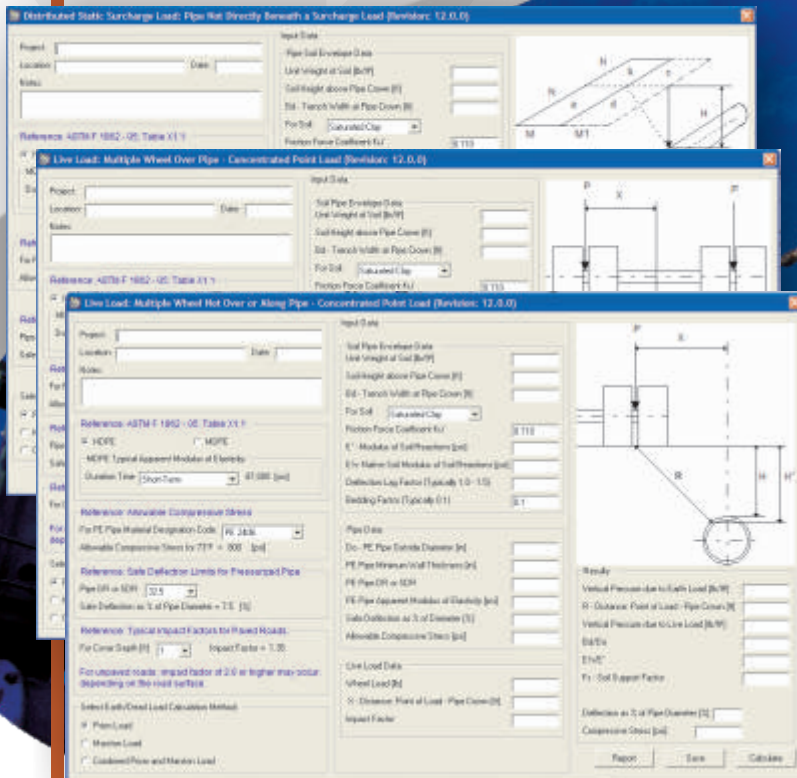


PIPELINE TOOLBOX 2010

VERSION 12

Software Solutions for Increased Efficiency & Standardization



Comprehensive, integrated suite of design, analysis, testing and integrity software applications.

60+ Specialized Tools in One Integrated Engineering Solution

New Pipeline Toolbox 2010, version 12.0, comes with additional software applications for polyethylene (PE) pipe, for most scenarios that involve HDPE or MDPE buried pipeline design, stress analysis, or operational assessment.

- ➔ Dead/Earth Load
- ➔ Surcharge Static Load on Buried PE Pipe
- ➔ Surcharge Live Load on Buried PE Pipe & Crossings
- ➔ Design/Stress Analysis Check - Pass/Fail Criteria:
- ➔ Installation of PE pipe by HDD (ASTM F 1962-05)
- ➔ Allowable Tensile Load for PE Pipe installed by HDD
- ➔ (ASTM F 1804)

One of the greatest challenges facing oil and gas pipeline companies today is controlling operating and maintenance costs. To meet this challenge pipeline companies are continuously looking for ways to

increase efficiency, improve productivity and standardize their operations.

An integral part of these programs is the adoption of common systems and best practices. Streamlining common engineering tasks, eliminating duplication, and ensuring across-the-board consistency should significantly reduce operating costs.

Cost and time-efficiency are expectations for users of the Pipeline Toolbox. With pipeline professionals using the same software tools and calculations, a company can get to the 'one pipeline' way of doing business and reduce their operating costs in the process. "The bottom line for all of the standardization initiatives is a more efficient and cost-effective pipeline." The Pipeline Toolbox software can contribute to the bottom line.

Industry Leader in Pipeline Software Tools

TECHNICAL
TOOLBOXES

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2010 Pipeline Toolbox

The 2010 Pipeline Toolbox is the latest release of the popular integrated pipeline industry software package with added functionality and updated applications. The program consists of more than 60 software modules designed specifically for the pipeline professional, and is available in Gas, Liquid and Enterprise(Liquid & Gas) versions. The following functional engineering modules are included in the Pipeline Toolbox software:

- **Database of Liquids Commonly Transported by Pipelines (Liquid)** – User customizable.
- **Liquid Properties Calculations** –
 - Volume Correction Factors (API 2540)
 - Viscosity-Temp for Hydrocarbons (ASTM D 341)
 - Viscosity-API Specific Gravity (ASTM 2161)
 - Compressibility Factor-Hydrocarbons (API MPMS)
 - Adiabatic Bulk Modulus (ASTM 2161)
 - Wave Speed Calculation
- **Pipeline Facilities(Liquid)** - Modules for sizing of pipeline facilities IAW ASME B31.4:
 - Pipeline Pumps
 - Welded Branch Reinforcement
 - Relief Valve Sizing (ASME & API RP 520)
- **Liquid Pipeline Hydraulics** – Calculations based on selectable liquid equations.
- **Gas Pipeline Hydraulics** – Calculations based on selectable high/low pressure gas equations.
- **AGA-8/API MPMS Gas Mixture Properties**
- **Pipeline Facilities(Gas)** - Modules for sizing of pipeline facilities IAW ASME B31.8:
 - Pipeline Compressors
 - Welded Branch Reinforcement
 - Regulator Sizing (AGA)
 - Orifice Meter Sizing (AGA-3)
 - Relief Valve Sizing (API RP 520)
 - Hot Tap Sizing
- **Longitudinal Stress in Movement of In-Service Pipelines (API 1117)**
- **Installation of Pipelines by HDD** – Calculations for pull-force and analysis of installation and operational stresses.
- **Wheel & Track Load Analysis** - Calculate overburden and track loads on buried pipe for wheeled and tracked vehicles.
- **API 1102-PC-PISCES Version 3.0** – Includes design of uncased crossings and new interface and database of pipe and soil properties.
- **Pipeline Design & Stress Analysis** - Numerous calculation modules including:
 - Design Pressure - Steel Pipe
 - Wall Thickness - Steel Pipe
 - Design Pressure - Polyethylene Pip
 - Wall Thickness - Polyethylene Pipe
 - Flume Design - Rational Method
 - Buoyancy Analysis & Coating Requirements
 - Pipe Anchor Force Analysis
 - (NEW) Max. Impact Load & Penetration Depth
 - Internal Pressure - % SMYS
 - Hoop & Longitudinal Stress
 - Requirement to move Unpressured Pipe
 - Bending Stress & Deflection
 - Maximum Allowable Pipe Span Length
 - Linear Thermal Pipeline Expansion
 - Thrust at Blow-off
- **NEW - PE Pipeline Applications:**
 - Dead/Earth Load
 - Surcharge Static Load on Buried PE Pipe
 - Surcharge Live Load on Buried PE Pipe & PE Pipeline Crossings
 - Design/Stress Analysis Check - Pass/Fail Criteria:
 - Installation of PE pipe by HDD (ASTM F 1962-05)
 - ATL Allowable Tensile Load for PE Pipe installed by HDD (ASTM F 1804)
- **External Corrosion Direct Assessment Toolset** – calculate remaining life of corroded PL, guidelines for directing ECDA program; calculate potential impact radius and DCVG %IR drop.
- **Pipeline Testing & Maintenance** - pressure testing, blowdown, & purging calculations.
- **Pipeline Corrosion & CP** - ASME B31G and other corrosion and cathodic protection calculations relating to pipelines.
- **Fully Integrated Pipe Databases** – Includes API 5L, ASTM/ANSI B36.10 steel pipe, API 15LE polyethylene pipe and a custom pipe database.
- **Updated DOT Standards & Regulations** - searchable pipeline regulations with all reporting forms and templates
- **Document & Application Management** – add documents, spreadsheets to your Toolbox.