

Alloy Technology

INTERNATIONAL, INC.

169 Western Highway
West Nyack, New York 10994
(914) 358-5900



Dear Plastics Engineer:

Are there metal parts in your extruders, injection molders, pelletizers, and granulators that wear out more frequently than you'd like, reducing your product output and costing you time and money?

If so, good news: Now there's a cost-effective method of doubling, tripling, even **quadrupling** the life of these wear parts, so that you'll have far **fewer** shut-downs ... and be able to run continuously for **much** longer periods: **Ferro-Tic**™.

Available exclusively from Alloy Technology, Ferro-Tic is a unique metal matrix composite that combines the **wear-resistance** of titanium carbide with the **toughness** of steel.

Ferro-Tic has a wear life five times greater than tool steel and superior dimensional stability.

At the same time, Ferro-Tic is stronger, more ductile, and more impact-chipping resistant than tungsten carbide, with greater lubricity.

By replacing troublesome wear parts with parts made from Ferro-Tic (or by metallurgically bonding Ferro-Tic to a tool steel or alloy substrate), we can dramatically extend the life of your critical wear parts.

Think about what a **difference** Ferro-Tic would make in your operation: Almost no shut-downs due to parts breakage. Longer operating life. Infrequent change-outs. Down-time reduced ...almost to zero. Your lines keep running and churning out quality plastic products, month after month. You save time and money, while increasing production levels — and profits — substantially.

You will also benefit in many other ways from the superior engineering characteristics of Ferro-Tic matrix composites. For example: Parts made from Ferro-Tic rotate more easily, so there's less wear. And less energy required to operate the equipment. Plus, Ferro-Tic maintains its dimensional tolerances beautifully under even the severest and most corrosive operating conditions.

What's the next step? We will gladly send more literature, and if that's what you want, then just complete and mail the enclosed reply card. But if you have a current wear problem, I recommend you call us toll-free at 800-431-1854 to arrange for a field inspection at your site.

One of our Plastics Industry Specialists will assess your operations and submit to you an Engineering Report outlining where and how you can best utilize Ferro-Tic or other special alloys (whether from Alloy Technology or another manufacturer) to extend the life of wear parts and improve equipment performance. The inspection and Engineering Report are **free!** And there is no obligation of any kind.

Sincerely,

Paula M. Slagle
Marketing Director

P.S. For more information or immediate assistance, call me toll-free 800-431-1854, Ext. 53.

Introducing Ferro-Tic[®]

**The Cost-Effective
Alternative to Tool Steel
or Tungsten Carbide
for Fabrication of
Longer-life, More
Wear-resistant
Parts for Plastics
Manufacturing Equipment**

What is Ferro-Tic?

Available exclusively from Alloy Technology, Ferro-Tic is a unique metal matrix composite that combines the wear-resistance, dimensional stability, and impact-chipping resistance of titanium carbide with the toughness and ductility of tool steel. In addition, Ferro-Tic can be designed and formulated to withstand specific corrosive environments.

Ferro-Tic dramatically extends the life of your critical wear parts.

Ferro-Tic has a wear life more than *five times greater* than tool steel.

Just imagine the difference Ferro-Tic can make in your plant! By fabricating wear parts from Ferro-Tic instead of tool steel, you multiply their operating life by a factor of 5 or greater! That means longer running time...and minimal down-time.

You save time and money — and increase production and profits.

We don't have to tell you how time-consuming — and costly — it is to shut down your line and change-out damaged wear parts.

With Ferro-Tic, parts wear out far less frequently. So shut-downs and change-outs are few and far between. You save time and labor, improve safety, and lower maintenance costs.

Your equipment keeps running smoothly and reliably, month after month, to keep your production levels — and your profits — high.

Ferro-Tic reduces energy costs while enhancing product quality.

Ferro-Tic is about half the weight of pure tungsten carbide, with a lower coefficient of friction than tungsten carbide or steel. As a result, less energy is required to move or rotate Ferro-Tic parts. In addition, Ferro-Tic maintains its dimensional tolerances beautifully, even under the severest operating conditions.

Choose the Ferro-Tic grade that best meets your process requirements.

Ferro-Tic metal matrix composites are available in a variety of grades capable of withstanding the most corrosive environments and temperatures up to 1,100° F. By adjusting the titanium carbide content and the type of matrix alloy used, we can tailor Ferro-Tic to meet your specific requirements for wear-resistance, ductility, corrosion, and toughness.

Ferro-Tic

GRADE SELECTION GUIDE

<u>GRADE</u>	<u>CHARACTERISTICS</u>	<u>TYPICAL APPLICATIONS</u>
SK	Superior toughness; excellent impact strength	Screw tips; underwater pelletizer knives; strand pelletizer dicers; rotor knives; pin hammers; ejector pins; core pins; bed knives
CM	Superior wear resistance; maximum hardness	Barrel liners; feed screw segments; screw tips; pelletizer die faces; pin ham- mers; barrel liners; extrusion dies; nozzles; sprue bushings; gates; alignment pins; side blocks; ejector pins; core pins; mold cavities; flash-area inserts; feed rollers; rotor knives; bed knives
MS-5A	Excellent corrosion resistance; good dimensional stability at high temperatures	Pelletizer die faces; underwater pelletizer knives

SK and CM bonded to H-13 steel, or MS-5A bonded to 15-5Ph composites, are also available for solving breakage problems or when the strength of steel is critical.

Fabricate the entire part from Ferro-Tic – or just its surfaces

In applications where using a part made from tungsten carbide alloy is not appropriate but you need greater lubricity than tool steel can provide, we can metallurgically bond Ferro-Tic to the wear surfaces of a piece of tool steel. This gives parts the strength, toughness, and ductility of pure tool steel combined with the unsurpassed wear-resistance of Ferro-Tic.

Put Alloy Technology's 30 years of know-how to work solving tough parts-wear problems in your plastics manufacturing operations today.

For more than three decades, Alloy Technology has been a leader in applying innovative metal matrix composites to solving industry's most difficult wear-problems.

Our Ferro-Tic metal matrix composites incorporate fine, rounded, slippery titanium carbide grains within a tough metal matrix.

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West Nyack, N.Y. 10994

ATTENTION:
**PLASTICS
MANUFACTURERS**

Are there metal parts in your single and twin-screw extruders, injection molders, pelletizers, and granulators that wear out more frequently than you'd like, reducing your output and costing you time and money?

Now there's a cost-effective method of doubling, tripling, even quadrupling the life of these wear parts, so that you'll have far fewer shut-downs — and reduce down-time virtually to zero....

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In its annealed state, Ferro-Tic is readily machinable with conventional equipment. When hardened, Ferro-Tic matrix composites offer a unique combination of lubricity, toughness, strength, and wear-resistance that conventional metals cannot provide.

The Next Step

If you have a current wear problem that's costing you time and money, or simply want to explore the possibility of extending equipment life and boosting production levels in your plastics manufacturing operations, call us toll-free at 800-431-1854 to arrange for a field inspection of your site.

One of our Plastics Industry Specialists will assess your operations and submit to you an Engineering Report outlining where and how you can best utilize Ferro-Tic or other special alloys (whether from Alloy Technology or another manufacturer) to extend the life of wear parts and increase the production output of current equipment.

The inspection and Engineering Report are free - no cost or obligation of any kind.

For your **FREE**
Engineering Inspection and Report



call toll-free

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*Ferro-Tic® is a registered trademark of
Alloy Technology International, Inc.*

Yes, I'd like to know more about how Alloy Technology can help us extend equipment life, minimize down-time, and increase productivity—and profits in our plastics manufacturing operations.

We would like a free assessment of our operations and a free Engineering Report on how we can utilize special alloys to extend the life of wear parts. Please call to arrange it.

Please send free technical literature on Ferro-Tic® titanium carbide metal matrix composites and how they are used to increase productivity and reduce down-time in plastics manufacturing.

Name _____ Title _____
Company _____ Phone _____
Address _____ State _____ Zip _____
City _____

MINI-QUESTIONNAIRE (optional).

Type of equipment you are running: single-screw extruders twin-screw extruders injection molders
 pelletizers granulators other: _____

Total number of machines you are running: _____

Have you ever had a wear problem with any of these machines? Yes No

☎ FOR IMMEDIATE SERVICE CALL TOLL-FREE 800-431-1854