

MINOR REPAIRS—STEEL-FRAMED DOORS AND WINDOWS

Steel-framed windows and doors, properly maintained, can be expected to last the life of the building. This technical note identifies the minor repairs approved under the General Exemption Certificate—Queensland Heritage Places to conserve them.

Background

Generally the condition of steel-framed windows and doors is rarely as bad as first appearances may suggest. Their deterioration and failure to operate properly is often a consequence of lack of maintenance. With a rigorous assessment of their defects, and establishment of an appropriate repair strategy, it is usually possible to retain the windows and doors rather than replace them with less appropriate ones.

Repairs under General Exemption

Repairs that may be undertaken to steel-framed windows and doors under the General Exemption are limited to in situ repairs to rectify corrosion.

Strategy

In developing a repair strategy for steel-framed windows it is important to:

- understand the original installation method
- undertake a sample repair.

Corrosion

If corrosion is light to moderate and generally restricted to isolated locations undertake in situ repairs. The window or door can usually be put back in good order by:

- removing the glass and putty
- abrading, filing or grinding off rust down to bright metal
- applying a good zinc-rich primer
- reglazing and building up the paint finishing coats
- ensuring a watertight paint seal between putty, glass and frame.

Painting

Repainting involves removal of excessive paint build-up, preparation of the substrate (using scrapers and sandpaper in the usual way) and finishing with an appropriate exterior coating system in original or existing colours.

Paint removal

Care should be taken so that coatings are not removed unnecessarily as over-enthusiastic removal might also remove the original factory-applied protective coatings and the loss of the coatings history. Also consider the potential for damage to walls, frames and glass by errant tools. Earlier coatings are likely to contain lead and will require controlled removal.

Paint application

Under General Exemption painting must be undertaken in the existing scheme or a scheme that has been previously approved for the place.

Defective face putty

Defective face putty should be removed and replaced with new steel window glazing putty. Localised corroded steel exposed after removal of putty should be cleaned back to base metal, followed by rust treatment and painting prior to replacement of putty. Note that new steel window face putty cannot be painted over until four weeks after installation.

Hardware

Remove, refurbish and reinstate the existing handles stays and catches as necessary to maintain its function.

Good practice

Good practices to adopt when undertaking repairs to metals include:

- retaining as much of the existing material as possible by repairing, reinforcing and consolidating rather than renewing
- using reversible processes wherever possible
- using additional materials to strengthen, reinforce, prop, tie or support
- using traditional materials and techniques wherever possible—new work should be distinguishable from old on close inspection by a trained eye
- making a record of the element or area before, during and after work.

Keep records

Record all repairs, replacements and additions made to steel-framed windows and doors.

Maintenance and cleaning

Regular maintenance of steel-framed windows and doors will do much to ensure their trouble-free performance. Maintenance should include:

- an annual inspection of working parts, gasket weather seals and joint sealants as glazing putties, mastics, gaskets and sealants are subject to degradation by exposure to weather—annual inspections can anticipate many problems before they occur
- washing down the frames when the glass in the windows is cleaned
- cleaning out the drain holes in the outer frame sill channels (sill channel drain holes can become clogged with paint, grime or insects) keeping them open to ensure that the windows maintain designed weather performance
- lubricating hinges and pivots at yearly intervals—if seized up, they should be doused with a penetrating spray (e.g. WD40) and gently worked free (lubrication is not recommended for friction types in case they swing too freely without restraint)
- checking handles, stays and catches for proper operation—lightly oil, wax or grease as necessary.

Common defects

Defects likely to be encountered in steel-framed windows and doors include:

- windows or doors that cannot be opened or closed properly—usually caused by paint build up or malfunctioning hardware
- sashes out of alignment or distorted—often caused by excessive paint build-up or damaged hinges
- air leakage due to loss of contact between the frame and opening sashes—air gaps lead to noise problems and air conditioning and heating difficulties
- corrosion of various framing members is usually caused by lack of paint on components exposed to the weather, however, corrosion of sill members in particular can be caused by blockage of drain holes by paint build-up and collected detritus
- cracked glass—if painting has been neglected rust may have set in, often unseen beneath the putty in the glazing rebates. Cracked glass is often an indication of corrosion
- brittle, dried out or missing face-putty—usually caused by lack of maintenance painting
- missing sections of the window or door—crude modifications are often undertaken for the installation of window mounted air-conditioning units
- missing, stiff or rusty hardware—usually due to lack of simple maintenance.

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