

USF Fabrication Guide to Using **ASTM C1802M-24**

Standard Specification for Design, Testing, Manufacture, Selection, and Installation of Fabricated Metal Access Hatches for Utility, Water, and Wastewater Structures



LOAD LEVEL	TYPE OF LOAD	AREA OF USE	DESIGN LOADING AND ALLOWABLE DEFLECTION	EXAMPLES OF APPROPRIATE USE	RECOMMENDED USF FABRICATION PRODUCTS	ACCEPTABLE MATERIAL
1	Light Pedestrian Loads	Restricted to walkways and other areas that are totally inaccessible to all vehicle traffic	150 pounds per square foot/300 pounds on a 5.5 inch x 5.5 inch area; deflection limited to span/200	Interiors of buildings, elevated walkways, and elevated platforms with top surfaces a minimum of one foot above finished grade	APS/APD, TPS/TPD, APS/APD RETROFIT, BPS, BPC, RPS, ASGS/ASGD 300PSF, TSGS/TSGD 300PSF, W-APS, Z-APS (Zero leak), FPS, SRR, R-APS/APD, R-TPS/TPD, FD/FDP	Aluminum, Steel or Stainless Steel
2	Pedestrian Loads	Restricted to pedestrian and light maintenance vehicle use; area inaccessible to all other vehicle traffic	300 pounds per square foot/600 pounds on a 5.5 inch x 5.5 inch area; deflection limited to span/200	Walkways and landscape areas where curbs, bollards, or both restrict vehicle access	APS/APD, TPS/TPD, APS/APD RETROFIT, BPS, BPC, RPS, ASGS/ASGD 300PSF, TSGS/TSGD 300PSF, W-APS, Z-APS (Zero leak), FPS, SRR, R-APS/APD, R-TPS/TPD, FD/FDP	Aluminum, Steel or Stainless Steel
3	Light Vehicular Traffic	Restricted to parking spaces accessible only to passenger vehicles, and protected areas within close proximity of roadways	8000 pounds on a 10 inch x 10 inch footprint without dynamic (impact) load/80 pounds per square inch on top plate surface; deflection limited to span/250	Parking spaces not accessible to commercial truck traffic, landscape and other non-paved areas adjacent to parking areas	AHS/AHD, THS/THD, UEZS/UEZD, W-AHS, Z-AHS/AHD (Zero leak)	Aluminum, Steel or Stainless Steel
4	Occasional Truck Traffic	Restricted to parking spaces, and areas within close proximity of roadways	16,000 pounds on a 10 inch x 20 inch footprint without dynamic (impact) load/80 pounds per square inch on top plate surface; deflection limited to span/250	Unpaved areas where heavily loaded truck traffic is not intended, and that are not protected by curbs or bollards	AHS/AHD, THS/THD, UEZS/UEZD, W-AHS, Z-AHS/AHD (Zero leak), ASGS/ASGD 16K, TSGS/TSGD 16K	Aluminum, Steel or Stainless Steel
5	Off Street Truck Traffic	Restricted to unrestricted parking lanes, and alleyways where the traffic speed is limited to 15 MPH	16,000 pounds on a 10 inch x 20 inch footprint with a 30% dynamic (impact) load/104 pounds per square inch on top plate surface; deflection limited to span/300	Parking lots, alleyways and other areas where commercial truck traffic is intended	P-AHS, P-AHD	Steel or Stainless Steel
6	Two-lane Vehicular / Truck Traffic	Restricted to two lane streets (one lane in each direction) with a max posted speed limit of 35 MPH	16,000 pounds on a 10 inch x 20 inch footprint with a 33% dynamic (impact) load/106.4 pounds per square inch on top plate surface; deflection limited to span/800	Residential streets and other roadways with limited heavily loaded truck traffic and the shoulders or medians of other roadways	DT93-AHS, DT93-AHD, DT93Z-AHS (Zero leak)	Steel or Stainless Steel
7	Full Traffic	For use in multi-lane roadways with a max posted speed limit of 70 MPH	16,000 pounds on a 10 inch x 20 inch footprint with a 33% dynamic (impact) load/106.4 pounds per sq inch on top plate surface; deflection limited to span/800	Highways and roadways with posted speed limit greater than 35 MPH. Roads that lead into seaport facilities, military bases, freight terminals or other areas where there is continuous heavy truck traffic	DT93-AHS, DT93-AHD, DT93Z-AHS (Zero leak) and Cast Iron	Steel, Stainless Steel or Cast Iron
8	Occasional Aircraft Loads	For use in unpaved runway safety zones	75,000 pounds with 250 psi tire pressure without dynamic (impact) load, or the specific airport design criteria; deflection limited to span/800	Grass areas between taxiways	ALH - Aircraft Load Hatch	Steel, Stainless Steel or Cast Iron
9	Aircraft Loads	For use in taxiways and aprons (not for use in runways)	75,000 pounds with 250 psi tire pressure with a 33% dynamic (impact) load and a 0.70 gravity breaking load, or the specific airport design criteria; deflection limited to span/800	Any paved taxiway or ramp area accessible to aircraft	ALH - Aircraft Load Hatch	Steel, Stainless Steel or Ductile Iron
10	Special Equipment Loads	Such as mining equipment, port equipment, cranes, and earth moving equipment	The axle loads, the axle spacing, tire width, and tire pressure to be provided by the purchaser; a 33% dynamic (impact) load shall be utilized; deflection limited to span/800	Seaports, and heavy industrial work zones	Please call to discuss	TBD



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