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Morgan Construction Company Memo Re: Flingers

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MORGAN CONSTRUCTION CO.

MEMORANDUM

R. Smola

TO: As Noted
FROM: R.D. Wykes - H.E. Woodrow
SUBJECT: No-Twist Mill Flingers
6" and 8" Ferrous

DATE: 18 December 1970

As a result of rejection by inspection of a number of oil flingers and manufacturing problems encountered in achieving tolerances, a study has been made to see if the situation can be improved.

The first requirement is an operational one, in which the lip seals must always contact only the flat working face of the flinger throughout the entire working range.

Any specified degree of flatness outside of this range is superfluous and does not require tolerancing. This has resulted in the following decisions to be made:

1. Eliminate the taper on the thickness of the flinger lip and make the lip inside dia. 5.34" (6" ferrous) and 7.27" (8" ferrous, no change).
2. Decrease the corner radius at the junction of the flinger lip and working face to .02" rad.
3. Apply a .010" relief on the non-working face of the flinger, extending from the hub o. dia. to the flinger o. dia. thus confining the width inspection to the hub region only.
4. Eliminate the drawing note referring to the coating thickness.
5. Depth dimension from face of hub to flinger working face as follows:

Mill manufacturer (x+.006) to (x+.004)

Coating manufacturer (x-.001) to (x+.001)

where x is half the average compressed width of the seal.
For 6" and 8" Ferrous, $x = .285"$.

These tolerances will ensure a coating thickness of at least .003".

6. Flatness zone: On working face of flinger, flatness to be within .001" commencing .275" (6" Ferrous) or .200" (8" Ferrous) away from the hub o. dia. extending to the start of the inside corner radius of the flinger lip.

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5 3/4 O.D. x 3 1/4 I.D.
7 3/4 O.D. x 4 1/2 I.D.

7. Finishes:
Hub faces f₂, .010" relief f, working face before coating
f, working face after coating to be 30 rms brush finish.
8. Material:
Tubing CR. MO. 4130/4145 equivalent to Phoenix Steel Corp.
9. Heat Treatment:
280/320 BHN before machining.
10. Coating:
Working face to be coated with chrome oxide (union
carbide LC-4 or equivalent).
11. Protection:
Impregnate coating with waterproofing agent after
finishing of coating.

RDW/HEW/maf

cc: R.E. Fontaine
J.J. Wrightson
R. Smola
S. Ordog
M. Knott
M. Gilvar
Min. List (CSM)
Gen. File