

Solving Wear Problems

Cover photos courtesy of Grupo Mexico, Mexicana De Cobre – Copper mine and AES Cayuga, Lansing, New York, U.S.A.



From the very beginning, our founder Jake Townley was on the ground at the phosphate mines demonstrating to the maintenance crews the advantages of Towniprene® urethane to solve abrasion and corrosion wear of traditional metal or rubber in pumps, pipe, hydrocyclones and other high wear parts and fittings in this demanding mine service.

Townley has a unique position as a manufacturer of products. We produce specialty cast alloys, rubber hose and lining and cast Towniprene®, each having unique wear characteristics resistant to abrasion and corrosion. With the flexibility of three material technologies we can create effective solutions for our customers.

With more than forty-five years solving difficult abrasion and corrosion problems found in the transport of solids and slurry usually associated with mining and FGD scrubbed power plants, our skilled field representatives and technical back-up team have the experience to work with customers on-site examining wear parts and making recommendations.

We apply the right materials and designs to the problem, giving customers extended wear life and more utility. This reduces maintenance down-time and unplanned outages. In many cases we have improved output and efficiency with the resultant lowering the cost-per-ton or cost per kilowatt hour.

Whether at the pit, flue gas scrubber, in the plant or transporting tailings, we can provide wear solutions for items such as pumps, impellers, elbows, pipe, hose, valves, nozzles, pulley lagging, chutes, cyclones, tubes and many other wear parts.



Call or e-mail us and an experienced Townley Technical Sales Representative will work with you to specify the right “solution” for your application.

TOWNLEY

Engineering & Manufacturing Co., Inc.

1-800-342-9920 • info@townley.net

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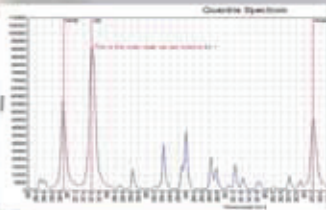
Foundry



With more than twenty-five years of foundry experience, Townley has created a systematic white iron and specialty stainless casting process that ensures predictable results with the high quality expected by our customers. With four induction furnaces capable of pouring up 10 tons of white iron, we consistently have some of the shortest lead times in the industry. We produce many alloys on a regular basis like High chrome HC-27, HC28, NIHARD4 and CM-22 (chromemoly) for abrasion resistance and HC-34, CD-4 MCU, GR4 and other alloys for better corrosion resistance.



We have thousands of patterns in stock, designed and constructed by master pattern makers methodically incorporating effective gating and riser systems to ensure void free metal when poured.



Molds are composed of resin-bonded sand blended in our high speed mixers. The molds are hand packed within the intricate pattern geometries and this skillful work results in precise alignment and dimensionally accurate finished castings.



High performance alloys require absolute control of the melt process and metal formulation. Using a "state of the art" spectrometer, we can ensure accuracy of the elemental composition. Representative melt retains are kept on file matching the casting serial numbers as part of our quality program. We pour castings from 150 pounds to 15,000 pounds on a regular basis. Many customers comment on the high quality aesthetics of the finished casting created by our proprietary mold preparation process.



After trimming risers and mold parting flash from the castings, most alloys are subjected to a gas fired heat treat cycle increasing the hardness in excess of 600 and 700 Brinell respectively for HC28 and CM22 alloys.



To ensure fit and finish of assemblies, each part is machined after heat treating. While more difficult, the machined surfaces remain true and ensure a perfect fit and finish. With a cadre of CNC vertical mills up to 240" throat, we can spin and machine pump shells up to 62" bore. Additionally, CNC threading has resulted in a 50% reduction in time over manual machining with an improvement in consistency.



Alloy Wear Parts

We cast hundreds of different alloy wear parts for slurry applications including ball mill chutes, cast elbows, coal pulverizers, clinker grinders, propellers, agitators, combining tubes, impellers and unique pump parts. Townley is noted for process improvements such as refined metallurgy, robust designs, reduced part count, or just moving lifting lugs for safety and convenience to the operator.

Sampling of Parts



CM22 Combining Tubes
for severe duty found in coal fired power plant's bottom ash discharge



HC28 Elbow with wear back for focused wear improvement



Flanged Elbow HC28



Rotary Coal Pulverizer Blades



CM22 Propeller for Slurry mixer



HC28 Ball Mill Chute



Often a customer will come to us with OEM parts that experience a repeating wear pattern. Our technical reps will examine the wear, review the feed and flow parameters and make recommendations for an alloy replacement part with improved design, including enhanced wear-back areas and lifting eyes to help with installation.

