



**BY NOT PAINTING OUR
CONSTRUCTION CASTINGS**



NEENAH

**CAN PAINT A BRIGHTER PICTURE
FOR OUR CUSTOMERS
AND OUR ENVIRONMENT**

READ ON TO LEARN WHY PAINT IS NOT NECESSARY

NEENAH FOUNDRY UNPAINTED CASTINGS

You may have noticed that Neenah Foundry recommends that construction castings be furnished unpainted. We made the decision to furnish our products unpainted because it makes good sense. Good sense for our environment and good sense for our customers.

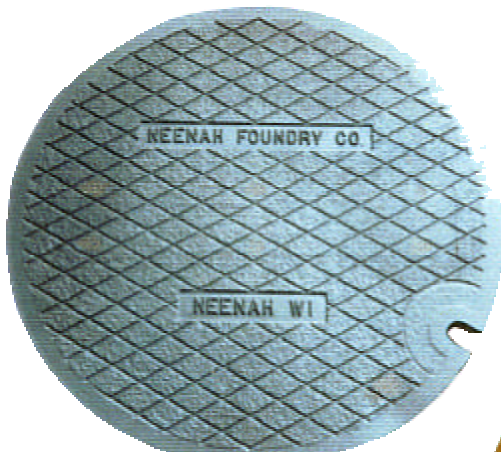


Figure 1
New casting prior to exposure to moisture

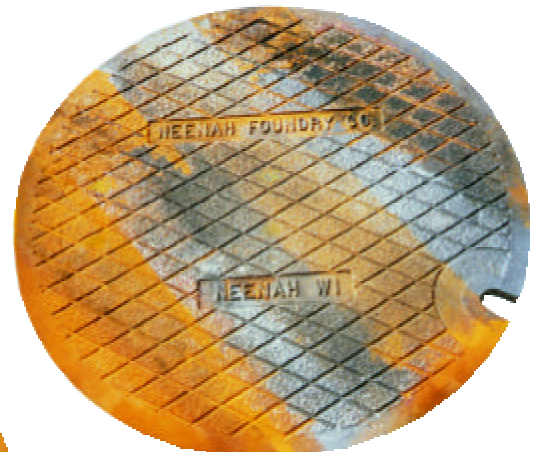


Figure 2
Casting after partial exposure to wetting



Figure 3
Full surface oxidation after complete wetting



Figure 4
Black oxide begins forming. Approximately 1 to 2 months.

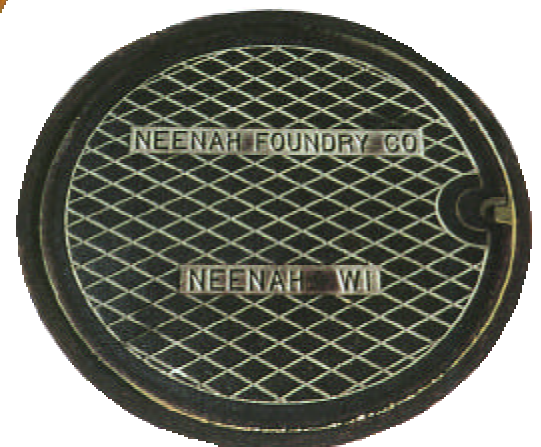


Figure 5
Dark iron-oxide silicate scale and subscale retards further oxidation. (approximately 6 months)

Paint is not necessary to protect construction castings.

At best, it can only provide a temporary deterrent to corrosion. By nature, gray iron, with its high concentrations of carbon and silicon, provides substantial corrosion resistance. The Iron Castings Handbook discusses this in detail. The Paragraph entitled "Subscale Formation" reads:

- ★ "When a raw iron surface is exposed to moisture and air, a typical orange-brown hydrated oxide (limonite) rapidly forms." **(Figure 2 and 3)**
- ★ "With continued exposure, a black oxide forms on the surface" **(Figure 4)**
- ★ "The presence of silicon in the iron causes the formation of a dense, adhering, iron-oxide silicate scale and subscale which retards further oxidation." **(Figure 5)**
- ★ "The subscale can essentially stop further corrosion."
- ★ "In many applications, cast iron that is otherwise unprotected has served for many decades."

Reasons why **NEENAH** promotes unpainted castings.

- ✓ **Paint is not necessary** and does not provide any long term benefits to construction castings. The process is often used to hide defects. Blow holes and other manufacturing imperfections can be disguised with putty allowing for the paint coating to conceal defects in the casting.
- ✓ **NEENAH is proud of our reputation for quality.** We want our customers and specifiers to see what they are buying. When you purchase unpainted castings from **NEENAH**, our quality is there for you to see.
- ✓ **Asphalt base paint contacts volatile organic compounds or VOCs.** These compounds contribute to “air pollution” by introducing VOCs into the air that we all breathe. The casting painting process releases significant volumes of VOCs into our atmosphere. They react with nitrogen oxides in the presence of sunlight and heat, contributing to lower ozone levels.
- ✓ **Even water based asphalt paint systems emit volatile organic compounds (VOCs)** and leave residues that are considered hazardous waste.
- ✓ **Protection of our environment.** **NEENAH FOUNDRY** decided to eliminate unnecessary painting in an effort to do our part towards preserving our environment for future generations. Just like municipalities and states that have instituted recycling programs, we at **NEENAH** are committed to doing our part. After all, protecting the environment is a responsibility we all must share.
- ✓ **Concrete adheres best to unpainted castings.** AASHTO (American Association of State Highway and Transportation Officials) specifically prohibits the use of paint on gray iron castings and specifies that surfaces of metal structures in contact with concrete be unpainted. When concrete comes in contact with cast iron, the concrete bonds with the cast iron. When concrete comes in contact with painted cast iron, the paint creates a barrier to bonding.
- ✓ **“A Guide to Standardized Highway Drainage Products”** was prepared by Task Force 13, a joint venture between AASHTO, AGC (Associated General Contractors) and ARTBA (American Road and Transportation Builders Association). The directive from this group is that painting of castings is not allowed.

NO PAINT CHECKLIST

DO NOT PAINT

- If environmental protection is a concern. *(The painting process emits VOCs into the environment.)*

- To allow concrete to properly adhere to the castings. *(Paint creates a barrier to adhesion.)*

- To visually inspect the quality of the castings. *(Painting hides manufacturing defects.)*

- To meet AASHTO Specification M-306, 4.3.3 “Painting, welding, plugging - not allowed.”



P.O. BOX 729, NEENAH WI 54957
TELEPHONE: 920-725-7000
TOLL-FREE: 800-558-5075
FAX: 920-729-3661
<http://www.NFCO.com>