



TH604 is a ceramic oxide core wire composed of aluminum and up to 46% by volume of ceramic oxides. This is a “patented” process, which allows for a high percentage of ceramic within an aluminum matrix.

The purpose of this wire is to provide a wear resistant surface to aluminum, steel and stainless steel that is long lasting and protects against corrosion while maintaining an average coefficient of friction of 1.1.

**USES:**

- Anti-slip coatings for pedestrian traffic and personnel safety on boat decks, flooring, steps, ladders, walkways, scaffolding, etc. Particularly steel and aluminum substrates subject to corrosion.
- Anti-skid coatings for car/truck ramps, forklift loading ramps, aircraft landing areas, or any application requiring both nonskid and corrosion protection.
- To control corrosion, wear, abrasion, and impact. When applied to a steel substrate this material will provide corrosion protection and wear resistance properties. It provides equal corrosion protection as that of pure aluminum and wear resistance far superior to that of any material presently known to have both these unique properties. Application environment could include river flow, water slurry, wind blown sand, tidal flows etc.

**APPLICATION:**

This material was developed for cost effective production application. It is available and stocked in 1/8” (3.2mm)

<u>APPLICATION</u>	<u>Bond Strength</u>	<u>Coverage ft<sup>2</sup>/lb</u>	<u>Coverage ft<sup>2</sup>/hr</u>
Anti-slip (aluminum)	2000 psi	6	350
Anti-slip (Steel)	2000 psi	3	240
Wear/Corrosion	2000 psi	2	140

- It is normally recommended to apply a sealer coat over a thermal sprayed coating that is applied to steel. The Anti-slip coating system will accept this sealer coating without degradation to the Anti-slip properties.
- The Ceramic Core material is applied with higher density to obtain the maximum wear for high surface contact areas.



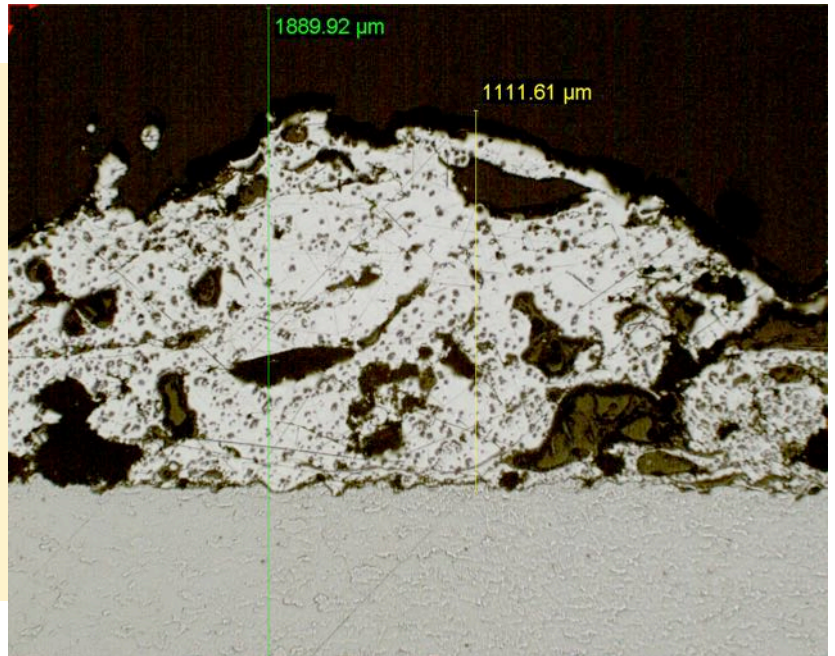
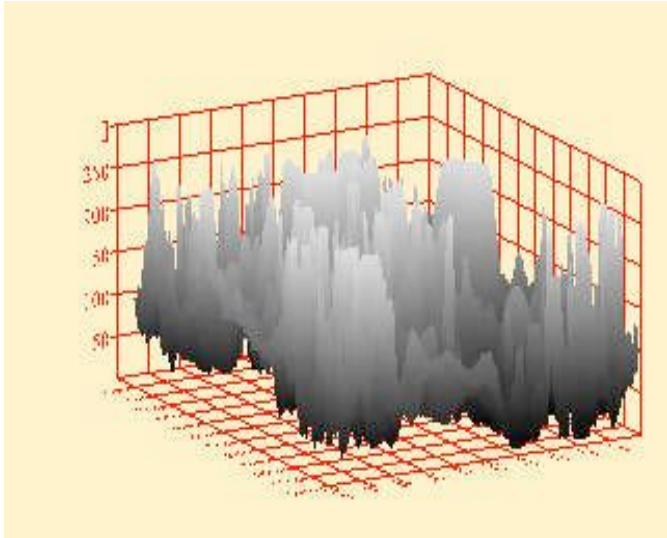
QUALITY ASSURANCE OFFICE  
Laboratory Division

Specification: MIL-STD-1687/UIPI 0074-902

Number of Samples: 6

COATING TYPE: TH-604 CERAMIC CORE WIRE ON Cfe NON SKID WITH ARC WIRE PROCESS

TEST NUMBER: TH604



**TENSILE TEST:**

SAMPLE NUMBER	BREAKING LOAD LBS.	TENSILE STRENGHT PSI	FAILURE LOCATION
1	1359	1730	COATING
2	1707	2173	COATING
3	1391	1771	COATING
4	1431	1822	COATING
5	1961	2497	COATING
6	1920	2445	COATING
Average Coating:	1628 lbs.	2073 psi	100% Cohesive Failure
Standard Deviation:	271 lbs.	346 psi	

REQUIRED BOND: 1500 PSI MINIMUM AND 2000 PSI AVERAGE MINIMUM

Bend Test:  
Bend Range: 180 degrees  
Bend Radius: ¼ inch

March 10, 2015

Project: 0689901  
Report: 0689901-4

Thermion  
P.O. Box 780  
Silverdale, WA 98383

**Re: Coefficient of Friction Testing (ASTM C 1028)**

This report documents the results of Coefficient of Friction Testing conducted on six (6) samples per ASTM C 1028

**Equipment used:** ASM 825 A (Slipmeter)

**Table 1: Static Coefficient of Friction Results (sample 1: TH-604 Grade 1)**

Measurement #	Wet, $F_D$	Average Wet, $F_D$	Dry, $F_W$	Average Dry, $F_W$
1	1.09	<b>1.09</b>	1.12	<b>1.14</b>
2	1.12		1.18	
3	1.06		1.08	
4	1.12		1.10	
5	1.14		1.15	
6	1.11		1.17	
7	1.01		1.14	
8	1.10		1.18	
9	1.06		1.17	
10	1.08		1.12	

**Table 2: Static Coefficient of Friction Results (sample 2: TH-604 Grade 2)**

Measurement #	Wet, $F_D$	Average Wet, $F_D$	Dry, $F_W$	Average Dry, $F_W$
1	1.09	<b>1.08</b>	1.14	<b>1.17</b>
2	1.04		1.21	
3	1.11		1.17	
4	1.07		1.22	
5	1.13		1.15	
6	1.09		1.18	
7	1.07		1.21	
8	1.10		1.10	
9	1.11		1.17	
10	1.03		1.18	

**Table 3: Static Coefficient of Friction Results (sample 3: TH-604 Grade 3)**

Measurement #	Wet, $F_D$	Average Wet, $F_D$	Dry, $F_W$	Average Dry, $F_W$
1	1.05	<b>1.07</b>	1.15	<b>1.13</b>
2	1.07		1.10	
3	1.04		1.16	
4	1.08		1.13	
5	1.09		1.10	
6	1.06		1.17	
7	1.07		1.12	
8	1.05		1.13	
9	1.08		1.09	
10	1.07		1.11	

We appreciate the opportunity to be of service to you. Should you have any questions regarding the contents of the report or if we may be of further assistance in any way, please contact us at (503) 289-1778 or (800) 783-6985, e-mail [sohana.tanju@psiusa.com](mailto:sohana.tanju@psiusa.com).

Sincerely,



Steve Moore  
 Laboratory Supervisor,  
 Mechanical Testing & NDE Services

Sohana Tanju, PhD  
 Department Manager,  
 Mechanical Testing & NDE Services

st:sm

Services performed for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar budget and time restraints. No warranty, expressed or implied, is made. The included test results apply only to the specific samples tested and may not represent the entire product. Reports may not be reproduced, except in full, without written permission of PSI.  
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**PERFORMANCE TEST REPORT**

Rendered to:

THERMION, INC.  
P.O. Box 780  
Silverdale, Washington 98383

Report No.: G2738.01-106-31  
Test Start Date: 09/26/16  
Test Completion Date: 09/27/16  
Report Date: 10/04/16  
Test Record Retention Date: 09/27/20

**Products:** SafTrax TH604 - Arc Sprayed Coupons (Grade 1, Grade 2, and Grade 3)

**Project Summary:** Architectural Testing, Inc., an Intertek company ("Intertek-ATI"), was contracted by Thermion, Inc. to evaluate the surface frictional properties of Arc Sprayed Coupons with three unique coatings. The product description, test procedures, and test results are reported herein.

Test Condition	Results (British Pendulum Number/PTV)
<b>Grade 1</b>	
Dry	<b>95</b>
Wet	<b>85</b>
<b>Grade 2</b>	
Dry	<b>94</b>
Wet	<b>90</b>
<b>Grade 3</b>	
Dry	<b>80</b>
Wet	<b>80</b>

**Test Method:** The test specimens were evaluated in accordance with ASTM E303-93 (Reapproved 2013), *Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester*.

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