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March 21, 1945

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C. J. Banick, AED Class Officer

REPORT ON PRODUCTION TEST NO. 313-62-M

Date

Effect of Bar Position on Seating in the Canning of
Heavy Metal Slugs

Introduction:

The flow pattern in extruded bars varies considerably since the part extruded first is from the center portion of the billet, while the final extruded part consists of the highly distorted sides of the billet which have been deformed to pass through the die.

This test was carried out to determine whether slugs machined from different locations in the bars behaved differently as regards warp and/or not-seating of canned pieces.

Summary and Conclusions:

Slugs were obtained from the front, middle and tail of the extruded machined bars; front being defined as that part of the bar first extruded. Approximately 550 of each type of slug were used and the three types were canned on consecutive shifts.

The total number of not seated and warped slugs from the three types was not considered significantly different. The difference in the percentage of pickled rejects demonstrated that the butt ends of the rods at extrusion contains more pipes, holes, etc. than the front end.

The present practice of always machining the front end of the bars first should be continued since this will produce higher machining yields.

The study of not-seats and warps is being continued under Production Test No. 313-67-M.

The details of the test are listed below in Table I.

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TABLE I

	<u>Pieces from Front End of Extruded Rod</u>	<u>Pieces from Middle of Extruded Rod</u>	<u>Pieces from Tail (Butt) End of Extruded Rod</u>
Total Canned	406	486	382
Total Accepted	377	442	332
Pickle Rejects	7	---	25
Canning Rejects	29	44	50
Canning N.S. Rejects	16 N.S.	11 N.S.	16 N.S.
Final Insp. - N.S. Rejects	7	1	6
Total N.S. Rejects	23	12	22
Total % N.S. Rejects	5.66	2.47	5.76
Final Insp. - Warp Rejects	4	8	2
Total % Warp Rejects	0.98	1.65	0.50
Total % Warp and N.S. Rejects	6.65 *	4.12	6.28 *
Average weight of 24 Slugs (lb.) (each slug)	7.90	---	7.90
No. N.S. Rejects not entering Al Can after Recovery	9	10	---
% of Total	2.22	2.06	---

* No significant difference.

K. G. Jones, Chief Supervisor

R. C. Grills
R. C. Grills, Area Supervisor
Metallurgy

RCG/mb

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CLASSIFICATION

~~Confidential~~ UNCLASSIFIEDSUBJECT 1 ^{2 coh. Sept.} Report on Prod. Test No. 313-62-M - Effect of Bar position on Seating in The Canning of Heavy Metal Slugs.TO W. O. Simon-Mackey-Otto FROM R. C. GrillsNO. OF COPIES 9 SERIES A
Simon-Mackey - Dec. 1947 Metal Coating-
Wilmington - Dec. 1947 Prod. Tests Rpt. 313-62-M
1 Otto-700 File 700

**Copies 3A, 4A for retransmittal to FM Burns, duPont Co., Wilmington, Del., per Freitag's request of 6-22-51, filed 700 F6.346.

- 2 M. H. Wahl Rec. 3-28-45
- ** 2 AEC/HOO HR Freitag Receipt 6-28-51
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REMARKS

Ref: Prod. Test 313-62-M:
3-1569 2/8/45

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