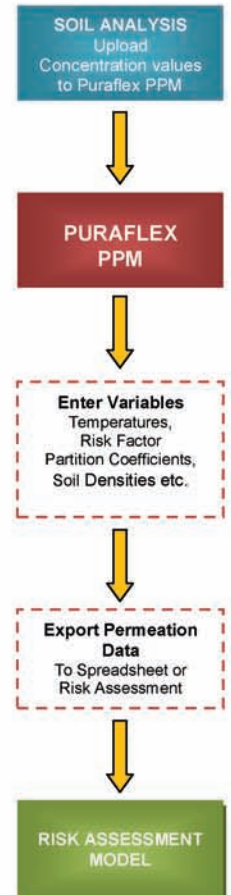
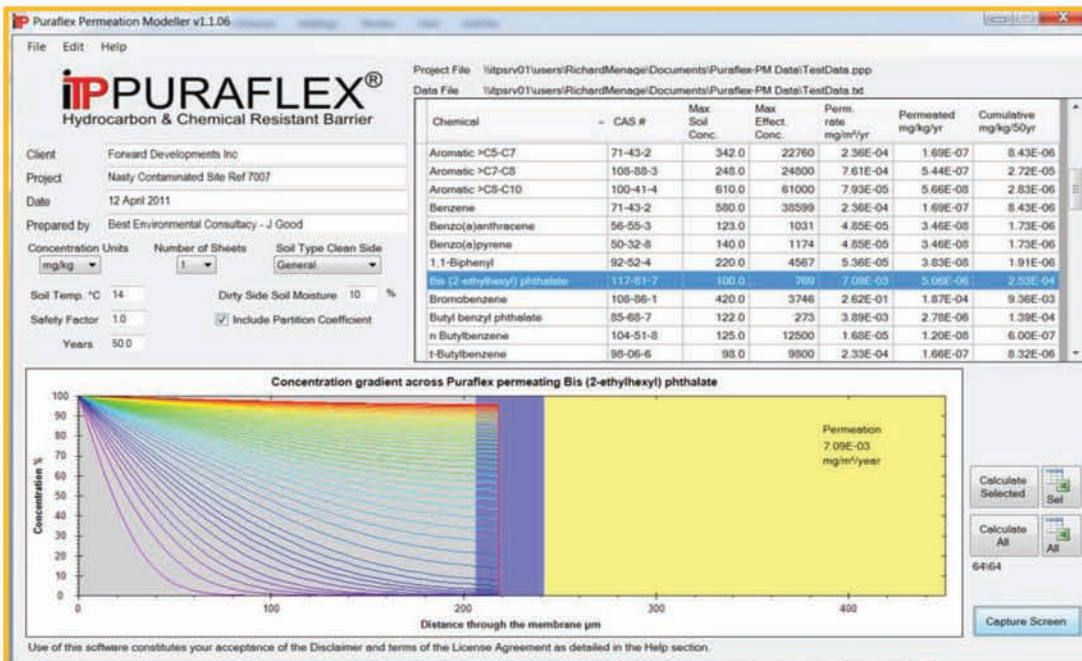


Given a known level of contaminants in a soil, how effective will a barrier membrane be in keeping the soil on the "clean" side safe from the contaminants?

The unique Puraflex Permeation Modeller (PPM) software program enables you to:

1. Upload Soil Analysis chemical concentration values
2. PPM Software recognises chemical names, synonyms and/or CAS No.
3. Enter project-specific variables: Soil Temperatures, Partition coefficients, Soil Densities etc.
4. Report Permeation Rates in mg/m²/year and mg/kg/year
5. Export results for incorporating directly into risk assessment software models (e.g. CLEA)

Puraflex PPM is provided free of charge to qualified environmental and geotechnical consultants. Registration is required for licence keys.



QUICK START GUIDE

- 1. Program Installation**
 - a) After installing Puraflex Permeation Modeller (PPM) on your PC, you can use the PPM Software for 24 hours after which you need to request a license key. Please email puraflex@itpltd.com or telephone +44 (0) 1347 825221.
 - b) Sent by email, simply drag and drop the licence key file into the program folder C:\Program Files (x86)\ITP\Puraflex-PM (Default).
 - c) To experiment, you will find a TestData.txt file in the folder MyDocuments\Puraflex-PM Data (see 3a).
 - d) There is an extensive Help section for detailed instructions, methodology and FAQs.
- 2. Prepare a Contaminated Soil Data spreadsheet**
 - a) Prepare a spreadsheet of the contaminant soil analysis concentrations in 3 columns: Chemical Name, CAS Number and Concentration.
 - b) Save it as a Text (Tab delimited .txt file with a logical project filename) in your folder MyDocuments\Puraflex-PM Data. Concentration can be in %, mg/kg, ppm or ppb. Carbon Fractions (e.g. Aromatics >C8-C10 are also recognised).
- 3. Running the Puraflex PM program**
 - a) Open Puraflex PPM and select File > New Project, fill in the project details and upload your spreadsheet File > Load Data (you can experiment with the example TestData.txt file)
 - b) Set the Variables as appropriate: Soil Temp., Safety Factor, No. Sheets, Soil Moisture Dirty Side (determines Partition Coefficient), Concentration Units (as per spreadsheet), Soil Type Clean Side (Soil Density), Number of years to run the simulation.
 - c) Click on Calculate All. When the calculations have finished, review the data (sort by clicking column headers) and check no chemicals are highlighted in yellow in which case you need to check the CAS Number or synonyms.
 - d) On completion, Export the Permeation Data by clicking on the 'All' spreadsheet icon, next to the Calculate All button. You can also capture the screenshot by clicking on the Screen Capture button to paste into your report.
 - e) Paste into your risk assessment software model.

PURAFLEX[®]

Hydrocarbon and Chemical Resistant
Environmental Protection Barrier Membrane

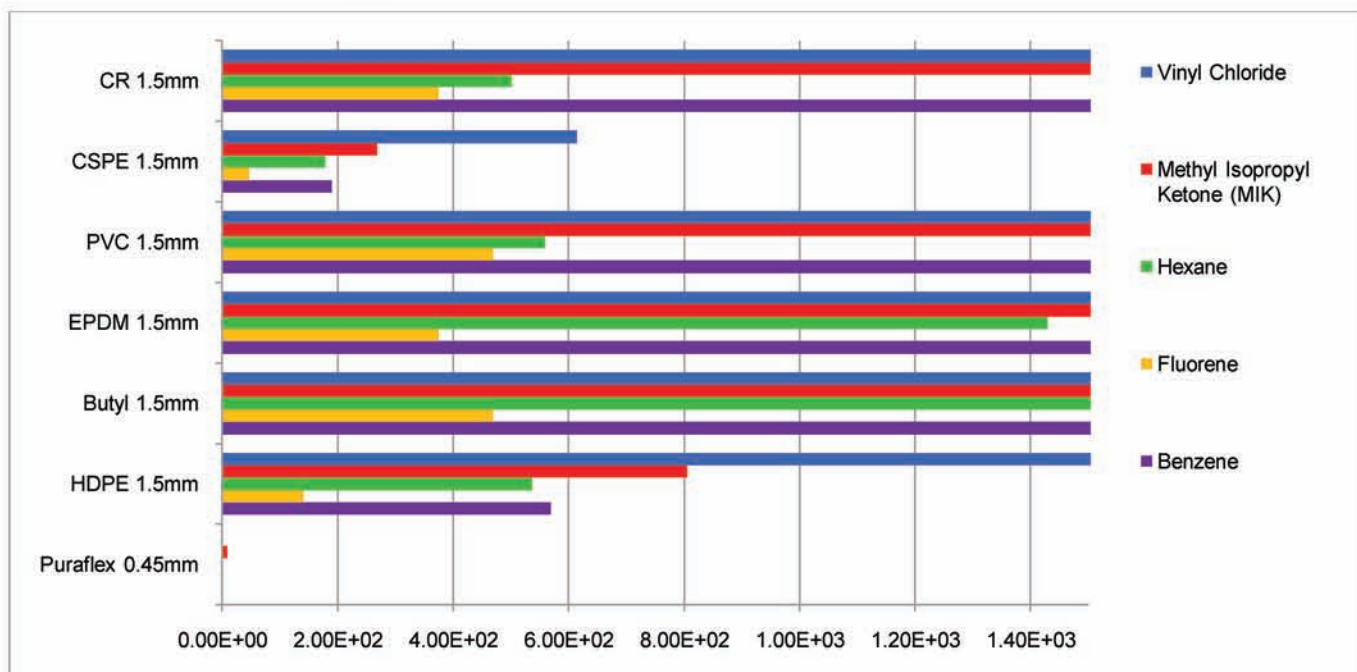
Puraflex Permeation Modeller Software

www.puraflex.com

PURAFLEX COMPARISONS

Chemical	CAS		Puraflex 0.45mm	HDPE 1.5mm	Butyl 1.5mm	EPDM 1.5mm	PVC 1.5mm	CSPE 1.5mm	CR 1.5mm
Benzene	71-43-2	Aromatic Hydrocarbon	3.52E-04	5.69E+02	1.90E+03	1.52E+03	1.90E+03	1.90E+02	1.52E+03
Butyl benzyl phthalate	85-68-7	Carbocyclic	5.80E-03	4.92E+01	1.64E+02	1.31E+02	1.64E+02	1.64E+01	1.31E+02
Carbazole	86-74-8	Heterocyclic	1.58E-01	8.56E+01	5.26E+02	5.32E+02	6.65E+02	6.65E+01	5.32E+02
Chlorobenzene	108-90-7	Halogenated Hydrocarbon	3.82E-03	4.43E+02	1.48E+03	1.18E+03	1.48E+03	1.48E+02	1.18E+03
DDT	50-29-3	Halogenated Hydrocarbon	1.84E-03	4.25E+01	1.42E+02	1.13E+02	1.42E+02	1.41E+01	1.13E+02
1,1-Dichloroethane	75-34-3	Halogenated Hydrocarbon	5.87E-01	1.28E+03	4.25E+03	3.40E+03	4.25E+03	4.26E+02	3.40E+03
Diesel Fuel	68334-30-5	Aliphatic Hydrocarbon	8.57E-04	1.48E+02	4.91E+02	3.94E+02	4.91E+02	4.92E+01	3.94E+02
Fluorene	86-73-7	Aromatic Hydrocarbon	3.23E-06	1.41E+02	4.69E+02	3.75E+02	4.69E+02	4.69E+01	3.75E+02
HCH	58-89-9	Aromatic Hydrocarbon	4.79E-05	5.44E-03	1.37E-01	9.21E-01	4.90E+02	5.29E-01	3.93E+02
Isopropyl Benzene	98-82-8	Aromatic Hydrocarbon	5.64E-05	1.57E+02	5.22E+02	4.18E+02	5.22E+02	5.23E+01	4.18E+02
MTBE	1634-04-4	Organic Ether	1.45E+00	4.26E+02	1.42E+03	1.14E+03	1.42E+03	1.42E+02	1.14E+03
MIK	563-80-4	Organic Ketone	9.43E+00	8.05E+02	2.68E+03	2.15E+03	2.68E+03	2.69E+02	2.15E+03
Vinyl Chloride	75-01-4	Halogenated Hydrocarbon	1.67E-01	1.84E+03	6.15E+03	4.92E+03	6.15E+03	6.15E+02	4.92E+03

Chemical Contaminant Concentration: 100 mg/kg, Soil Temp: 20 °C, Partition Coefficient: none applied,



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