause 4

Add the following at the end of the clause:

$\lceil x \rceil$  the smallest integer greater than or equal to the real number  $x$

##### 6.2.2

Replace the first sentence with the following:

If  $K$  is shorter than 128 bits, concatenate  $K$  to itself  $\lceil 128/k \rceil$  times and select the leftmost 128 bits of the result to form the 128-bit key  $K'$ :

Replace the last equation with the following:

$$K_1 = K_1[0] \parallel K_1[1] \parallel K_1[2] \parallel K_1[3] \parallel K_1[4] \parallel K_1[5] \parallel K_1[6] \parallel K_1[7]$$

##### 6.4.2

Replace the last line with the following:

$$C'_i = K_1[1] \quad (64 \leq i \leq 79)$$

##### 6.4.3

Replace the last line with the following:

$$C'_i = K_1[3] \quad (48 \leq i \leq 63)$$

##### 6.4.5

Replace the first sentence with the following:

The 128-bit constant strings  $T_i$  for dedicated hash-function 4 are defined as follows (in hexadecimal representation):

##### 6.4.6

Replace the first sentence with the following:

The 128-bit constant strings  $T_i$  for dedicated hash-function 5 are defined as follows (in hexadecimal representation):

#### 6.4.7

Replace the first sentence with the following:

The 128-bit constant strings  $T_i$  for dedicated hash-function 6 are defined as follows (in hexadecimal representation):

#### 6.4.8

Replace the first sentence with the following:

The 128-bit constant strings  $T_i$  for dedicated hash-function 8 are defined as follows (in hexadecimal representation):

#### 8.2.2

Replace the first sentence with the following:

If  $K$  is shorter than 128 bits, concatenate  $K$  to itself  $\lceil 128/k \rceil$  times and select the leftmost 128 bits of the result to form the 128-bit key  $K'$ :

#### 9.4.3

Replace the last three sentences with the following:

The characters 00 in item c) specify two zero bits.

NOTE The number 168 is the rate (in bytes) of SPONGE[ $f$ ,  $pad$ , 1 344], where  $f = \text{KECCAK-}p[1\ 600, 24]$ . SPONGE[ $f$ ,  $pad$ , 1 344] is referred to as KECCAK[256] in Reference [12].

#### 9.5.3

Replace the last three sentences with the following:

The characters 00 in item c) specify two zero bits.

NOTE The number 136 is the rate (in bytes) of SPONGE[ $f$ ,  $pad$ , 1 088], where  $f = \text{KECCAK-}p[1\ 600, 24]$ . SPONGE[ $f$ ,  $pad$ , 1 088] is referred to as KECCAK[512] in Reference [12].

#### 9.6.2

Replace the first sentence of NOTE with the following:

When used as a XOF, KMAC is computed by setting the encoded output length to 0, as shown in *right\_encode*(0) in item b).

#### 9.6.3

Replace the last three sentences with the following:

The characters 00 in item c) specify two zero bits.

NOTE The number 168 is the rate (in bytes) of SPONGE[ $f$ ,  $pad$ , 1 344], where  $f = \text{KECCAK-}p[1\ 600, 24]$ . SPONGE[ $f$ ,  $pad$ , 1 344] is referred to as KECCAK[256] in Reference [12].