CURRENT TRANSFORMERS

1. What rating should be used on CT for CT connected meters?

The below is burden guide:

Sr.no	Instrument	Burden (VA)
1	Bimetal instruments (5 A)	3
2	Bimetal and Moving iron instruments (5 A)	3.5
3	Moving Iron Instruments	1
4	Watt Meter	3.5, 5, 5.5
5	Power Factor meter	4
6	Current Transducers	0.5
7	Power Transducers	0.5
8	kWh-meter	2.5
9	Trivector meter, Power analysers, Load Managers	5

2. How is the wiring of CT done?

The primary conductor shall be fed (from the fuse) from P1 to P2 through the transformer. The secondary side of the transformer (marked S1 and S2) shall be connected to S1 and S2 on the instrument.

3. What is the ABS moulding? Full form of ABS?

ABS: Acrylonitrile butadiene styrene is a common thermoplastic polymer. They also have electrical properties that are fairly constant over a wide range of frequencies. These properties are little affected by temperature and atmospheric humidity in the acceptable operating range of temperatures.

4. Difference between Resin Cast, ABS and polycarbonate?

A) Basically resin cast CTs are Epoxy resins (dry resin cast). These CTs are heavy but protect the equipment from weathering due to environment. Polycarbonate is a thermo plastic resin as well, with high insulation and heat resistant properties. It was used for electronic components. But Bayer AG who was the sole manufacturer of capacitor grade poly carbonate film stopped in the year 2000. Thus making it high priced. With all the above properties as well being light in weight ABS moulding stands out.

B) The nature of ABS Thermoplastic is when exposed to high temperature it will boil and break and wouldn't stick to the equipment. The fumes are environment friendly as well as it6 can be recycled.

5. What are the limits of temperature rise on windings?

The below is temperature rise guide:

Insulation Class	Maximum Temperature Rise (^{0}C)
Oil Immersed Classes	60
Oil immersed and sealed Hermetically	65
Bituminous compound immersed classes	50
Class Y	45
Class A	60
Class E	75
Class B	85
Class F	110
Class H	135

Veritek Make CTs are Class E Insulated (maximum temperature 120^{0}C)

6. What is the allowable load Capacity for copper and aluminium bars?

The below guidelines is for maximum current:

Dimensions (mm)	Maximum Current in A					
	1 bar		2 bars		3 bars	
	Copper	Aluminium	Copper	Aluminium	Copper	Aluminium
12x2	150	80	232	140	262	
15x2	180	95	275	170	300	
15x3	282	115	364	210	440	
20x2	230	120	348	270	360	
20x3	290	145	453	350	520	
20x5	319	254	560	446	728	570
20x10	497	393	924	730	1320	1060
25x3	350	180	540	330	600	
25x5	470	230	760	430	965	
30x3	410	205	625	385	680	
30x5	447	356	760	606	944	739
30x10	676	536	1200	956	1670	1340
40x3	530	280	800	500	835	
40x5	573	456	952	762	1140	898
40x10	850	677	1470	1180	2000	1650
50x5	697	556	1140	916	1330	1050
50x10	1020	815	1720	1400	2320	1940
60x5	826	655	1330	1070	1510	1190
60x10	1180	951	1960	1610	2610	2200
80x5	1070	851	1680	1360	1830	1460
80x10	1500	1220	2410	2000	3170	2660
100x5	1300	1050	2010	1650	2150	1730
100x10	1810	1480	2850	2390	3720	3110
120x10	2570	1350	3780	2400	4600	3250
160x10	3290	1750	4750	3000	5800	4150
200x10	4000	2150	5700	3650	6950	4950
200x15		2250		4200		5600