

INTERNATIONAL ELECTROTECHNICAL COMMISSION
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**CLASSIFICATION OF ENVIRONMENTAL
CONDITIONS –**

**Part 3-2: Classification of groups of
environmental parameters
and their severities –
Transportation and handling**

**CLASSIFICATION DES CONDITIONS
D'ENVIRONNEMENT –**

**Partie 3-2: Classification des groupements des
agents d'environnement
et de leurs sévérités –
Transport et manutention**

CORRIGENDUM 2

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

5.6 M Mechanical conditions

Replace the existing Table 5 with the following new Table 5:

Table 5 – Classification of mechanical conditions

Environmental parameter	Unit	Class							
		2M4			2M5			2M6	
<i>a) Stationary vibration, random:</i>									
acceleration power	(m/s ²)/Hz	10 ²)	1,0	0,5	30	3,0	1	10	5
spectral density									
frequency range ¹⁾	Hz	2 to 3	10 to 20	50 to 2 000	2 to 3	10 to 20	50 to 2 000	5 to 200	500 to 2 000
<i>b) Non-stationary vibration including shock:³⁾</i>									
Shock 1 ⁴⁾		Figure 2 <i>Curve 4</i> (equivalent to a half sine pulse of 100 m/s ² and 11 ms duration)			Figure 2 <i>Curve 3</i> (equivalent to a half sine pulse of 300 m/s ² and 11 ms duration)			Figure 2 <i>Curve 3</i> (equivalent to a half sine pulse of 300 m/s ² and 11 ms duration)	
Shock 2 ⁴⁾		Figure 2 <i>Curve 2</i> (equivalent to a half sine pulse of 300 m/s ² and 6 ms duration)			Figure 2 <i>Curve 1</i> (equivalent to a half sine pulse of 1 000 m/s ² and 6 ms duration)			Figure 2 <i>Curve 1</i> (equivalent to a half sine pulse of 1 000 m/s ² and 6 ms duration)	

c) Free fall:				
mass less than 20 kg	m	0,25	1,2	1,5
mass 20 kg to 100 kg	m	0,25	1,0	1,2
mass more than 100 kg	m	0,1	0,25	0,5
d) Toppling:				
mass less than 20 kg	None	Toppling around any of the edges	Toppling around any of the edges	Toppling around any of the edges
mass 20 kg to 100 kg	None	No	Toppling around any of the edges	Toppling around any of the edges
mass more than 100 kg	None	No	No	Toppling around any of the edges
e) Rolling, pitching:				
angle ⁵⁾	Degrees	No	±35	±35
period	None	No	8	8
f) Steady-state acceleration	m/s ²	20	20	20
g) Static load	kPa	5	10	10
¹⁾ When transport only occurs by rail, river, sea and road, the upper frequency considered may be reduced to 500 Hz for products that are not sensitive to vibration excitations above 500 Hz. ²⁾ The low frequency stationary vibration random component arises from the influence of land vehicle suspension systems. The component is included for design purposes but is not always included in vibration test specifications. ³⁾ For land vehicles, these shocks can occur simultaneously with the stationary vibration random conditions. ⁴⁾ Both shocks would normally be used to encompass different aspects of the shock environment. ⁵⁾ An angle of 35° may only occur temporarily. An angle of up to 22,5° can be reached for long periods of time.				

Figure 2 – Consolidation of mechanical conditions

Delete the existing top figure and retain the existing bottom figure only, as shown: