

STEEL SURFACE FINISHING STANDARDS

SA1

BRUSH-OFF BLAST CLEANING

Removal of loose mill scale, loose rust and loose paint, to a degree hereafter specified, by the impact of abrasives propelled through nozzles or by centrifugal wheels. It is not intended that the surface shall be free of all mill scale, rust and paint. The remaining mill scale, rust and paint should be tight and the surface should be sufficiently abraded to provide good adhesion and bonding of paint. A brush-off blast cleaned surface finish is defined as one from which all oil, grease, dirt, rust scale, loose mill scale, loose rust and loose paint or coatings are removed completely but tight mill scale and tightly adhered rust, paint and coatings are permitted to remain provided that all mill scale and rust have been exposed to the abrasive blast pattern sufficiently to expose numerous flecks of the underlying metal fairly uniformly distributed over the entire surface.

SSPC-SP-7	Steel Structures Painting Council (USA)
SA 1	Swedish Standards Organisation
NACE 4	National Organisation of Corrosion Engineers (USA)

SA2

COMMERCIAL BLAST CLEANING

Removal of partial mill scale, rust, rust scale, paint or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels, to the degree specified. A commercial blast cleaned surface finish is defined as one from which oil, grease, dirt, rust scale and foreign matter have been completely removed from the surface and all rust, mill scale and old paint have been completely removed except for slight shadows, streaks, or discoloration caused by rust stain, mill scale oxides or slight, tight residues of paint or coating that may remain if the surface is pitted, slight residues of rust or paint may be found in the bottom of pits at least two-thirds of each square inch of surface area shall be free of all visible residues and the remainder shall be limited to the light discoloration, slight staining or tight residues mentioned above.

SSPC-SP-6	Steel Structures Painting Council (USA)
SA 2	Swedish Standards Organisation
NACE 3	National Organisation of Corrosion Engineers (USA)
3rd Quality	United Kingdom Standards (BS 4232)

SA2 1/2

NEAR-WHITE BLAST CLEANING

Removal of nearly all mill scale, rust, rust scale, paint, or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels, to the degree hereafter specified. A near-white blast cleaned surface finish is defined as one from which all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint or other foreign matter have been completely removed from the surface except for very light shadows, very slight streaks or slight discolorations caused by rust stain, mill scale oxides, or light, tight residues of paint or coating that may remain. At least 95% of each square inch of surface area shall be free of all visible residues and the remainder shall be limited to the light discoloration mentioned above.

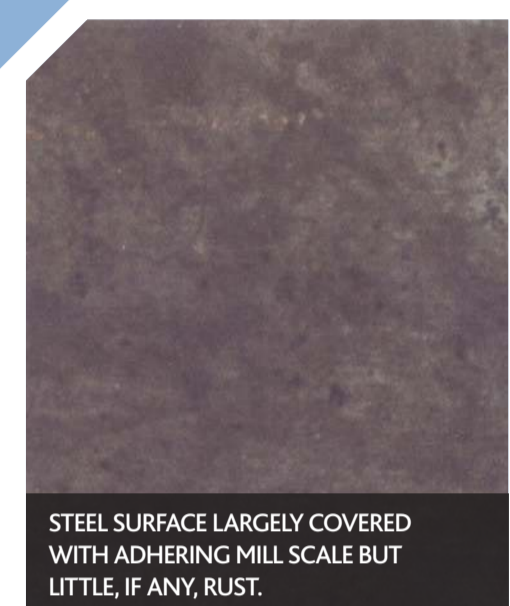
SSPC-SP-10	Steel Structures Painting Council (USA)
SA 2-1/2	Swedish Standards Organisation
NACE 2	National Organisation of Corrosion Engineers (USA)
2nd Quality	United Kingdom Standards (BS 4232)

SA3

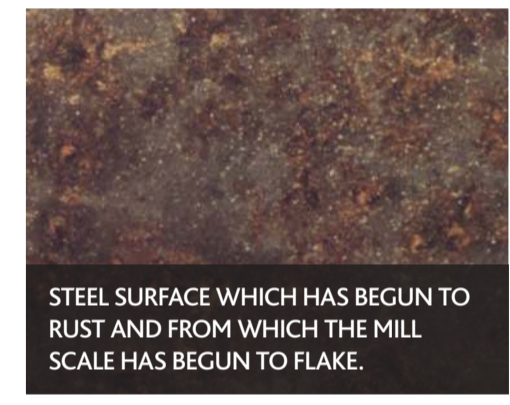
WHITE METAL BLAST CLEANING

Removal of all mill scale, rust, rust scale, paint or foreign matter by the use of abrasives propelled through nozzles or by the centrifugal wheels. A white metal blast cleaned surface finish is defined as a surface with a grey-white, uniform metallic colour, slightly roughened to form a suitable anchor pattern for coatings. The surface, when viewed without magnification, shall be free of all oil, grease, dirt, visible mill scale, rust, corrosion products, oxides, paint, or any other foreign matter.

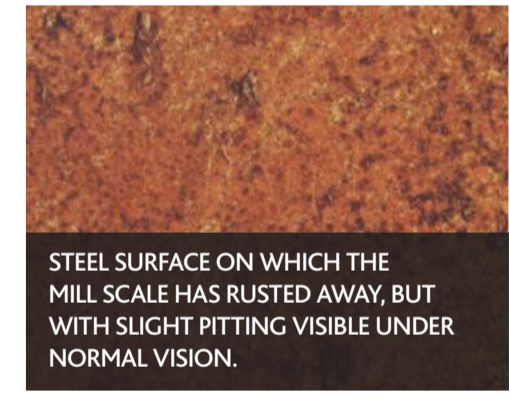
SSPC-SP-5	Steel Structures Painting Council (USA)
SA 3	Swedish Standards Organisation
NACE 1	National Organisation of Corrosion Engineers (USA)
1st Quality	United Kingdom Standards (BS 4232)



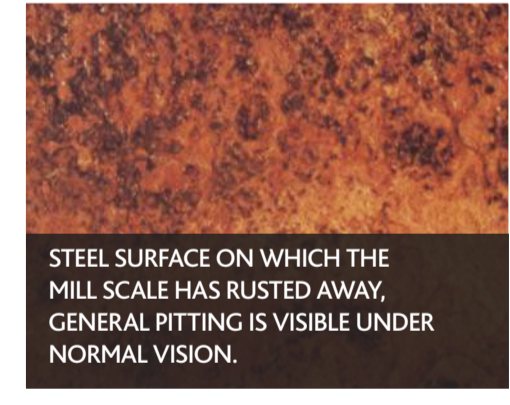
STEEL SURFACE LARGELY COVERED WITH ADHERING MILL SCALE BUT LITTLE, IF ANY, RUST.



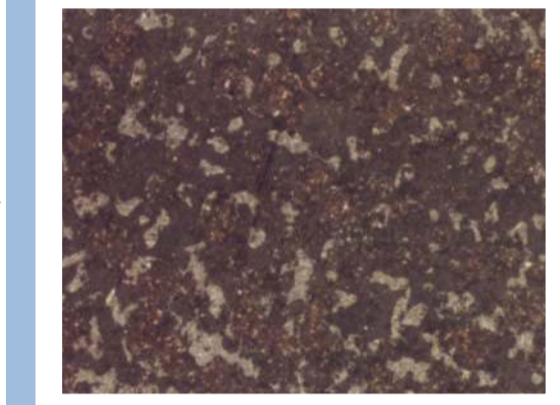
STEEL SURFACE WHICH HAS BEGUN TO RUST AND FROM WHICH THE MILL SCALE HAS BEGUN TO FLAKE.



STEEL SURFACE ON WHICH THE MILL SCALE HAS RUSTED AWAY, BUT WITH SLIGHT PITTING VISIBLE UNDER NORMAL VISION.



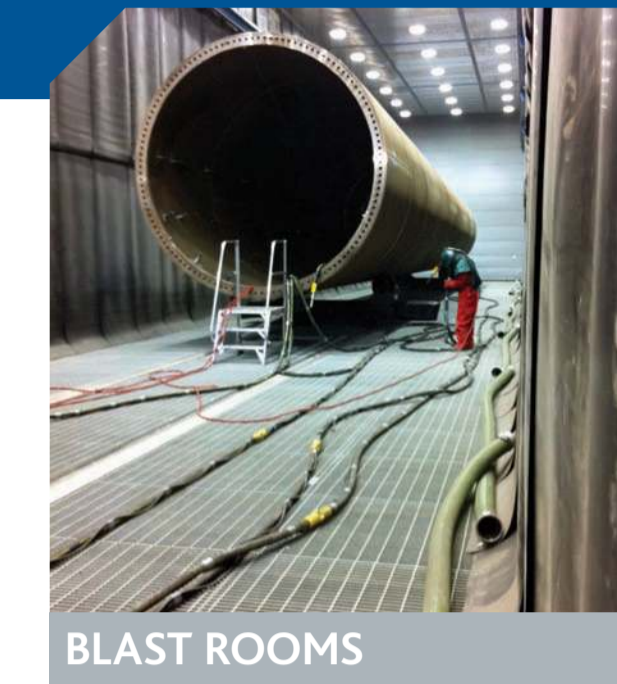
STEEL SURFACE ON WHICH THE MILL SCALE HAS RUSTED AWAY, GENERAL PITTING IS VISIBLE UNDER NORMAL VISION.



FOR ALL YOUR BLASTING...



SITE DUST COLLECTORS



BLAST ROOMS



CABINETS



BLAST MACHINES



SITE GRIT RECOVERY



SPRAY BOOTHS

...AND SPRAYING NEEDS



WIWA PROFESSIONAL



WIWA DUOMIX PFP

UK SUPPLIERS OF WIWA



WIWA GUN



WIWA AIR ASSISTED / AIRLESS PACKAGES



WIWA FLEXIMIX TWO COMPONENT SYSTEMS

ACHIEVING THE BEST FINISH

THE ORIGINATING SURFACE CONDITION OF STEEL IS:

- ▶ Steel surface largely covered with adhering mill scale by little, if any, rust.
- ▶ Steel surface which has begun to rust and from which the mill scale has begun to flake.
- ▶ Steel surface on which the mill scale has rusted away or from which it can be scraped, but with slight pitting visible under normal vision.

▶ Steel surface on which the mill scale has rusted away and on which general pitting is visible under normal vision.

SURFACE CLEANLINESS IS DIVIDED INTO FOUR GRADES:

- ▶ SA 1 Brush off.
- ▶ SA 2 Commercial.
- ▶ SA 2-1/2 Near white metal.
- ▶ SA 3 White Metal.

The finish surface achieved by abrasive blast cleaning depends upon the original surface condition as well as the type of abrasive blasting equipment, size, hardness, type and abrasive shape.

Besides cleanliness of the steel, consideration needs to be given to the etch or profile roughness created by the impact of the abrasive on the steel surface.

THE SUBSTRATE PROFILE IS REGULATED BY:

- ▶ Shape, type and grading of abrasive.
- ▶ Blasting method and velocity of abrasive impaction.
- ▶ Steel condition prior to blasting.

The etched profile of the surface enables adhesion of the protective paint coatings. If the level at which this is achieved is too severe it will cause a waste of paint. If too light, it may cause a lack of adhesion.

The best method of obtaining a profile specification is to ensure the correct blasting equipment and method are combined with the correct abrasive. Once these requirements have been decided upon, the selection of method, equipment and training of personnel should be instigated.

Equipment used for surface preparation must be extremely reliable and simple to use. Operation information and training should be up-to-date.

Airblast has become the industry standard for manufacturing and supplying surface finishing equipment worldwide through a network of branch-offices as well as distributors.

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