Distribution and Deviation of Shear Test Results of Thermally Sprayed Coatings
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**Aims**
- Comparison of characteristics of the shear test to the tensile adhesive test
- Determination of the best statistical description of shear test results for different coating materials
- Investigation of deviation in a shear test series

**Experiments**

Shear Test in accordance with DIN EN 15.340

- **Shear Test for thermally sprayed Coatings**
  - Key:
    - Hard coating
    - Semi hard coating
    - Soft coating
    - Adhesive

Typical Characteristics:
- Influence on the test results by:
  - Load
  - Exact hardening of the adhesive
  - Inadequate adhesive cohesion

Shear Load Resistance
- Simple and fast application of the test
- Low investments
- Few specimens necessary
- Influence on the test results by the adhesive possible

**Results**

- **Test series 316L**
  - 60 specimens
  - Mode of fracture 1

**Test series 316L HVOF**

- EDX – analysis
- SEM
- Coating removed completely
- Remains of the coating on the surface

**Conclusions**
- The shear test properties of thermal sprayed 316L are better described by Weibull statistic than by normal distribution
- Further work is necessary to evaluate if the shear test values of other thermal spraying materials can be described by the Weibull distribution
- The deviation of shear test values in comparison to the tensile adhesive test in accordance with DIN EN 582 has to be investigated