

Specification of Platicizer.

Specification : Conforms to ASTM C – 494 TYPE A: IS 9103:1999

Usage : At Location with congested reinforcement, thin slender section or any other location, where improves workability is required.

For Pumped concrete as it improves the lubricating properties.

Roof slabs for both residential as well as industrial buildings.

Medium to low grade concrete to improve the cohesively.

Water retaining structure.

Method of application :

Add requires quality of plasticizer / water reducing agent either directly to the wet concrete mix in the concrete mixer under operation or along with gauging water.

Dosage : - 350 ml per 50 kg of cement, for best result conduct site trial.

Providing and Laying acrylic modified cementation composite coating system in two coats. 1st coat shall be acrylic polymer and cement and 2nd coat shall be of acrylic polymer, cement and silica sand. The application of both the coats shall be as per manufacturer's manual on terrace.

=====

Usage:

It is usage with cement to form polymer modified cementations composite (PMCC). In addition, if used with varying of silica / quartz sand produces PMC brush topping. PMC filler and PMC mortar. All the above material are extensively used for waterproofing and strengthening of external surface to prevent ingress of water.

Method of Application:

To Produce a PMC mix whether slurry, brush topping or mortar, requires quantity of Tape create P151 is to be mixed with proper amount of other material. The recommended ratio is 100 parts of OPC 50 parts Tape create P151. The PMC material is placed on the surface to be treated after wetting the surface to saturation but without any free water. The curing of PMC material is only nominal and required for maximum of 4 days starting one day after the application.

Dosage.

Covering capacity (Mix proportion) for tape create P151 coating / slurry: 100 Kg. Cement: 52 Kg Tape create Polymer.

Mode of Measurement:

The Rate includes labor charges for cleaning slab any other surface to applying coat. The rate shall be paid per 01 sqmt. for the work done.

Item No. : 34

Steel work, welded in built up sections framed work fabrication & erection including cutting, hoisting, fixing in position and applying a priming coat of paint. in beams and joints, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purling connected to common rafters and the like. Rate is inclusive of welding with grinding and applying of mild steel putty into groove to have smooth surface, two coats of oil paint and one coat of yellow zinc chromate primer coat of approved brand only. Oil paint shall be Luxol Enamel paint of Berger paint India limited or Asian paint Apcolite premium gloss Enamel of Asian paint or Dulux premium gloss Enamel of Dulux paint and Nerolac Synthetic Enamel of Nerolac Paint for all floor and at any height only.

Material:

All Structural Steel should be as per to IS: 226-1975. The Steel shall be free from the defects mentioned in IS: 226-1975 and shall have a smooth finish. The material shall be from loose mill scale, rust pits or other defects affecting the strength and durability. Round bars shall conform to IS: 1148-1973.

When the steel is supplied by the contractor test certificate of the manufactures shall be obtained according to IS: 226-1975 and other relevant Indian standard.

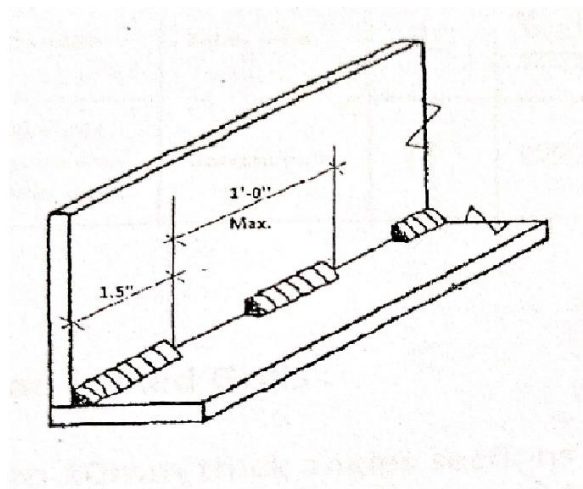
Workmanship:

The Steel work, welded in built up sections framed work shall be prepared as per the drawings and installed as directed. The Steel work, welded in built up sections. shall be fabricated to the consigns and patterns shown in the drawings and the weight shall be directed and the joints shall be welded as shown in the plan of as directed. In beams and joints, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purling connected to common rafters and the like.

The joints shall be welds in following manners/ as shown in the drawing of as per IS 816-1969 & SP: 6 (7) - 1972

Welded in built up sections framed work:

- As up to 10mm thick MS Flats are used to build angle section, fillet weld of leg-length 3mm is required and so Size of weld required is 5.4mm; for economy can provide tack weld as fillet weld with single tack length of minimum 1.5 inch at maximum 1'-0" feet centre to centre staggered or both face of joint as shown in figure below



IS : 816 - 1969

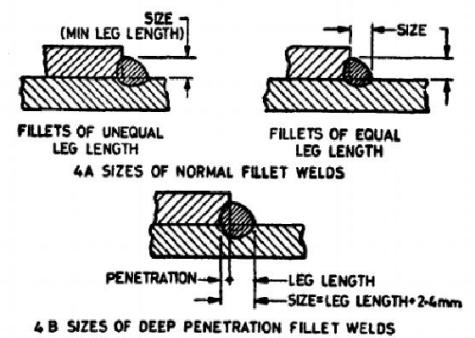


FIG. 4 SIZES OF FILLET WELDS

- MS Gate's built-up frames with angle sections are covered with 2mm thick plates, through weld to plate with frame internally is not possible as plate is too thin. Fillet weld of leg-length 3mm shall be provided with size of weld as 5.00mm internally; for economy can provide tack weld as fillet weld with single tack length of minimum 1.5 inch at maximum 1'-0" feet centre to centre as shown in figure above.
- For 2mm plate's weld of external faces on built-up frames with angle section, through weld to plates with frame externally is not possible, square edges of plates will get damaged due to overheating, here tack weld is suggested without grinding as grinding will reduce size of weld and capacity of joint will be affected.
- According to availability of size of plate, a horizontal joint is provided in 2mm thick plates at nearly sill level to all the gates, here to have smooth surface for esthetic grinding is done externally. It is suggested to provide square butt weld joint on one side of plates with spacing of 2mm between plates and locating joint on MS angle section as backing; here 3.0mm weld size is required and grinding can be done after welding to have smooth surface for esthetic before applying paints. As shown in below Table.

TABLE 10 DETAILS OF JOINTS FOR MANUAL METAL ARC WELDING OF STEEL

(Clause 4.3.1)

PLATE THICKNESS s mm	EXECUTION OF WELD	TYPE OF WELD	SYMBOL	SECTIONAL REPRESENTATION OF WELD PREPARATION	α DEGREE	b^* mm	e mm	h mm
Up to 2	One side	Stitch weld	JL		—	—	—	—
Up to 3	One side	Square butt	Π		—	≈ 3	—	—
Up to 6	Both sides	Square butt	Π		—	$\frac{s}{2}$	—	—

MS Gates and Fixed Grills:

- Up to 10mm thick angles sections are used to build box sections, it is better to use readily available square hollow sections rather than built-up box sections on site with angles; with use of box sections, can optimize thickness as per requirement and will result into economy.
- For fixed grills and entry gates to barracks, angles sections are used to build box sections, here single bevel butt through weld of leg-length 3.5mm is required and so Size of weld required is 6.0mm as shown in table below. Required grinding can be done for esthetics before applying paints and after applying mild steel putty to have smooth surface.

TABLE 10 DETAILS OF JOINTS FOR MANUAL METAL ARC WELDING OF STEEL — <i>Contd</i>								
PLATE THICKNESS s mm	EXECUTION OF WELD	TYPE OF WELD	SYMBOL	SECTIONAL REPRESENTATION OF WELD PREPARATION	α DEGREE	b^* mm	e mm	h mm
Over 30	Both sides	Double-U butt			~ 10	0-3	~ 3	$s/2$
3 to 16	One side	Single bevel butt			45-60	0-3	—	—
6 to 16	Both sides							

- Here if, esthetics is not an issue for economy can provide tack weld as single bevel butt weld with single tack length of minimum 1.5 inch at maximum 1'-0" feet center to center staggered at both flange joints. After welding and before applying paints, application of mild steel putty in to flange grooves can be done to have smooth surface.
- 20mm dia. Mild steel rods are fixed in to box frames to form grills for doors and ventilators. Intermediate welding to rods with frame is not necessary for strength purpose, shall be done at ends only.

Welding with grinding and applying of mild steel putty into groove to have smooth surface, two coats of oil paint and one coat of yellow zinc primer coat of approved brand only. Oil paint shall be Luxol Enamel paint of Berger paint India limited or Asian paint Apcolite premium gloss Enamel of Asian paint or Dulux premium gloss Enamel of Dulux paint only.

Mode of Measurement and Payments :

- No payment shall be made for weight of screws, bolts, nuts etc. Only weight of built-up section shall be paid. coat
- Rates inclusive of applying one coat of yellow zinc primer and two oil paint of oil paint of approved brand.
- The rate shall be for a unit to be One Kg. actual measured at Site.

Item No : 37

Providing and Fixing 13mm Thick Heat Insulation fixing with proper technic and material is approved brand with including cost of labour & Required material as Per Engineer Incharge

Workmanship:

A contractor has to check and verify the quality of product in terms of Proper Heat Insulation of the product and finishing.

Heat Insulation to be fix on Ceiling as directed by Engineer in charge with Necessary Fittings.

Mode of measurement and payment:

The rate including cost of all materials, tools, plants and labour involved in satisfactory completion of work including cost of plug and screw etc. The rate shall be for unit of Sqm. The work shall be carried out as per detailed architectural drawings and as directed by E.I.C.

Item No : 39

Providing and fixing 150mm wide 450mm over all semicircular plain G.I. sheet class-3 gutter with Iron brackets 40mm x 3mm size Bolts, Nuts, washers etc. including making necessary connection with rain water pipes. (i) 0.80 mm thick Sheet

Workmanship:

A contractor has to check and verify the quality of product in terms of Proper G.I Material of the product and finishing.

G.I. Sheet to be fix as directed by Engineer in charge with Necessary Fittings.

Mode of measurement and payment:

The rate including cost of all materials, tools, plants and labour involved in satisfactory completion of work including cost of plug and screw etc. The rate shall be for unit of Sqm. The work shall be carried out as per detailed architectural drawings and as directed by E.I.C.

Item No. 41

Providing and fixing standard extruded of aluminium section of size 63mm x 38.10mm x 1.01mm (Jindal section :20033, @ Wt.0.593kg/Mt) with colour anodized aluminium frame for ventilation with 5 mm thick frosted glass as details etc complete for ventilation.

Materials

Aluminium section for the all around frame is to be used of jindal make 20033 of size 63 x 3810 x 1.01(0.593 Kg/Mt)

Additional vertical members are to be of heavy aluminium anodized with in built system of making louvers up & down with the proper holding knob from movement.

5mm thick glass shall be clear or Dudhiya or Acid wash or colour as instructed by Engineer In-Charge.

Materials shall be of approved quality and shall generally conform to latest IS specifications and size of the sections are as specified in the item description. All units shall conform to AA – Aluminum Standards and data, latest edition. The contractor shall order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead of requirement for use in the work. The work involved calls for high standard of workmanship combined with speed and to the entire satisfaction of the Consultant.

Workmanship

The contractor shall furnish all labour, materials, equipments & appliances required for the complete execution of the work as shown on drawings and as specified herein. The contractor shall make his own arrangement for necessary scaffolding/staging, etc. for erection.

Contractor shall submit Samples prior to work. Samples shall include colour & finish samples for each finish type required.

The aluminum sections shall conform to the following parameters also

- a) The minimum tensile strength shall be 19kgf/m.
- b) The maximum allowable deviation in length from a straight line shall be 0.5mm/metre.
- c) The maximum allowable deviation from straight line shall be one degree.
- d) The maximum permissible twist shall be 0.5 mm/meter.

The contractor shall execute the works as per working drawings provided of louver units and accessories including plans, elevations, sections & Details showing profiles, angles, spacing of louvers, unit dimensions related to openings & constructions, free areas for each size indicated.

All aluminum section shall be anodized with matt finish colour & shade anodizing shall be 6 microns thick prior to anodizing to all aluminum members shall be rendered uniform in appearance free from scratches, stains or other blemishes.

Mode of measurement and payment

Measurement shall be taken in length and width of completed dimension. The rate includes for execution of whole item and shall be paid for a unit of one sq. meter as per actual work done.

I/C Ex Engineer
G.S.P.H.C.Ltd
Junagadh