

## Reference Mobile Phone Container

### Situation and problem definition

For transmitting the reception signal for mobile phones in Turkey an air-conditioned container with electronic equipment is used. The problem is that the containers can overheat with extreme outside temperatures (30C +) with the result that the equipment will malfunction or even break down.

One of the parameters is that the container had to have a constant inside-temperature of 24C that could often not be reached with the air conditioner that was used.

The problem is that there are significant electricity costs for cooling the container to the right, constant temperature of 23C.

The containers are 2 by 2 by 3 meters, which are 24 sq meters for the entire container, bottom excluded.

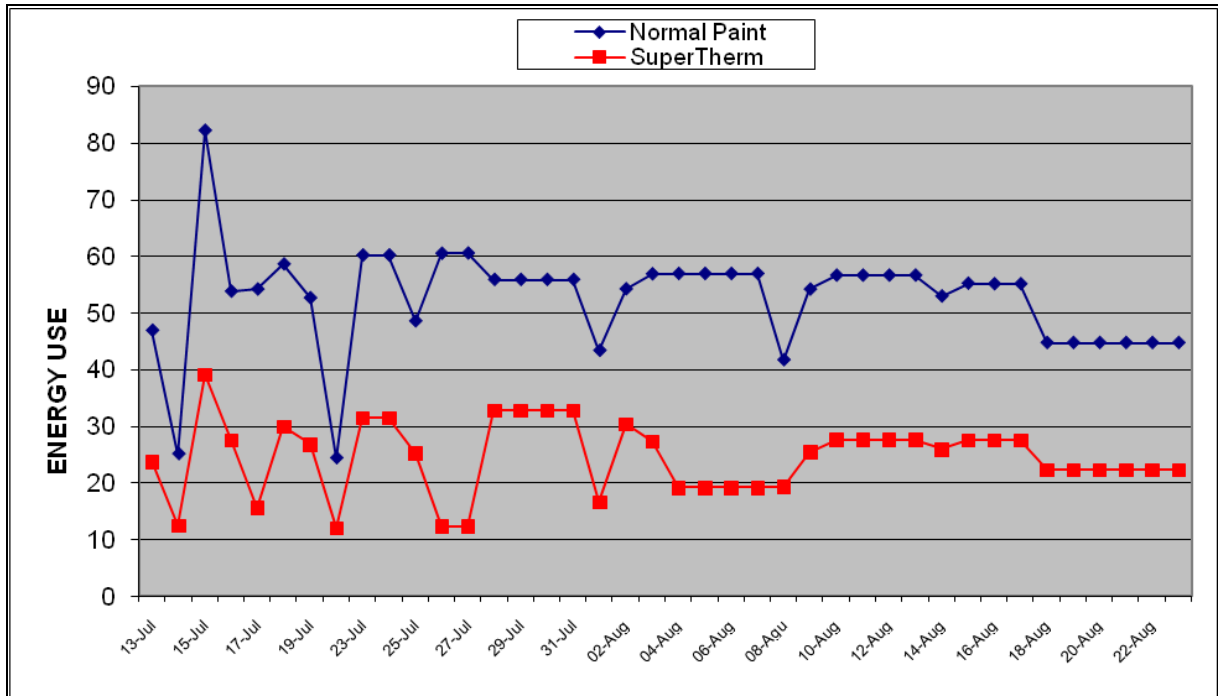
### Testing advise and instructions.

Treat the container with SuperTherm on the outside to reflect the direct sunlight, so that the air-conditioner can reach the inside temperature of 23C more easily and that eventually energy savings will occur.

### Conclusions

Inside temperature of 23C was reached.  
An average energy saving of over 50% was measured.

Test results Turkey for July and August



Graph 1: Energy use of containers: one with SuperTherm, one with normal white paint

<b>Date</b>	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	23-Jul	24-Jul
<b>Normal</b>	46.899	25.114	82.211	53.808	54.18	58.612	52.65	24.378	60.18	60.18
<b>SuperTherm</b>	23.708	12.467	39.063	27.539	15.597	29.927	26.767	12.043	31.434	31.43
<b>Difference</b>	23.191	12.647	43.148	26.269	38.583	28.685	25.883	12.335	28.746	28.75
<b>Date</b>	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	01-Aug	02-Aug	03-Aug
<b>Normal</b>	48.56	60.5	60.54	55.88	55.88	55.88	55.88	43.36	54.22	56.87
<b>SuperTherm</b>	25.21	12.36	12.36	32.82	32.82	32.82	32.82	16.65	30.42	27.28
<b>Difference</b>	23.35	48.14	48.18	23.06	23.06	23.06	23.06	26.71	23.8	29.59
<b>Date</b>	04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug
<b>Normal</b>	56.93	56.93	56.93	56.93	41.7	54.17	56.64	56.64	56.64	56.64
<b>SuperTherm</b>	19.14	19.14	19.14	19.14	19.31	25.43	27.6	27.6	27.6	27.6
<b>Difference</b>	37.79	37.79	37.79	37.79	22.39	28.74	29.04	29.04	29.04	29.04
<b>Date</b>	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug
<b>Normal</b>	52.95	55.21	55.12	55.12	44.74	44.74	44.74	44.74	44.74	44.74
<b>SuperTherm</b>	25.92	27.51	27.51	27.51	22.3	22.3	22.3	22.3	22.3	22.3
<b>Difference</b>	27.03	27.7	27.61	27.61	22.44	22.44	22.44	22.44	22.44	22.44

Table 1: Energy use of containers: one with SuperTherm, one with normal white paint

Pictures

