

**Errata to *Thermal Guidelines for Data Processing Environments*  
12/21/07**

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(These errata were incorporated into the downloadable version of this book on 12/21/07.)

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The heading “Max Rate of” should read “Max Rate of Change (°C/h).”

**Table 2.1 Equipment Environment Specifications**

Equipment Environment Specifications										
Class	Product Operation <sup>a,b</sup>						Product Power Off <sup>b,c</sup>			
	Dry-Bulb Temperature (°C)		Relative Humidity (%) Non-Condensing		Max. Dew Point (°C)	Max. Elevation (m)	Max Rate of Change (°C/h)	Dry-Bulb Temperature (°C)	Relative Humidity (%)	Max. Dew Point (°C)
	Allowable	Recommended	Allowable	Recommended						
1	15 to 32 <sup>d</sup>	20 to 25	20 to 80	40 to 55	17	3050	5	5 to 45	8 to 80	27
2	10 to 35 <sup>d</sup>	20 to 25	20 to 80	40 to 55	21	3050	5	5 to 45	8 to 80	27
3	5 to 35 <sup>d,e</sup>	NA	8 to 80	NA	28	3050	NA	5 to 45	8 to 80	29
4	5 to 40 <sup>d,e</sup>	NA	8 to 80	NA	28	3050	NA	5 to 45	8 to 80	29
NEBS <sup>f</sup>	5 to 40 <sup>g,h,i</sup>	18 to 27 <sup>j</sup>	5 to 85 <sup>g,i</sup>	Max 55 <sup>k</sup>	28 <sup>g</sup>	4000 <sup>g</sup>	NA	NA	NA	NA

- a. Product equipment is powered on.
- b. Tape products require a stable and more restricted environment (similar to Class 1). Typical requirements: minimum temperature is 15°C, maximum temperature is 32°C, minimum relative humidity is 20%, maximum relative humidity is 80%, maximum dew point is 22°C, rate of change of temperature is less than 2°C/h, rate of change of humidity is less than 5% RH per hour, and no condensation.
- c. Product equipment is removed from the original shipping container and installed but not in use, e.g., during repair, maintenance, or upgrade.
- d. Derate maximum dry-bulb temperature 1°C/300 m above 900 m.
- e. With a diskette in the drive, the minimum temperature is 10°C.

- f. The product operation values given for NEBS are from GR-63-CORE and GR-3028-CORE. GR-63-CORE also addresses conformance testing of new equipment for adequate robustness. Some of the test conditions are summarized below. For complete test details, please review GR-63-CORE.  
Conformance test conditions (short-term) of new equipment:  
  - Dry-Bulb Temperature
    - Frame Level -5°C to 50°C, 16 hours at -5°C, 16 hours at 50°C, (GR-63-CORE)
    - Shelf Level -5°C to 55°C, 16 hours at -5°C, 16 hours at 55°C, (GR-63-CORE)
    - Max Rate of Change 0.5°C/min (GR-63-CORE)1.6°C/min (GR-3028-CORE)
    - Relative Humidity 5 to 90% 3 hours at <15% RH, 96 hours at 90% RH (GR-63-CORE)
    - Max Dew Pt 28°C (GR-63-CORE)
- g. Requirements for continuous operating conditions that new equipment shall tolerate (GR-63-CORE). A feature or function that, in the view of Telcordia, is necessary to satisfy the needs of a typical client company is labeled "Requirement" and is flagged by the letter "R." The conformance testing described in footnote "f" is designed to ensure that equipment tolerates the specified continuous operating conditions.
- h. Derate maximum dry-bulb temperature 10°C at and above 1800 m.
- i. Also ANSI T1.304-1997 [4].
- j. Recommended facility operation per GR-3028-CORE. No NEBS requirements exist.
- k. Generally accepted telecom practice; the major regional service providers have shut down almost all humidification based on Telcordia research. Personal grounding is strictly enforced to control ESD failures. No NEBS requirements exist.