C. Non return valves shall be manufactured in accordance with BS EN 558 and BS EN 12334.

D. Non return valves shall be metallic suitable for storm water application ensuring high corrosion and abrasion resistance. Valves shall be designed to avoid contact of the dissimilar metals.

E. Valves shall be internally and externally protected with minimum 300 microns thick fusion bonded epoxy complying with EN 14901 or shall be internally and externally protected with enamel coating as per DIN 51178.

F. Both disc and lever shall be positively and securely fixed to the hinge pin/shaft. Grub screws pins (parallel to taper) or clamps will not be acceptable. All internal fixing devices shall be of stainless steel. All nuts and studs subject to vibration shall be fitted with spring washers or locking tabs.

G. Non-return valves shall be of the flanged non-slam recoil type with a closing time not exceeding 0.5 sec. They shall be of the single door type with hand lever. Valves shall be installed in horizontal position. Selection of the non-return valve shall be confirmed through surge analysis.

1.2.8.4 Flap Valves

A. Flap valves frames including fixings for sea water and other aggressive applications shall be of stainless steel conforming to BS 970 Part 1. Sealing faces shall be phosphor bronze conforming to BS 2874.

B. Flap valves above 1500 mm square shall be of the double door type.

C. Doors shall be of reinforced natural rubber compound of sufficient flexibility to maintain an efficient seal under minimal seating head conditions.

D. Door hinges shall be continuous across the full width of the door and manufactured from homogeneous polypropylenes, polyurethane or similar non-ageing material.

E. Flanged, inline or insertion type flap valves manufactured from UV resistant one-piece rubber matrix will also be acceptable for general purpose applications. Rubber flap valve shall offer low cracking pressure and very low head loss. Material of construction shall be suitable for storm water and seawater application ensuring high corrosion and abrasion resistance.