

# Preserving Metalwork at the Legislative Assembly of Ontario

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How do you preserve several tons of decorative metalwork in a huge, busy historic building with a miniscule maintenance budget?

With a sustainable program!

- Off-the-shelf products
- Simple instructions
- Training
- Work within the system (staff, schedule, etc.)

## Metals and finishes

- Cast iron, bronze plated and painted
- Wrought iron, bronze plated and painted
- Cast bronze, tinted varnish and painted
- Bronze sheet, natural patina
- Rolled brass, no coating on original; lacquer on reproduction

## Condition issues

- Disfiguring polish residues
- Stained and etched surfaces (the culprit: Met-all)
- Uneven removal of protective coatings
- Chipped, scratched and worn paint
- Poorly executed paint touch-ups
- Corrosion products related to wet mopping, spilled liquids and ice-melting salts
- Fingerprints



Legislative Assembly of Ontario, Toronto



Grand Staircase, cast iron



Legislative Chamber, brass



Tripartite lamp, bronze



Grand Staircase, cast and wrought iron



West Staircase, cast and wrought iron



Bronze lantern



Brass handrail, Met-All polish residue



The culprit

## Polishes tested on brass & bronze

- Nevr-Dull Magic Wadding Polish (George Basch Company Inc.)
  - Non-acidic, mechanical action only, no paste residue, mild abrasive, least danger of harmful residues, best for polished brass in this context
- Hagerty Silversmiths' Polish (Hagerty USA)
  - Non-acidic, mechanical action only, mild abrasive, not the first choice for any of the LAO metalwork
- Pre-Lim Surface Cleaner (Picreator Enterprises Ltd.)
  - Non-acidic, mechanical action only, gentle abrasive, best for removing corrosion spots from bronze paint
- Renaissance Metal De-corroder (Picreator Enterprises Ltd.)
  - Amine complex, pH 4.0, water-based, best for bronze with remnants of unknown varnish and for removing Met-All polish residue from brass handrails
- Met-All Brass and Copper Polish (Met-All Industries)
  - Composition unknown, pH 2.0, highly reactive, damaging residues
  - This was the polish that staff had been using.



Polish residues on pennies (copper alloy) after 24 hours – a persuasive visual aid



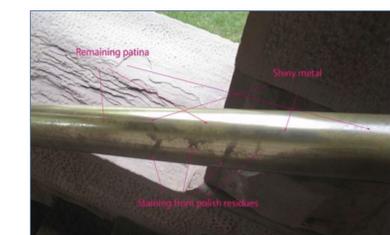
Polishing tests on reproduction brass door hardware

## Maintenance plan

- Location plan with photographs
- Preventive measures
- General cleaning advice
- Simple cleaning and inpainting instructions for individual elements, one sheet per element
- Product and supplier information
- Treatment forms
- Cleaning schedules (daily, weekly, monthly, quarterly, as needed)



Tests to remove polish residue from bronze castings



Renaissance Metal De-corroder used to remove polish residue from brass handrail

## Results

- Cleaners are happily using recommended polishes; Met-All has been banished
- No perceived benefit to waxing brass door hardware and handrails; rails still require frequent wiping with microfiber cloths to remove fingerprints
- Preventive measures have not been broadly adopted



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