

# PRECASTERS NOTEBOOK

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## ASTM C1227 SEPTIC TANKS STANDARD SPECIFICATION FOR PRECAST CONCRETE SEPTIC TANKS

This reference provides information specifically for the precast septic tank used in residential homes.

## ASTM C1244 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE (VACUUM) TEST PRIOR TO BACKFILL

This reference contains the procedure used when a test for watertightness or structural integrity is required.

## ASTM C1433 STANDARD SPECIFICATION FOR PRECAST REINFORCED CONCRETE BOX SECTIONS FOR CULVERTS, STORM DRAINS AND SEWERS

This specification was written to combine and clarify previous specifications ASTM C789 and ASTM C850. The tables in this specification display wall and slab thicknesses with required amounts of reinforcing steel for earth cover of zero feet to as much as 35 feet. There are tables for box culverts with openings 3 feet span and 2 feet rise up to 12 feet span and 12 feet rise. Calculations for this specification were made using the LOAD FACTOR DESIGN (LFD) method popular in the latter part of the 20<sup>th</sup> century.

## ASTM C1504 STANDARD SPECIFICATION FOR MANUFACTURE OF PRECAST REINFORCED CONCRETE THREE SIDED STRUCTURES FOR CULVERTS AND STORM DRAINS

This reference was written for the box culvert that has no floor, a preferred structure where a stream is to be left in its natural state.

## ASTM C1577 STANDARD SPECIFICATION FOR PRECAST REINFORCED CONCRETE BOX SECTIONS FOR CULVERTS STORM DRAINS AND SEWERS DESIGNED ACCORDING TO AASHTO

This specification is the modern version of ASTM C1433. The only difference is that this specification contains data based on calculations using the Load and Resistance Factor Design (LRFD). The ASTM C1433 Specification was based on the older Load Factor Design (LFD) method. A comparison of the two Specifications will show that in many cases the amount of steel required has been reduced (but only a small amount) in the newer ASTM C1577 Specifications. The Federal Highway Administration is encouraging each State Department of Transportation to adopt the LRFD method. Precasters quoting on State Highway Department projects will be expected to manufacture their box culverts to this new ASTM C1577 Specifications.

## ASTM C76 STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE

This reference provides material and load carrying requirements of round reinforced precast concrete products.