

MIFAB Rainfall Considerations for Roof Drains

Flat roof drainage is accomplished through a system of roof drains, vertical leaders, and horizontal storm drains sized and located in accordance with established criteria in conformance with local plumbing and building codes. Therefore, when considering the design of a roof drainage system, it is recommended that local code authorities be consulted regarding the rainfall rate acceptable in their jurisdiction for design purposes. National rainfall rate information is provided in the chart below, listing rainfall rates in millimeters per hour for selected cities.

When the rainfall rate for the locale of the project has been resolved, sizing of the roof drains, leaders and horizontal drainage piping can proceed.

Rainfall Rates for Selected Cities (inches per hour)

Based on a storm of one hour duration and a 100 year return period.
Source: Environment Canada-National Climate Data and Information Archive

ALABAMA	IDAHO	MICHIGAN	NORTH CAROLINA	TEXAS
Birmingham 3.8	Boise 0.9	Alpena 2.5	Asheville, 4.1	Abilene 3.6
Huntsville 3.6	Pocatello 1.2	Detroit 2.8	Charlotte 3.7	Amarillo 3.5
Mobile 4.6	ILLINOIS	Escabana 2.4	Greensboro 3.5	Brownsville 4.5
Montgomery 4.2	Cairo 3.3	Grand Rapids 2.8	Raleigh 3.7	Corpus Christi 4.5
ALASKA	Chicago 3.0	Lansing 2.8	Wilmington 4.2	Dallas 4.0
Fairbanks 1.0	Peoria 3.1	Marquette 2.4	NORTH DAKOTA	El Paso 2.4
Juneau 0.6	Springfield 3.3	Sault Ste. Marie 2.2	Bismarck 2.8	Houston 4.6
ARIZONA	INDIANA	MISSISSIPPI	Fargo 3.2	Lubbock 3.3
Flagstaff 2.4	Evansville 3.2	Biloxi 4.7	Grand Forks 3.0	Odessa 3.2
Nogales 3.1	Fort Wayne 2.9	Columbus 3.9	Williston 2.6	San Antonio 4.2
Phoenix 2.5	Indianapolis 3.1	Jackson 4.0	OHIO	Tyler 3.9
Yuma 1.6	South Bend 3.0	Natchez 4.4	Cincinnati 3.0	UTAH
ARKANSAS	Terre Haute 3.2	MISSOURI	Cleveland 2.8	Cedar City 1.6
Fort Smith 3.6	IOWA	Columbia 3.3	Columbus 2.8	Salt Lake City 1.3
Little Rock 3.7	Burlington 3.3	Kansas City 3.6	Toledo 2.8	VERMONT
Texarkana 3.8	Davenport 3.3	St. Louis 3.3	Youngstown 2.7	Brattleboro 2.5
CALIFORNIA	Des Moines 3.5	Springfield 3.4	Zanesville 2.8	Burlington 2.2
Barstow 1.4	Dubuque 3.3	MONTANA	OKLAHOMA	VIRGINIA
Crescent City 1.5	Sioux City 3.6	Billings 1.9	Oklahoma City 3.8	Bristol 2.7
Fresno 1.1	KANSAS	Havre 1.6	Tulsa 3.8	Charlottesville 2.9
Los Angeles 2.1	Atwood 3.3	Helena 1.5	OREGON	Norfolk 3.4
Needles 1.6	Dodge City 3.4	Missoula 1.3	Medford 1.4	Richmond 3.3
Sacramento 1.6	Topeka 3.7	NEBRASKA	Pendleton 1.0	Roanoke 3.2
San Diego 1.3	Wichita 3.7	Grand Island 3.5	Portland 1.3	WASHINGTON
San Francisco 1.5	KENTUCKY	Omaha 3.8	PENNSYLVANIA	Bellingham 1.1
COLORADO	Ashland 3.0	Sidney 3.2	Erie 2.6	Seattle 1.1
Denver 2.4	Bowling Green 3.2	Valentine 3.2	Harrisburg 2.8	Spokane 1.0
Durango 1.8	Lexington 3.1	NEVADA	Philadelphia 3.1	Yakima 1.0
Grand Junction 1.7	Louisville 3.2	Carson City 1.1	Pittsburgh 2.6	WEST VIRGINIA
Pueblo 2.5	Middlesboro 2.8	Elko 1.0	Scranton 2.7	Charleston 2.8
CONNECTICUT	Paducah 3.3	Las Vegas 1.5	WilliamSPORT 2.6	Elkins 2.7
Hartford 2.7	LOUISIANA	NEW HAMPSHIRE	RHODE ISLAND	Parkersburg 2.8
New Haven 2.8	Baton Rouge 4.8	Berlin 2.5	Providence 2.6	WISCONSIN
DELAWARE	Lake Charles 4.7	Claremont 2.5	SOUTH CAROLINA	Ashland 2.5
Georgetown 3.0	New Orleans 4.8	Portsmouth 2.4	Charleston 4.3	Eau Claire 3.0
Wilmington 3.1	Shreveport 3.9	NEW JERSEY	Columbia 4.0	Green Bay 2.5
DISTRICT OF COLUMBIA	MAINE	Atlantic City 3.0	Greenville 4.2	La Crosse 3.1
Washington 3.2	Bangor 2.2	Newark 3.1	SOUTH DAKOTA	Madison 3.0
FLORIDA	Caribou 2.0	Trenton 3.1	Aberdeen 3.3	Milwaukee 3.0
Jacksonville 4.3	Portland 2.4	NEW MEXICO	Pierre 3.2	WYOMING
Key West 4.3	MARYLAND	Albuquerque 2.0	Rapid-City 2.9	Casper 1.9
Miami 4.7	Baltimore 3.2	Hobbs 3.0	Sioux Falls 3.6	Cheyenne 2.2
Pensacola 4.6	Hagerstown 2.8	Las Cruces 2.0	TENNESSEE	Rock Springs 1.3
Tampa 4.5	Salisbury 3.1	Santa Fe 2.0	Chattanooga 3.5	Sheridan 1.7
GEORGIA	MASSACHUSETTS	NEW YORK	Knoxville 3.2	Yellowstone Park 1.4
Atlanta 3.7	Boston 2.5	Albany 2.6	Memphis 3.7	
Macon 3.9	New Bedford 2.6	Binghamton 2.3	Nashville 3.3	
Savannah 4.3	Pittsfield 2.8	Buffalo 2.3		
Thomasville 4.3	Springfield 2.7	2.3New York 3.0		
HAWAII		Syracuse 2.3		
Hilo 6.2		Watertown 2.2		
Honolulu 3.0				