UID

Metalcraft Photo Anodized Nameplates (Metalphoto®)

vs.

Tesa Secure

Physical Tests

- Taber Abraser
- High Temperature Oven Aging
- Thermal Shock

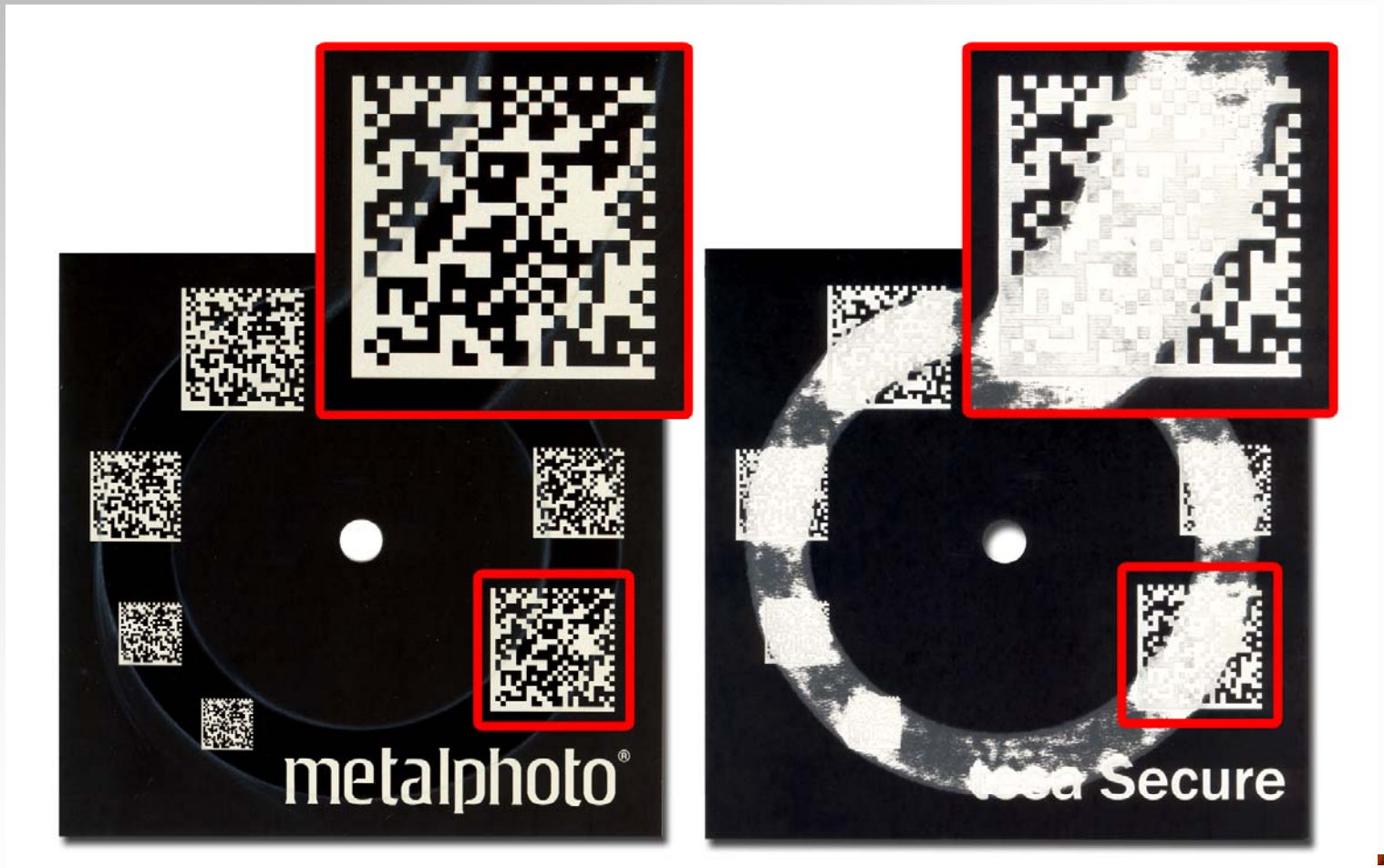
Tesa: Observations

- Capable of getting straight A’s on verification; however:
  - Sensitive to material flatness
  - Depth of etch sensitive to laser output which has a direct bearing on contrast

Test: Abrasion Resistance

- After 1000 cycles Tesa labels were completely unreadable while Metalcraft photo anodized nameplates (using Metalphoto®) were unaffected
- Black image was completely removed from Tesa label

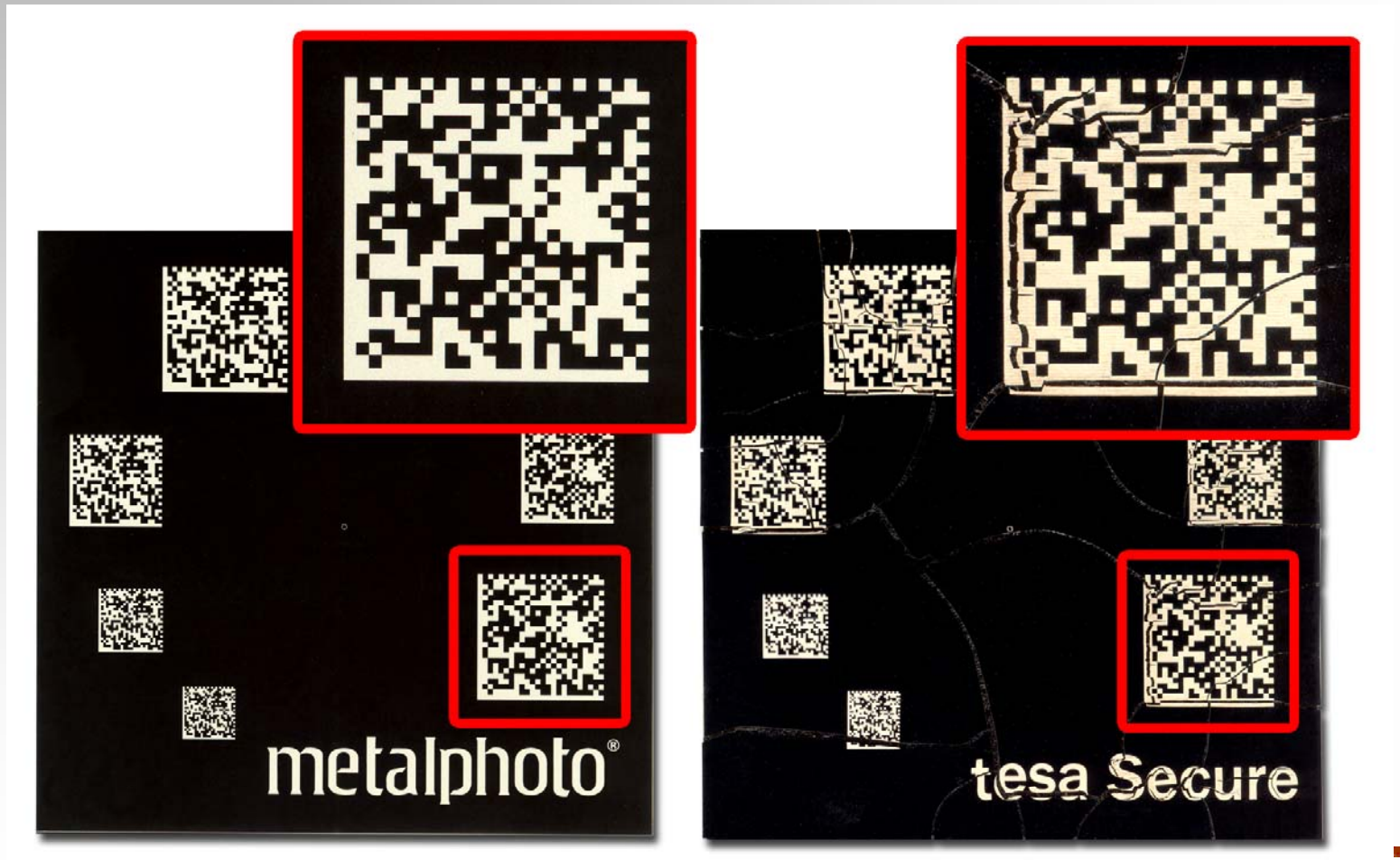
Test Results: Abrasion



Test: High Temp Resistance

- After 10 minutes at 500°F Tesa labels were unreadable while Metalcraft photo anodized nameplates (using Metalphoto®) were unaffected
- Tesa exhibited severe mud-cracking
- Adhesion loss around edges of Tesa

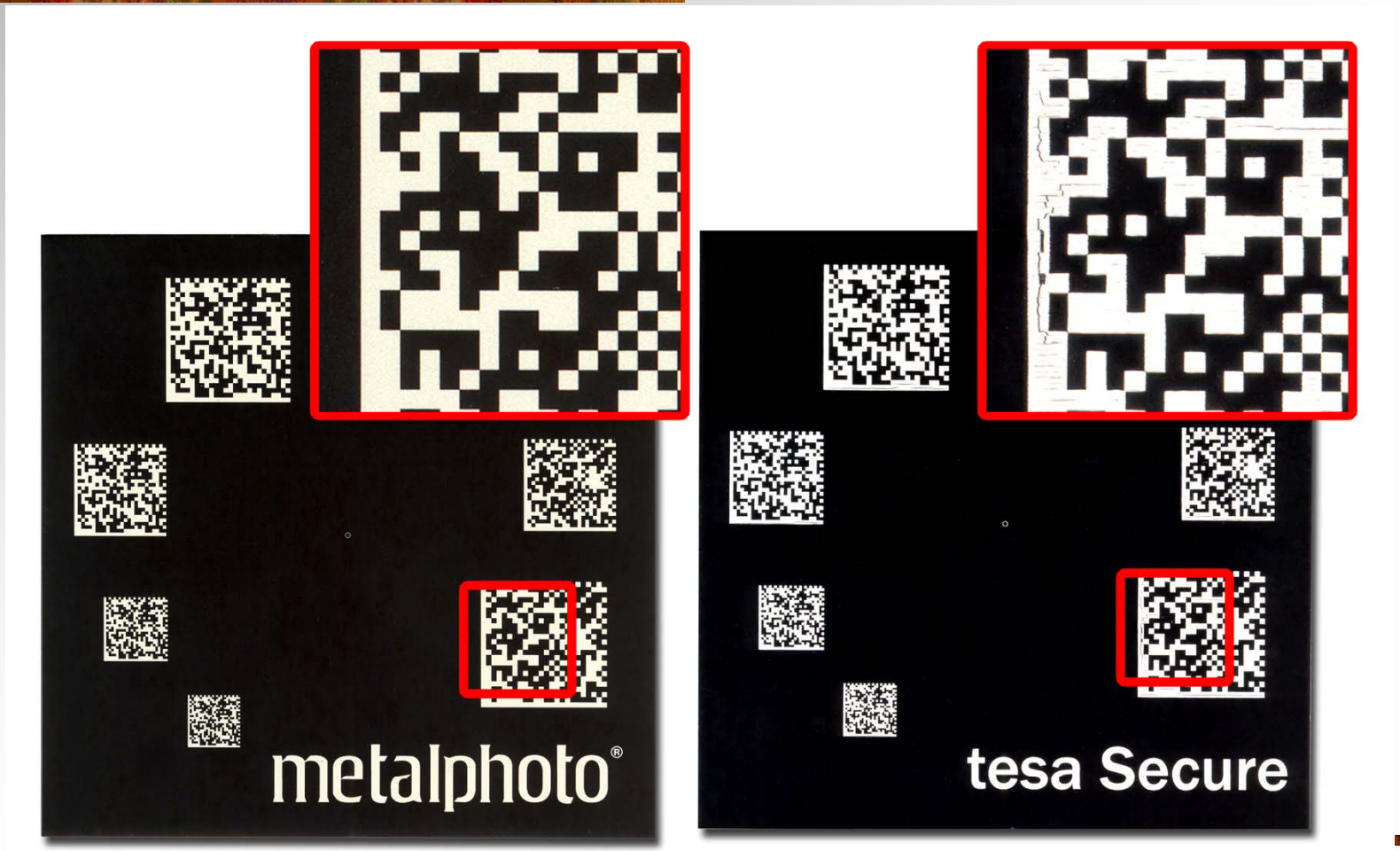
Test Results: High Temp



Test: Thermal Shock

- Modified MIL-STD-202, method 107, condition B (limited to 125C to –20C)
- After 6 cycles Tesa showed signs of background cracking
- After 9 cycles highly variable grades were obtained, A through F
- Metalcraft photo anodized nameplates (using Metalphoto®) were unaffected

Test Results: Thermal Shock



Summary

- Metalcraft photo anodized nameplates and labels are superior to Tesa material when exposed to adhesion, high temperatures, and thermal shock
- Tesa material requires some protection (i.e., laminate, top coating) in abrasive environments, which may further compromise performance

Conclusion

- Based upon the UID Specification, Business Rule 14, “The physical marks that contain the UII-required elements should remain legible until the item is destructed.” Metalcraft photo anodized nameplates and labels are the superior choice to meet this rigid standard.