



**A comparison of Common Criteria to ISO 60335-1
create a more harmonized comprehensive
structure covering any type of modularity, size,
complexity and security of products**

Antalya 2010

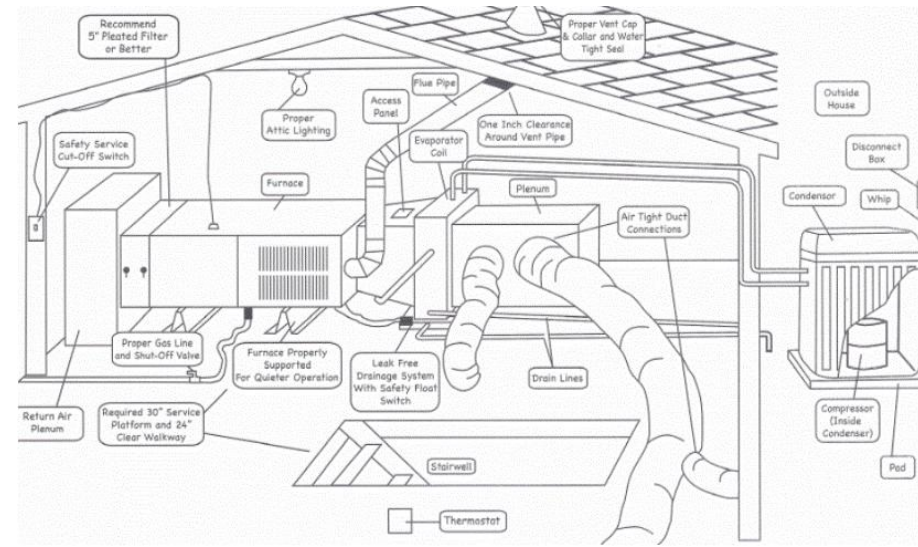
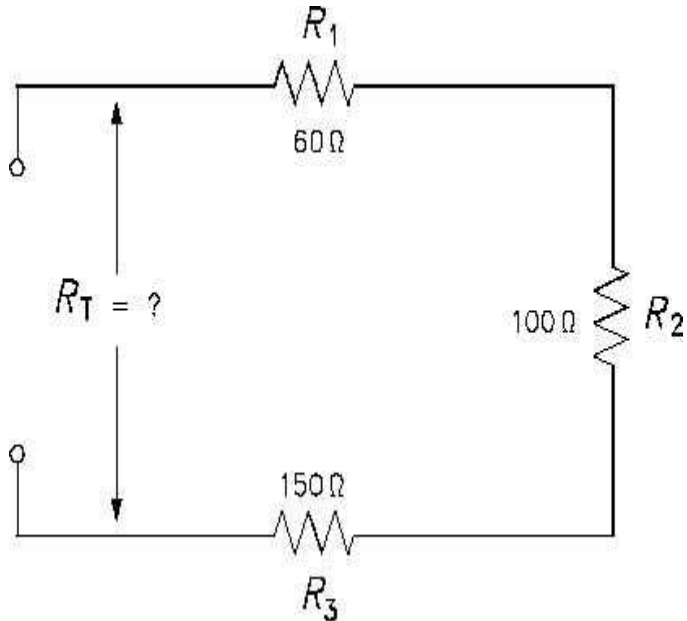
Ömer Anıl ARDIÇ

TSE

What is Generic?

- Very comprehensive; pertaining or appropriate to large classes or groups as opposed to specific
 - "...the essence is that such self-describing poets describe what is in them, but not peculiar to them,---what is **generic**, not what is special and individual." — Walter Bagehot (1826-1877)

What is the commonalities between two products?

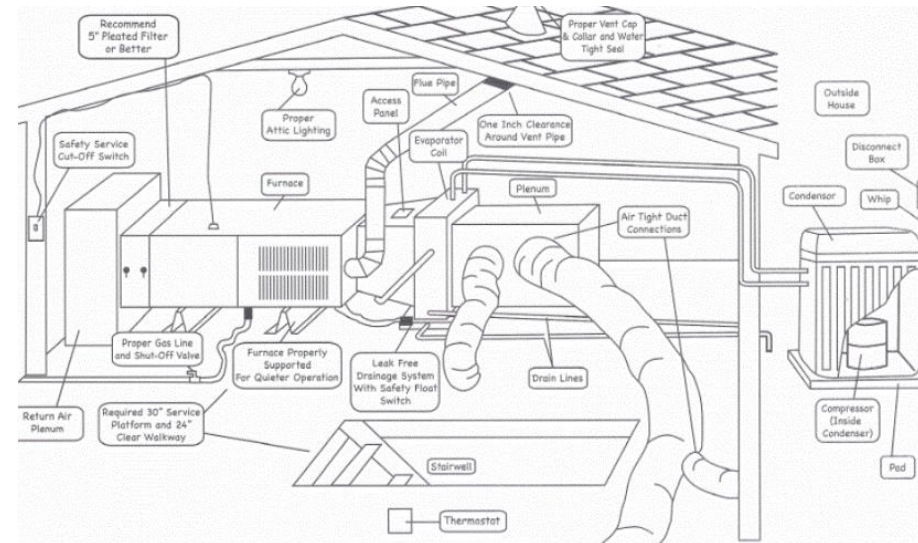
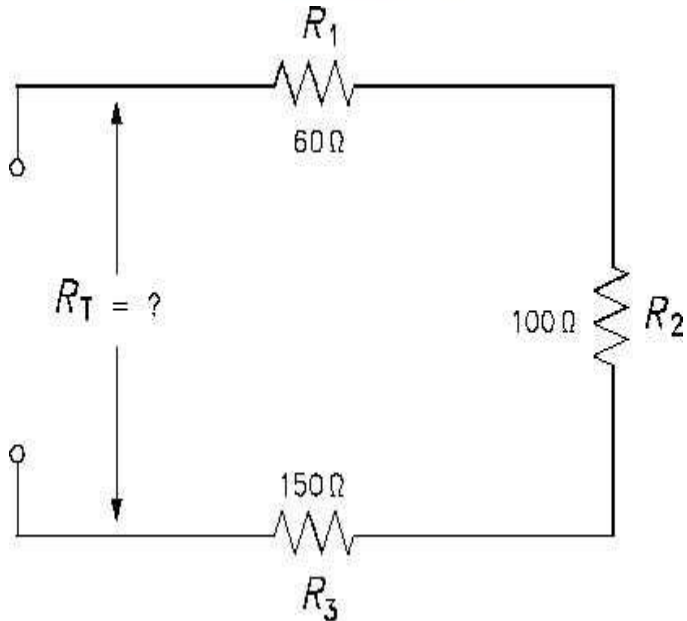


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IEC 60335



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Common Criteria



```
easyvhdl.vhd - HDL Editor
File Edit Search View Synthesis Project Tools Help
1 library IEEE;
2 use IEEE.std_logic_1164.all;
3
4 entity easyvhdl1 is
5     port (
6         DOOR: in STD_LOGIC;
7         IGNITION: in STD_LOGIC;
8         SBELT: in STD_LOGIC;
9         BUZZER: out STD_LOGIC
10    );
11 end easyvhdl1;
12
13 architecture easyvhdl1_arch of easyvhdl1 is
14 begin
15     -- <<enter your statements here>>
16     BUZZER <= IGNITION and ((not DOOR) or (not SBELT));
17
18 end easyvhdl1_arch;
19
20
21
```



Comperation of Core Benefits

- IEC 60335-1 : Electrical safety, approval of the product
- Electrical performance
- Common criteria Electronic Security
- Security assurance levels

IEC 60335



Also Industrial Versions of The Other Products with

- **A risk analysis is required by MD 2006/42/EC**
- **ISO 13849-1 with adequate Performance Level (PL)**

IEC 60335

- Part 1 300 pg. generic rules and test
- With several add-ons: additional 100 pg
- Part 2 154 additional product specific Sub standards(mandatory documents)
- 50 pg. For each plus add-ons
- And still growing

Committees of IEC 60335

- TC 61 Safety of household and similar
- SC 61B Safety of microwave ovens
- SC 61C Household appliances for refrigeration
- SC 61D Appliances for air-conditioning for household and similar purposes
- SC 61E Commercial catering equipment
- SC 61F Hand-held motor-operated tools
- SC 61H Farm appliances
- SC 61J cleaning appliances for industrial use



What is in it for....



About IECCE

- Publishes International Standards for electrotechnology
- IECCE, IECEx and IECQ
- Generation, transmission and distribution,
- Industrial automation, information Technology, healthcare, photovoltaic,
- Environment, safety, performance, and efficiency

The IEC way of doing business

- Was a discussed case in IEC 60335 Software Evaluation Workshop
- At first for IEC consistent approach is not important, they try to get as much as different countries involved in it then they extend their system to in all countries and gave a message to the market.

The IEC way of doing business

- That is not in the harmonized requirements in all countries but the translation of the one to an other
- Standard get complex and they have a consistent approach
- Trust to NCBs is the key element

Q:How we can trust the other NCBs' software evaluation?

- Chairman: Do you have a driving licence?
- Q: Yes
- C: Did you go to the other countries?
- Q: Yes
- C: Did you rent car?
- Q: Yes
- So the local authorities assume that by having Driving licence

An Easy Systematic Approach Required

- Easy rules makes Complex behavior
- Complex rules caused stupid behavior
- KISS Principle always in the game

Software Issues needed to be handled IEC 60335

- Driving risk management requirements from the Part 2 standards
- Formalizing a Safety Requirements Specification
- Fault exclusion based on design review
- Formalized modeling and verification of software

Software Issues needed to be handled IEC 60335

- Security of critical software
- Validation of software (including during faults that may be EMI induced)
- Correlation of hardware architecture and software diagnostic level

Software Issues needed to be handled IEC 60335

- External communications
- Modularization of code and defensive programming

iBathTub

- Was a discussed case in IEC 60335 Software Evaluation Workshop
- About security, interconnectivity, internet and household appliance

Certified Test Laboratories of IEC

- A committee of Testing Laboratories ,
- 336 CB Testing Laboratories
- Any Member Body has the right to participate
- Reproducibility of test results
- Practical testing problems
- The Secretary of the CTL shall prepare and send to the Secretary of the IECEE a report for consideration by the CMC covering

Licensed Evaluation Laboratories

- How we trust CB X ?
- How make sure that the test laboratory?
- Are they have the required skill level?
- Required documentation, Process and Procedures
- Required equipment

Operational Stuff Meeting of IEC

- A meeting for people who meets directly with the operation
- Huge Support on Harmonization
- Helps to improve the understanding of Standards
- Ensures the Testing Quality
- Problems and obstacles only
- Publish DSH

CC Evaluators Meeting

- *We will have a WG for every Productline*
- *What I am asking making meeting of volunteers to share their question regularly with group and CCDB in any item within product evaluation for every product line for everytime*
- *No secrets*
- *No competitive advantage or technology*

Technical Report Form of IEC

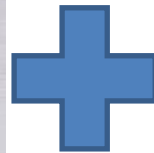
- Mentioned the requirement of clause
- Define the test, approval compliance
- Remarks
- Yes/ No or N/A
- A possible add to ETR?

EAL : The unique property of CC

- Is this a measure?
- Is it measurable quantitative or qualitative?
- Formal or Semi-Formal methods what is their value?
- Eal 4 to 5, 6 to 7 what is the diff
- Can there be a limit for a specific product line?
- Eal 4 – 5 diff in x and y meaningful

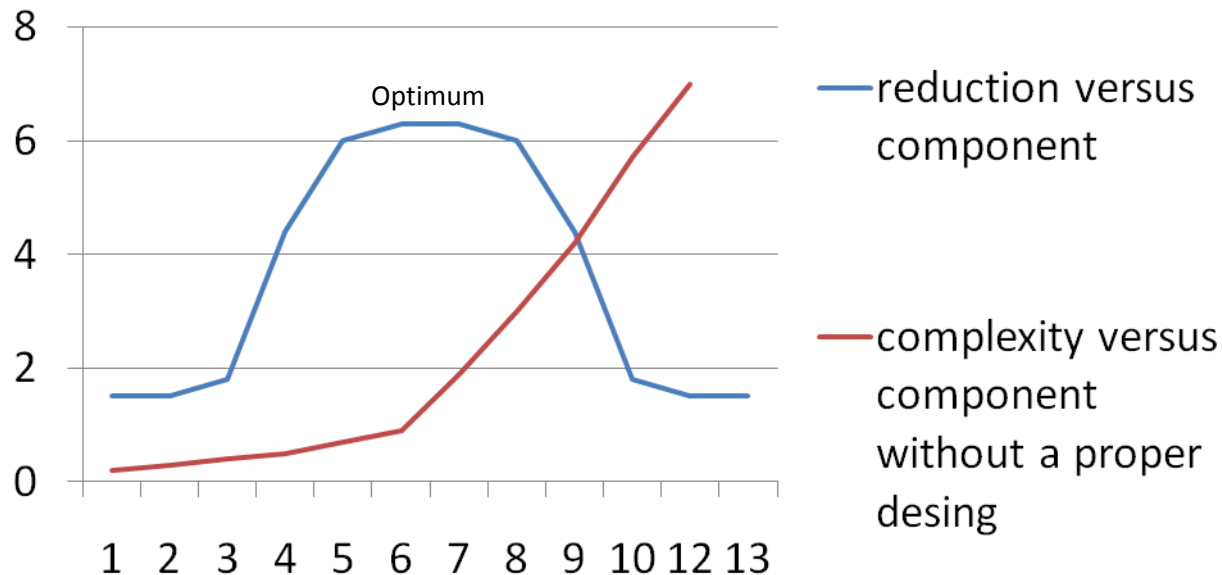
Size versus Complexity

- Size versus entropy
- Imersion type water heater for a swimming pool



Modularity

- Without proper desing number of parts in an product increased complexity
- With proper design it caused instant reduction



Statistical Fluctuations and Depended Events

A Different way to Approach

- We human beings are easy able to compare two things at one time.
- It is easy to handle one task at one time
- Usually it is good for us having a monetary value

A Different way to Approach

- What is our assurance objective?
- Every component must be weighted accordance to our assurance objective
- And scored according to their characteristics
- We can also add our requirements

CC and Upcoming Documents for technology

Thanks!

- Any Questions?