

TONER TA-20

GRAIN REFINER, ACTIVATOR

TONER TA-20 is a low-cost grain refiner used in the rinse stage prior to zinc phosphatizing of metals. TA-20 tightens crystal formation which in turn minimizes heavy coating weights.

TONER TA-20 is also an activator which promotes coatings on difficult surfaces of both ferrous and non-ferrous metals

TONER TA-20 enhances finished product quality by providing a wider window of process capability and repeatable coatings.

Features & Benefits

- Easy To Control. Simple Dilution with Water. Non-chromated. (Can Be
- Considered For Use in Military Aluminum Process Spec (Mil C 5541 E)
- Operates at a Wide Chemical Use Range. (.25 - 5 % By Volume) Excellent Performance with Paints, Sealers, Adhesives and Powder Coating.
- Passivates Zinc and Iron Phosphate Coatings.
- Can Be Used in Spray and Immersion Applications.

Typical Processing

1. Preclean surfaces in detergent.
2. Rinse.
3. Treated rinse. TONER TA-20. .2 OZ/GAL., WARM 110-130 Deg. F.
4. Zinc Phosphate, Micron MP Series and others.
5. Rinse,
6. NCS Seal Rinse
7. Air dry off.

Specifications

pH	11
Prod._Type	Powder
Spec.Grav	0
LBS./GAL	0
FOAM 0=low 9=high	0
Shelf-life years:	N/A
Freeze information	N/A



Product Bulletin

Product Name: TONER TA-20
Product Code: 2202933
Revision Date: February 14, 2026

Packaging

Container Type	Fiber
Net Units	200
Tare Wt.	213
Gross Wt.	13
Dot_Name	Not Regulated by D. O. T.
DOT Hazzard	Not Regulated
Tariff ID	n/a

Use parameters

Concentration Range	.15-.75oz/gal.
Range	90-150 deg. F.
Time Range	30-90 seconds
Agitation	spray or tank air, or mixer Other Information

Other information

It is important that the **OSHA DATA, "Material Safety Data Sheet"** be carefully read and reviewed with the users of this product. OSHA data is required to be posted in the work area by law.

Waste Disposal

Neutralize pH to acceptable range, per local regulations.

Holding Tank Materials of Construction

Steel, Stainless or Poly.



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Testing, Operating & Troubleshooting Data

Titration Procedure (Target Range 1/4 - 1.0 Oz. Per Gallon)

- (1) Take A 50 MI Sample
- (2) Add 3-5 Drops of Indicator #1 (phenolphthalein Indicator)
- (3) Titrate Using 0.1n Acid Until the Color Changes from Pink to Colorless
- (4) The Number of Mls Required Multiplied by a Factor Of 0.17 = Oz/gallon

Note: Grain Refiners Must Have Mild Agitation in The Process Solution.

Ph: Target Range Of 8 - 10 (Updated 2-2015)

Optional Phosphate Color Test: (2/06)

A 1 Gram Per Liter Solution Will Produce 30 Ppm of Phosphate

A 1 Gram Per Liter of Toner Ta-10 Will Produce ~ 30 Ppm of Phosphate.

Conductivity: Can Be Used as a Backup Test When Concern of Carry Over from Poor Rinsing Is a Concern.

Temperature: See Comments Below. Wide Temperature Range Can Be Used Depending on Process Type.

Contact Time: See Comments Below. Wide Contact Time Can Be Used Depending on The Process Type.

100% Surface Wetting Is Critical.

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Comments On Use Rate: (11-2013 / Ros)

Typical Use Concentration Range Is: 1/4 - 1 Oz / Gallon.

- 1) High Speed Sheet Lines with Short Contact Time (< 15 Seconds) Should Target The 1/2 - 1 Oz/ Gallon.

Note: Immersion Baths (Conveyor, Hoist, Rack Systems) Can Typically Use Lower Use Rates.

- 2) It Is Important That Spray Headers Are Maintained to Assure Of 100% Coverage (Flooding) Of Surfaces.

Note: Whirl Jet Nozzles Could Be Considered To Achieve Maximum Surface Wetting And Even Coatings.

- 3) The Grain Refiner Works On Contact With The Metal Surface.

A. 100% Wetting Of The Surface Is The Critical Concern When Applying Grain Refiner.

(Poor Wetting Of The Entire Surface Is Cause For Blotchy Coatings, Streaks And Random Crystal Size / Variance) B. Longer Exposure Times Do Not Necessarily Provide Finer Coatings.

100% Surface Wetting (Flooding) Is the Critical Concern When Using the Grain Refiner.

C. Temperature Of the Bath Relates to Obtaining a Warm Surface Going into The Zinc Phosphate. Cold Incoming Metal Could Lower the Temperature of The Zinc Phosphate Bath.

Re: Ambient Grain Refiners Can Be Used Where Necessary with Very Good Results.

- 4) Process Baths Must Be Inspected Regularly to Assure of Clean Pipes and Nozzles.
- 5) Agitation Of the Bath Is Critical. Grain Refiners Are Dispersions and Poor Agitation Can Allow Active Materials to Settle and Not Contact the Metal Surface. Educators, Mixers, Are Ideal for This Type of Bath.

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Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**¹³⁶.

