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## Deformation, Cracking and Formability of Zn-Al-Mg Coatings

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## Propositions

Accompanying the PhD thesis

### Deformation, Cracking and Formability of Zn-Al-Mg Coatings

Methodology, Optimization and Application

by

**Masoud Ahmadi**

1. Cracking is a gateway into the depth, into the unknown, into the adventure.

2. Mechanical behavior of materials is better understood once the microscopic level is correlated with the macroscopic one. (This thesis)

3. A novel quantitative methodology allows predicting the cracking extent of individual grains, and hence the entire Zn-Al-Mg coating. (Chapters 3 & 6)

4. The cracking tendency of Zn-Al-Mg coatings can be prevented only by fostering synergic solutions, i.e. controlling phases, crystallographic texture, grain sizes and coating-substrate combination. (This thesis)

5. The next-generation Zn-Al-Mg coatings are highly-formable during severe deformations. (Chapters 4, 5 & 6)

6. Without defects, one cannot shape a metallic coating, just as without them, one cannot shape one's self.

7. Reality uncovers itself in accordance with the depth and authenticity of one's questioning.

8. The world is given to us interpreted by language, yet the life experience transcends language.

9. Embracing dualities (e.g. chaos and order) and integrating the intertwined opposites bring about a holistic/lively harmony.

10. The fundamental essence of existence manifests bliss and joy, towards which each person carries a unique, bumpy and unconscious road.