

Table 2: Comparable strengths

Bits of security	Symmetric key algorithms	FFC (e.g., DSA, D-H)	IFC (e.g., RSA)	ECC (e.g., ECDSA)
80	2TDEA ¹⁹	$L = 1024$ $N = 160$	$k = 1024$	$f = 160-223$
112	3TDEA	$L = 2048$ $N = 224$	$k = 2048$	$f = 224-255$
128	AES-128	$L = 3072$ $N = 256$	$k = 3072$	$f = 256-383$
192	AES-192	$L = 7680$ $N = 384$	$k = 7680$	$f = 384-511$
256	AES-256	$L = 15360$ $N = 512$	$k = 15360$	$f = 512+$

For hash functions, the size of the hash function will be determined by the algorithm or scheme in which the hash function is used. For this reason, the standard for the algorithm must specify the appropriate hash size or security strength to use. For example, the appropriate hash algorithm