Case Study: Kitz Ball Valve

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Context:

- Tecnocrom has coated 3 balls to a field test
  - Hexavalent Chromium (Cr^{6+}) coated
  - Electroless Nickel + Dry Lubricant coated
  - Savroc's trivalent chromium TripleHard® coated
- Application: Electronic recycling factory in Belgium
- Environment: Nitric acid (very strong) + elevated temperature 70-80 °C

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Cr^{6+} Coated Ball Valve

- During the process occurs some crystallisation between the ball and the seat
- Seat material is very hard ceramic (PIC)
- Crystallisation eats hard chrome coating
- Valve starts to leak
- There is a wear problem

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Electroless Nickel + Dry Lubricant Coated Ball Valve

- Nitric acid eats all electroless nickel
- Nedox coat spraying on top of electroless nickel
- There is a corrosion problem

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TripleHard® Coated Ball Valve

- According to the customer, TripleHard® is the best coating in that application
- Valve has worked more than 1,5 years in at the real environment field
- Both corrosion and wear resistance are really good