

UTAC

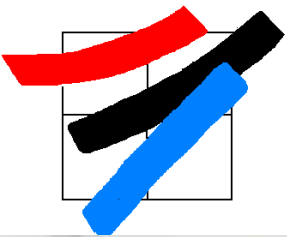
Informal document No. GRSP-34-28

(agenda item B.1.5.)



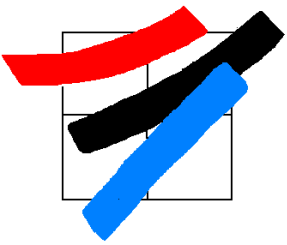
GRSP Ad hoc Group on R44 COP

34th GRSP - 8 to 12 December 2003



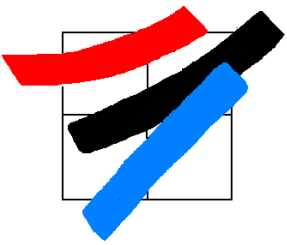
The Ad hoc group

- 
- Germany
 - UK
 - Sweden
 - Spain
 - Clepa
 - France
 - Meeting the 16 & 17 October in Paris
 - Working documents:
 - GRSP/2001/13
 - GRSP/2003/13



Agreed principles

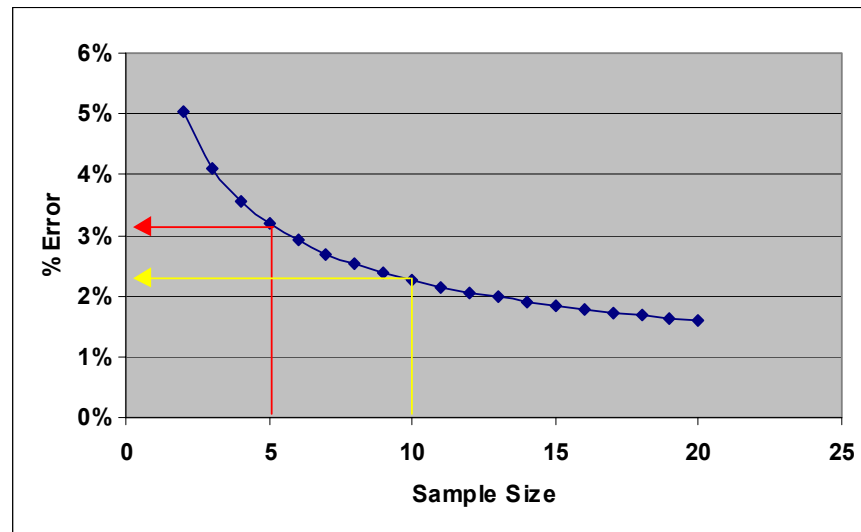
- **3 phases**
 - **Type approval**
 - **Qualification of production**
 - **Control Of Production**
- **Statistical Control based on:**
 - **Mean value**
 - **Standard deviation**



Sampling

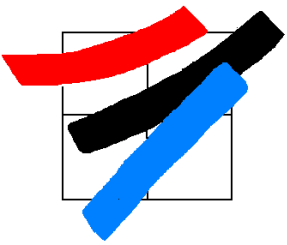
- Clepa shows that 10 samples don't bring a lot more confidence than 5

Effect of Sample Size on Accuracy



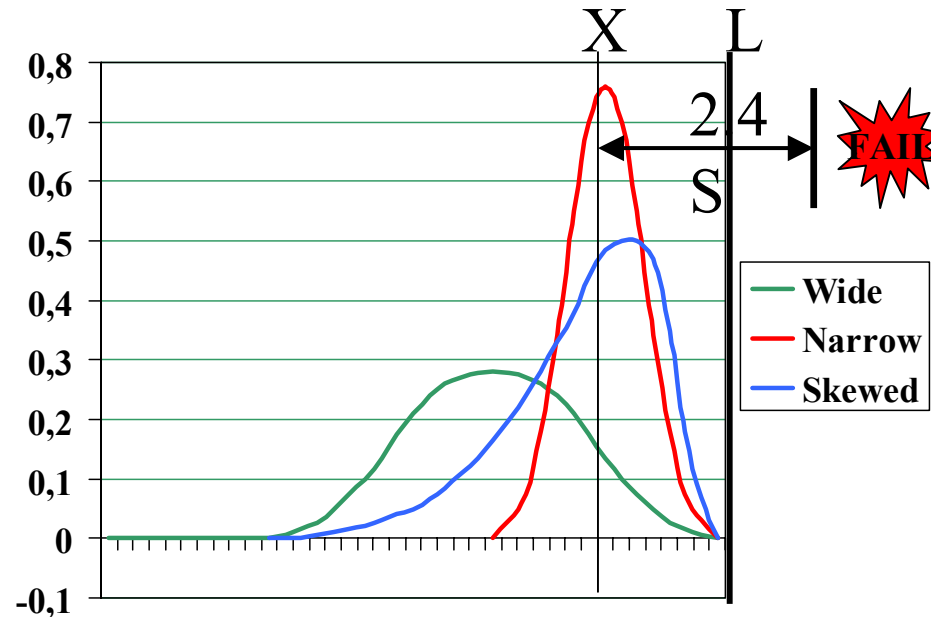
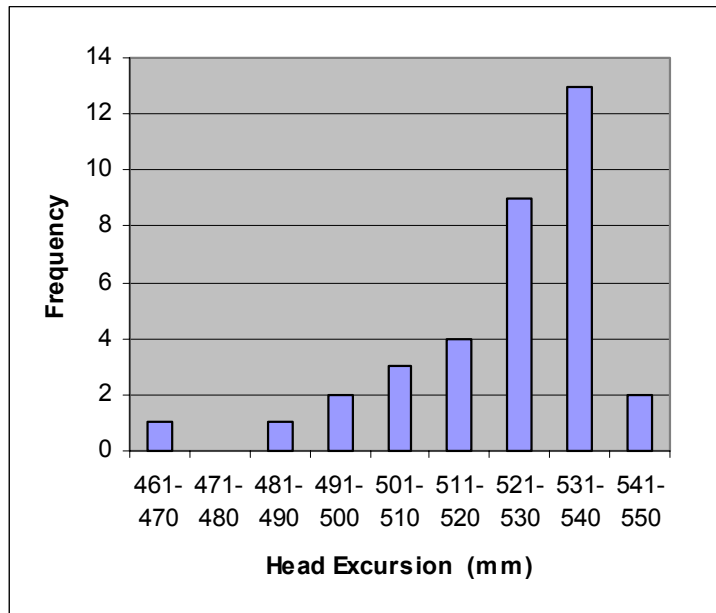
Using :- $n = ((z \times s) / E)^2$

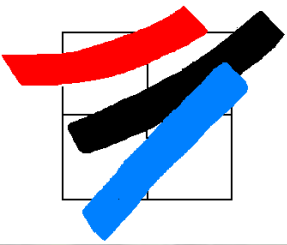
Where: E = Error, S = 20 / 550 and z = 1.96 for 95% confidence level



CRS population

- Clepa shows that the repartition of the CRS population is skewed and not normal





Qualification of the production

➤ **With for maximum horizontal head excursion**

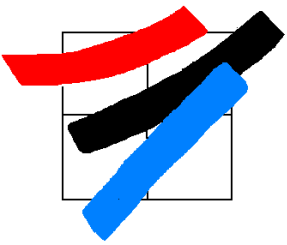
➤ $M + 1 \times SD \leq \text{Limit}$

➤ **no value $\geq 1.05 \times \text{Limit}$**

on 5 samples

we are confident in the improvement of quality of the production

➤ **Application of the first criteria to the 3 ms clipped resultant chest acceleration for information only**



Conformity Of Production

➤ By batch control

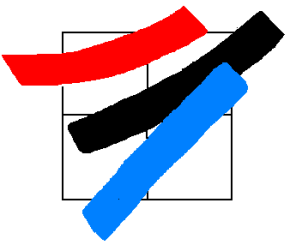
➤ Normal: 2 (+2) by batch between 500 and 5000 units => 0.04% (0.08%) (x 4)

➤ Strengthened: 4 (+4) by batch between 500 and 5000 units => 0.08% (0.16%) (x 5)

➤ By continuous control

➤ Normal: 0.02% of the production (x 40)

➤ Strengthened: 0.05% of the production (x 30)



Conclusions

- Some add on:
 - Control and recording of marking
- Application to Universal, Semi Universal and Restricted CRS
- Needs that approval Authorities must verify the conformity of production procedures of manufacturers during periodic visits