

October 3, 2023

Tom Bell  
GMH Group  
Gröditz Forgings & ETE  
21660 W. Field Parkway  
Deer Park, IL 60010

Tom,

This letter is in regards to the one specimen of Schmiedewerke Gröditz - SWG 2343 VICTORY ESR (Grade D) H13 that was submitted for approval to the NADCA #207-2022 "Special Quality Die Steel & Heat Treatment Acceptance Criteria for Die Casting Dies".

Schmiedewerke Gröditz GmbH submitted 1 specimen to be tested to the NADCA #207-2022 Standard.

1) Type H11 – 2343 (Grade D) Din 1.2343 ESR Material

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The testing results were completed at Element labs, 194 International Blvd, Glendale Heights, Illinois 60139 and Case Western Reserve University. These results are attached to this document.

A summary follows.

Schmiedewerke Gröditz – 2343 VICTORY ESR, Din 1.2343

ASTM E45 - Microcleanliness – **Acceptable**

ASTM E112 Micro examination Grain size – 9.5 **Acceptable**

Charpy Values – at 76 °F, 15, 15, 13 – Average of 14.3 - **Pass**

ASTM E3-11 (17) – Banding – **Acceptable**, Structure – **Acceptable**

**ASTM E18-22 Hardness Test - Pass**

Fatigue Test (CWRU) – **Pass**

**Case Western Reserve University will provide a graph of results upon request.**

**Overall Evaluation - Pass**

If you have additional questions, Please let me know.

Regards,



Paul Brancalone,  
Executive Director of Research, Education and Marketing  
North American Die Casting Association