

DIFFERENT ACCURACY CLASS WEIGHTS REQUIRED FOR DIFFERENT BALANCES

When an instrument is fitted with an auxiliary verification device , or when it is verified with a separate auxiliary device , permissible errors of this device shall be 1/3 of the maximum permissible errors for the applied load. If weights are used , the effect of their errors shall not exceed 1/3 of the maximum permissible errors of the instrument to be verified for the same load.

10.3 Substitution of Standard Weights

When testing instruments with Max > 1 t, instead of standard weights any other constant load may be used . provided that standard weights of at least 1 t or 50% of Max , whichever is greater , are used. Instead of 50% of Max , the portion of Standard weights may be reduce to :

- 35% of Max if the repeatability errors is not greater than 0.3 e
- 20% of Max if the repeatability errors is not greater than 0.2 e

The repeatability error has to be determined with a load of about 50% of Max which is placed 3 times on the load receptor.

10.4 A possible selection table of weights for calibration of weighing machines

Table 7

Capacity	Resolution						
	100 g	10 g	1 g	100 mg	10 mg	1 mg	
Up to 50 g E ₂	0.1 mg	0.1 mg	M ₃	M ₃	M ₃	M ₂	F ₂
Up to 100 g E ₁	M ₃	M ₃	M ₃	M ₃	M ₃	M ₁	F ₁
Up to 500 g	M ₃	M ₃	M ₃	M ₂	M ₂	F ₂	E ₂
Up to 1kg	M ₃	M ₃	M ₃	M ₁	M ₁	F ₁	E ₁
Up to 5 kg	M ₃	M ₃	M ₂	F ₂	F ₂	E ₂	
Up to 10 kg	M ₃	M ₃	M ₁	F ₁	F ₁	E ₁	
Up to 50 kg	M ₃	M ₂	F ₂	E ₂	E ₂		
Up to 100 kg	M ₂	F ₂	E ₂				
Up to 500 kg	M ₂	F ₂	E ₂				

11. TESTING PROCEDURE FOR NON AUTOMATIC WEIGHING INSTRUMENTS

An electronic balance with specifications :-

Maximum capacity	:	100 g	Readability	:	0.01 g
e	:	0.01 g	Reproducibility	:	+0.02 g
Linearity	:	+0.03g			
Weighing pan	:	(80 x 80) mm			

Drift : **2 ppm/ C**

11.1 WEIGHING PERFORMANCE TEST

Apply test loads from zero up to Max and similarly remove the test loads back to zero when determining the initial intrinsic error , at least 10 different test loads will be selected , and for other weighing tests at least 5 shall be selected . The test load shall be selected including Max & Min and values at or near those at which the maximum permissible error (mpe) changes. It should be noted that when loading and unloading weights the load shall be progressively increased and progressively decreased.