



IEC/TC OR SC:	SECRETARIAT:	DATE:
IEC TC 104	Sweden	2020-01-28

Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

A. STATE TITLE AND SCOPE OF TC

Are there any new or emerging trends in technology that will impact the scope and work activities of the TC? Please describe briefly.

Do you need to update your scope to reflect new and emerging technologies? If yes, will these changes impact another TC's scope or work activities?

If yes, describe how these will impact another TC(s) and list the TC(s) it would impact

TC 104 - Environmental conditions, classification and methods of test

1. Standardization of environmental condition classes which represent the conditions to which products are most likely to be subjected whilst being:

- transported,*
- stored,*
- installed and*
- used.*

The classification shall use validated environmental parameters and provide guidance in the selection and use of those classes intended for the preparation of relevant specifications.

2. Standardization of environmental test methods intended for the preparation of relevant specifications and to provide guidance in the selection and use of those methods.

3. The correlation and transformation of environmental condition classes to environmental tests.

4. Excluded from the scope of this committee are those matters which are within the scope of other IEC Committees, such as Electromagnetic Compatibility (TC 77 and CISPR), Safety (TC 62, TC 66 and TC 74), Fire Hazard (TC 89), Ionizing Radiation (TC 45), Explosive Atmospheres (TC 31) and Dependability (TC 56). Internal liaisons are maintained with those IEC committees which are specifically excluded from the scope.

B. MANAGEMENT STRUCTURE OF THE TC

Describe the management structure of the TC (use of an organizational chart is acceptable) (should be integrated by CO automatically) and, if relevant (for example an unusual structure is used), provide the rationale as to why this structure is used.

Note: Check if the information on the IEC website is complete.

When was the last time the TC reviewed its management structure? Describe any changes made. When does the TC intend to review its current management structure? In the future, will the TC change the current structure, for example due to new and emerging technologies, product withdrawal, change in regulations etc. Please describe.

Make sure the overview includes:

- any joint working groups with other committees,
- any special groups like advisory groups, editing groups, etc.

IEC TC 104

Working Groups

WG 14 Climatic field data including validation

WG 15 *Dynamic field data including validation*

Project Teams

PT 63141 *Damp heat, steady state (unsaturated pressurized vapour with air)*

Maintenance Teams

MT 16 *Climatic conditions and tests*

MT 17 *Dynamic Conditions and tests*

MT 18 *Special cases*

MT 19 *Maintenance of IEC 60721-3 series*

C. BUSINESS ENVIRONMENT

Provide the rationale for the market relevance of the future standards being produced in the TC.

If readily available, provide an indication of global or regional sales of products or services related to the TC/SC work and state the source of the data.

Specify if standards will be significantly effective for assessing regulatory compliance.

Electro technical and electronic products intended for general use are expected to work all over the world irrespective of climatic conditions, operational mode, and mechanical environment or handling. Examples of this kind of products are mobile phones, measurement- and alarm equipment etc. Other products designed for a specific purpose and for a specific environment may in addition be crucial for the safety and dependability of a whole set of machines must for that reason have a higher degree of reliability than general consumer goods. Components in nuclear plants are examples of such products.

The manufacturer needs to know what climatic and dynamic conditions their product is subjected to. They can compare and check their estimation for instance with data generally available on open-air temperature and humidity, collected and statistically processed over many years throughout the whole world and published by meteorological institutions. He can also consult a specialist on for instance shock and vibration for a review of his estimation.

TC 104 has added yet another tool which conveniently represents this kind of data is in climatograms and a classification system giving all other environmental parameters except those stresses that temperature produce on a product, for example air velocity, humidity, sand and dust, solar radiation and very important, mechanical conditions, vibration and shock. Groups of environmental parameters and their severities, ranging from extreme (short-term) conditions which may be met by a product when being transported, installed or used to (long term) conditions while being stored or kept in standby have been published by TC 104 in several publications with sets of tables.

Separate groups of classes are given for different kind of product applications for example transportation, mounted in ground vehicles or stored stationary in weather-protected locations. The classes also take into account the degree of restriction of the use of the product from very restricted conditions for example in temperature-controlled rooms to very general and unrestricted conditions. The classification covers natural as well as man-made conditions. Methods of environmental test are, on the other hand, designed to assess the ability of a product to perform under those conditions that are expected during transportation, storage, operation and use. Each test method explains in detail how these stresses, climatic, dynamic and/or a combination of them can be simulated using climatic chambers and shakers separately or combined. The test specimen is subsequently exposed for shorter or longer periods of time to heat, cold or moisture independently or simultaneously with or without vibration and shocks exposure.

There are several reasons for the standardisation of these methods. It must for instance be possible to repeat a test in order to compare different products or to see the difference before and after for instance an improvement. It is also essential that laboratories all over the world perform tests in the same way so that the result can be compared. These requirements are usually called repeatability and reproducibility

D. MARKET DEMAND

Provide a list of likely customers of the standards (suppliers, specifiers, testing bodies, regulators, installers, other TC/SC's etc.). Do not specify company names, only categories of customers.

The demand for the evaluation of a product comes from the ultimate user who considers sustainability an essential parameter when purchasing new equipment. The standards of TC104 are therefore widely used.

Manufacturers and testing laboratories are using TC104's standards for testing and evaluation of products to assure their resistivity against environmental conditions. The global market demands internationally harmonized requirements and test conditions in order to achieve an adequate level of safety and general protection.

E. TRENDS IN TECHNOLOGY AND IN THE MARKET

If any, indicate the current or expected trends in the technology or in the market covered by the products of your TC/SC.

The range of environmental issues has increased due to continuing progress of technologies as well as legal systems. Examples include worldwide needs for establishing standardized evaluation methodologies for energy saving effects made by energy-efficient products, life-cycle evaluation of GHG emission from products, and an emerging global trend in tackling resource scarcity by establishing international harmonised schemes for end-of-life management of products. Recent trends include:

- A shift of focus from a specific life cycle stage to the entire life cycle. This trend leads to supply chain issues including information exchange, cooperation and management.*
- Use of Life Cycle Assessment (LCA) methodologies and tools to evaluate the environmental impacts of products and processes across the entire life cycle.*
- Environmental assessment scope is moving from a product to complete system solutions, such as addressing urbanization issues through infrastructures (e.g. Smart Cities).*

New standards may be required, e.g. by other committees, to cover the expanding range of applications especially those relating to renewable energy sources and the increasing use of power electronics in networks. New materials, new testing and assessment technology and requirements for adequate safety and environment compatibility may also drive the need for revised and new standards. Trends are considered for higher degrees of protection, special test conditions requested by product groups, energy efficiency and other requirements caused by globalisation.

F. SYSTEMS APPROACH ASPECTS (REFERENCE - AC/33/2013)

Does your TC/SC have a need for a systems approach?

If so:

- Will the Systems work be in a single TC or in multiple TCs?
- Will a Systems Evaluation Group (SEG), Systems Committee (SyC), or Systems Resource Group be required?
- Is your TC/SC work of relevance to ISO?
- Is or are there fora or consortia working in parallel to IEC? Is there a chance to integrate this work in your TC/SC?

This should not only be restricted to the customer/supplier relationships with other TC/SCs indicating types of co-operation (e.g. liaisons, joint working groups) but be of a more generic nature.

If there is no need for a systems approach as outlined in AC/33/2013, is it intended a TC would not be requested to report on general systems approach considerations such as customer/supplier relationships, liaisons, joint WGs, etc. as referenced in the system approach matrix illustrated in slide 14 of the presentation attached to AC/37/2006?

TC 104 will continue to promote the establishment of liaisons with other committees and to take their needs into account when updating the present portfolio of valid standards and when developing new methods.

There are several other committees that use the TC 104 publications and tests. They may therefore have a reason for a closer liaison with TC 104.

G. CONFORMITY ASSESSMENT

With reference to clause 33 of Part 2 of the ISO/IEC directives, are all your publications in line with the requirements related to conformity assessment aspects?

Will the TC/SC publications be used for IEC Conformity Assessment Systems (IECEE, IECEx, IECQ, IECRE)?

Will any of your standards include test specifications, reproducible test requirements, and test methods?

Are there likely to be special conformity assessment requirements generated by any standards projects? If yes, list which projects.

- 1) Yes
- 2) Yes, potentially
- 3) Yes
- 4) No

According to ISO/IEC Directives part 2, all documents containing requirements for products, processes, services, persons, systems and bodies shall be written in accordance with the "neutrality principle", such that conformity can be assessed by a manufacturer or supplier (first party), a user or purchaser (second party), or an independent body (third party). Such documents shall not include requirements related to conformity assessment other than requirements which are necessary to provide repeatable and reproducible conformity assessment results and hence standard development and conformity assessment in order to maintain their integrity should be independent of each other. Therefore, even if TC 104's standards include test specifications, reproducible test requirements and test methods, special conformity assessment requirements are not very likely to be generated by any standards projects within TC 104.

H. HORIZONTAL ISSUES

Indicate here how the TC/SC deals with horizontal issues such as energy efficiency, environmental aspects, safety, security...

Provide information on the interaction with SMB Advisory Committees, if applicable.

TC 104 address products to sustainability, since we effort to extend product lifetime, but not specifically energy efficiency. Regarding safety - our standards are used to ensure safety, for example can they safely be used after exposure? We don't directly address security on products, but ensure they operate securely.

TC 104 provides horizontal standards in a series of uniform and reproducible environmental, climatic, dynamic and combined tests, performed and measured under standard atmospheric conditions, for those preparing specifications and those engaged in the testing of products, as well as providing standards listing environmental parameters and a number of their severities within the range of conditions met by electrotechnical products when being transported, stored, installed and used of which many, or all, could be of crucial importance with regard to security and safety, as well as environmental and energy efficiency.

I. 3-5 YEAR PROJECTED STRATEGIC OBJECTIVES, ACTIONS, TARGET DATES

STRATEGIC OBJECTIVES 3-5 YEARS	ACTIONS TO SUPPORT THE STRATEGIC OBJECTIVES	TARGET DATE(S) TO COMPLETE THE ACTIONS
Maintenance and review of TC 104 standard series	Interim meeting and plenary meeting, frequently.	Ongoing

Note: The progress on the actions should be reported in the RSMB.