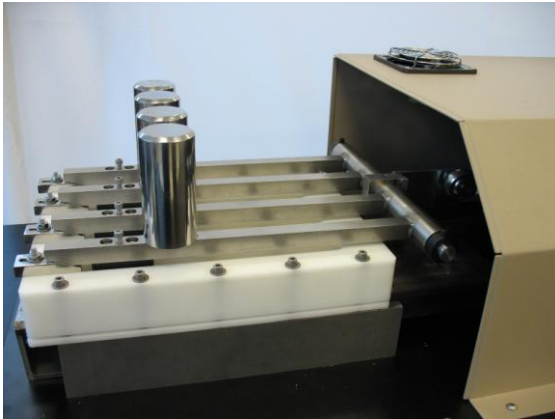




The Falex Miller Number Slurry Test Machine



The Falex Miller Number Slurry Abrasivity Test Machine develops data on the relative abrasivity of any slurry (Miller Number), or response of different materials to abrasivity of slurries (SAR Number). The machine meets the requirements of ASTM G75, Test Method for Determination of Slurry Abrasivity (Miller Number) and Slurry Abrasion Response of Materials (SAR Number).

Both Miller Number and SAR Number are the result of a standardized procedure, using a standard slurry or a set of standard Cr-steel wear blocks. The test duration is also prescribed. The test can be customized to evaluate less or more abrasive slurries, non-aqueous slurries, or the behaviour of different materials such as polymers or ceramics. Even coated wear blocks can be easily evaluated for their resistance against an abrasive medium.

The Miller Slurry Abrasion test has seen a recent revival with a number of slurry abrasion issues in various sectors of the industry. Although a very conventional test and design, the method has advantages over any other tribometer, in evaluating the abrasive action of a slurry against any given material. Thanks to the large stroke -moderate speed motion of the wear blocks and the lifting action at the end of each stroke, **constant refreshment and repeatability of the slurry is ensured**. The specially selected rubber bottom of the 4 parallel troughs holds the abrasive particles and creates a repeatable sliding action, but the large stroke provides a stirring action, refreshing the slurry automatically.

4 tests can be run in parallel, so repeatability can be easily assessed. The 4 troughs also allow a faster screening method to be developed, enabling parallel wear tests that increase efficiency and reduce cost per result.

Standard Test Method

ASTM G75

Standard Test Method for determination of slurry abrasivity (Miller Number) and slurry abrasion response of materials (SAR number)



Miller Number Slurry Key Features

- Electronic predetermining motor
- Constant refreshment and repeatability of the slurry
- Four-trough slurry container permits 4 tests running in parallel, permitting easy assessment of repeatability
- Repeatable introduction and refreshment of slurry abrasives in the contact, thanks to the particular geometrical design of the long stroke back- and forth moving wear blocks.

Options and Accessories

- Lap, Neoprene Molded (set of 4)
- Block Holder, Delrin

Test Consumables

- Wear Block, 27% Chrome Iron
- AFS 50-70 Sand for wear testing, 50 Lbs

Typical Test Result

Test Number : RS-2
Test Date : 12-3-1985
Project Description : Round Robin—Company B
Slurry Description : AFS 50-70 Test Sand
Slurry Concentration : D-2 Tool Steel
Wear Specimen : 27 % Chrome Iron SG: 7.5 61
Lap Material : MIL-R—6855 Class 2 Grade 80 Neoprene

Wear Specimen	3			4			Cumulative Loss	
	pH	Mass, g	4-h Loss, mg	pH	Mass, g	4-h Loss, mg	Average Actual mg	Best Fit, mg ⁴
Initial	0.0	15.5448	0.0	0.0	15.6316	0.0	0	0
After 4 h	0.0	15.5083	36.5	0.0	15.5953	36.3	36	37
After 8 h	0.0	15.4838	24.5	0.0	15.5665	28.8	63	63
After 12 h	0.0	15.4589	24.9	0.0	15.5436	22.9	87	85
After 16 h	0.0	15.4404	18.5	0.0	15.5278	15.8	104	105
Total			104			104		

⁴ Best Fit Mass Loss = (13.3259)*(HOURS)**(0.745846).

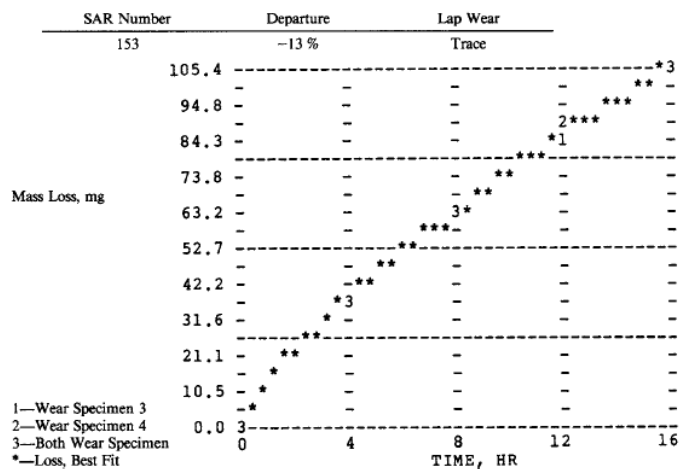


FIG. X1.8 Slurry Abrasion Response (SAR Number) Determination by Miller Number System—Test RS-2