

INFORMATION

HDPE and LLDPE and CE marked according to Harmonised standards, and characteristics properties for applications:

- BS EN 13361: Characteristics required for use in the construction of reservoirs and dams.
- BS EN 13361: Characteristics required for use in the construction of canals
- BS EN 13361: Characteristics required for use in the construction of tunnels and underground structures.
- BS EN 13361: Characteristics required for use in the construction of liquid waste disposal sites, transfer stations, or secondary containment.
- BS EN 13361: Characteristics required for use in the construction of solid waste storage and disposal sites.
- BS EN 13361: Characteristics required for use in the construction of transportation infrastructure.

HDPE and LLDPE do not support bacterial growth, and are highly resistant to Acids and Alkalis.

CHEMICAL RESISTANCE

SYMBOL	DEFINITION
+	RESISTANT (POLYMER SWELLING PROPERTY <3% OR POLYMER MASS DECREASE <0.5%, POLYMER EXTENSIBILITY IS NOT SUBSTANTIALLY CHANGED)
/	LIMITED RESISTANCE (POLYMER SWELLING PROPERTY IN THE RANGE 3 - 8%, OR POLYMER MASS DECREASE IN THE RANGE 0.5 -5%, POLYMER EXTENSIBILITY DECREASES BY >50%)
-	NON-RESISTANT (POLYMER SWELLING PROPERTY >8%, OR POLYMER MASS DECREASE >5%, POLYMER EXTENSIBILITY DECREASES BY >50%)
Z	POLYMER COLOURATION ALTERATION
O	AQUEOUS SOLUTION OF ANY CONCENTRATION
OO	IS IN OPERATION ONLY AT LOW MECHANICAL STRESS
X	IS IN OPERATION AT BOILING TEMPERATURE OF DUE MATERIALS
XX	IS NOT IN OPERATION FOR WELDED JOINTS

REGISTERED OFFICE ADDRESS

Units 2 & 5 Tetbury Close
Martland Industrial Park
Wigan
Greater Manchester
WN5 0LA

1. TCS Geotechnics is a trading name of Technical Civils Solutions Ltd.
2. TCS Geotechnics Ltd reserves the right to alter product specifications without prior notice.
3. It is the responsibility of all users to satisfy themselves that the above data is current.
4. The above figures are average values obtained from testing to current EN ISO standards.
5. TCS Ltd cannot accept responsibility for the performance of these products as the conditions of use are beyond our control.
6. Installation details are available on request.



Name of Agent	20°C	60°C	Name of Agent	20°C	60°C	Name of Agent	20°C	60°C
acetaldehyde	+	/	dimethylformamide	+	+ to /	phosphorus chloride	+	+
acetonhydride	+	/z	dimethylsulphoxide	+	+ to /z	aluminium chloride	o+	+
acetone	+	+x	dioxane	+	+	magnesium chloride	o+	+
acetonitrile	+	+	potassium nitrate	-	-	mercury chloride	+	+
acetylchloride	/	/	aqueous saturated solution	+	+	sodium - aqueous saturated solution	+	+
acrylnitrile	+	+	sodium nitrate	+	+	carbon chloride	/oo	-
alkylalcohol 96%	+	+	silver nitrate	+	+	calcium chloride	o+	+
amyl acetate	+	+	calcium nitrate 50%	+	+	zinc chloride	o+	+
amyl nitrate	/	/	emulsifiers	+	+	iron chloride	o+	+
aniline	+	+	epichlorohydrin	+	+	sodium hypochlorite 50%	+	+
anisole	/	/ to -	ethylacetate	+	/	calcium hypochlorite	o+	+
bensaldehyde	+	+ to /	ethyl alcohol 96%	+	+	chloroform	/oo to -	-
benzene	/	/	ethylbenzene	/	/	hydrogen (dry and wet)	+	+
gasoline	+	+ to /	ethylene dichlorine	/	/	isooctane	+	/
benzyl alcohol	+	+	ethylene glycol	+	+	isopropyl alcohol	+	+
benzyl chloride	/	/	ethyl ester monochlorine	+	+	iodine tincture	+	/z
barax	+	+	acetylic acid			alum aluminium-potassium	+	/z
bromine liquid	-	-	flourine	-	-	ketones	+	+ to /
sodinne benzoate	+	+	formaldehyde 40%	+	+	cresol	+	+z
butylacetate	+	/	phosphates	+	+	sodium silicate	+	+
butylalcohol	+	+	photography developer	+	+	potassium cyanite	+	+
butylenglycol	+	+	furfuryl alcohol	+	+	benzenesulphonic acid	+	+
butylester of glycol acid	+	+	glycol	+	+	benzoic acid	+	+
cyclohexane	+	+	hydrazine hydrate	+	+	boric acid	o+	+
cyclehexanol	+	+	sodium hydrogen sulphite	+	+	hydrobromic acid	+	+
cyclohexanone	+	/	10% aqueous solution			citric acid	+	+
ammonia liquid	+		potassium hydroxide	+	+	dichloroacetic acid 50%	+	+
decalin	+	/	sodium hydrogen sulphite	+	+	dichloroacetic acid 100%	+	+
dibutyl ether	+ to -	-	30% aqueous solution			nitric acid 25%	+	+
dibutyl phthalate	+	/	liquid chlorine	/	-	nitric acid 50%	/	-z
diethyl ether	+ to /	/x	chlorine gas dry	/	-	ethylenediaminetetraacetic acid	+	+
o-dichlorobenzene	/	-	chlorine gas wet	/	-	fluorosilicic acid	+	+
p-dichlorobenzene	/	-	chloral hydrate	+	+z	hydrofluoric acid 40%	+	/
dichlorethylene	-	-	chlorobenzene	/	-	hydrofluoric acid 70%	+	/
diisobutylketon	+	/ to -	ammonium chloride	o+	+	phosphoric acid 25%	+	+
diisopropylether	+ to /	-	antimony chloride	+	+			
dimethylamine	+	/	potassium chloride	o+	+			

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phosphoric acid 50%	+	+	agua regia	-	-	hydrogen peroxide 10%	+	+
phosphoric acid 95%	+	/z	tallou	+	+	hydrogen peroxide 30%	+	+
phthalic acid 50%	+	+	potassium permanganate	+	+z	hydrogen peroxide 100%	+	-
glycolic acid 50%	+	+	molasses	+	+	beer	+	+
glycolic acid 55%	+	+	menthol	+	/	polyglycol	+	+
glycolic acid 70%	+	/	methylalcohol	+	+	fruitbutter	+	+
perchloric acid 50%	+	-z	methyl cyclohexane	/	/ to -	propylene glycol	+	+
perchloric acid 70%	+	+	methyl chloride	/	/x	pyridine	+	/
hydrochloric acid (any concentration)	-	-	dichloroacetic acid methyl	+	+	crude oil	+	/
chlorosulphonic acid	xx+	-z	monochloroacetic acid			mercury	+	+
chromic acid 80%	+	+	methylester	+	+	copper salt	o+	+
malic acid 50%	+	+	methylethyl ketone	+	/ to -	nickel salt	+	+
succinic acid 50%	+	+	methyl glycol	+	+	sulphuryl chloride	-	
silicic acid	+	+	4-methyl-2 pentatnol	+	+ to /z	sulphur	+	+
hydrocyanic acid 50%	+	+	metoxybutylalcohol	+	/	sulphates	+	+
maleic acid	+	/	urea 33%	+	+	sodium thiosulphate	+	+
butyric acid	+	+	morpholine	+	+	sodium sulphide	o+	+
lactic acid	+	+	diesel fuel	+	+	carbon disulphide	/	
monochloroacetic acid	+	+	naphthalene	+	/	hydrogen sulphide	+	+
formiacid	+	+	nitrobenzene	+	/	starch	+	+
acetic acid 10%	+	/z	o-nitrotoluen	+	/	tannin 10%	+	+
glacial acetic acid 100%	+	/	nitro gas	+	+	tetrabromoethane	oo/ to -	-
propionic acid 100%	+	+	hydraulic oil	+	/	tetrachlorethane	oo+ to / -	
propionic acid 50%	+	+	coconut oil	+	/	tetrahydrofuran	+ to /oo -	
sulphuric acid 50%	+	+	corn oil	+	/	tetraline	+	/
sulphuric acid 98%	+	-z	linseed oil	+	+	thiophene	/	/
sulphurous acid	+	+	mineral oil	+	+ to /	thionyl chloride	-	
stearic acid	+	/	engine oil	+	+ to /	tributyl phosphate	+	+
axalic acid 50%	+	+	paraffin oil	+	+	triethanolamine	+	+z
trichloroacetic acid 50%	+	+	vegetable and animal oil	+	+ to /	tricresolphosphate	+	+
trichloroacetic acid 90%	+	/ to -	silicone oil	+	+	toluene	/	-
tartaric acid	+	+	furpentine oil	+ to /	/	sodium carbonate	+	+
carbon acids aromatic	+	+	suel oil	+	/	vaseline	oo+ to //	
fatty acids	+	+ to /	transformer oil	+	/	beeswax		oo/ to /
phosphorus pentoxide	+	+	spindle oil	+ to /	/	sea water	+	+
sulphur trioxide	+	-	oleum	-	-	p-xylene	/	-
sulphur dioxide dry	+	+	fruit juices	+	+	gelatine	+	+
sulphur dioxide wet	+	+	phosphoric oxychloride	+	/			
carbon dioxide	+	+	petroleum ether	+	/			
			kerosine	+	/			

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