

tabela de resistência química

Chemical resistance guide

Químico Chemical	Concentração	PVC-P (PVC Plastificado)		PVC-Rígido		PA-6		HDPE		PU	PP	
		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	20°C	60°C
acetaldehyde		100%	>40%	>40%		>40%	>40%					
acetic acid	10%									sol dil		
acetic anhydride												
acetone (dimethyl ketone)								boiling point 56,3°C				
acetylene gas												
acetylene DI, tetra chloride												
alcohol, allyl												
alcohol, benzil												
alcohol, dodecyl-dodeconol												
alcohol, ethyl	40% w/w Água											
alcohol, isopropyl												
alcohol, lauryl												
alcohol, metyl	6% sol aq.											
allyl bromide												
allyl chloride												
alk-tri												
alum								sol	sol			sol
aluminium chloride								Sat	Sat			
aluminium fluoride												
aluminium formate												
aluminium hydroxide												
aluminium oxalate												
aluminium potassium sulphate												
aluminium salts												
aluminium sulphate												
ammonia	anhydrous liquid											
ammonia aqueous												
ammoniacal water								sol dil	sol dil			
ammonium carbonate												
ammonium chloride								Sat	Sat			
ammonium fluoride								sol	sol		sol	
ammonium hydroxide											Sat	
ammonium metaphosphste											Sat	
ammonium nitrate								Sat	Sat		Sat	
ammonium oxalate												
ammonium persulphate												
ammonium phosphate											Sat	
ammonium sulphate								Sat	Sat		Sat	
ammonium salts												
ammonium sulphide								sol	sol			
ammonium thiocyanate												
amyl acetate (pentyl acetate)								100%	100%			
amyl chloride (pentyl chloride)												
aniline (amino benzene)												
aniline hydrochloride												
aniline sulphate												
antifreeze agent												
antimony chloride				90%	90%							
antimony trichloride												
arcton 12 (refrigerant)												
arcton 22 (refrigerant)												

Não Satisfaz
Doesn't satisfy

A usar com precaução
Use with precaution

Boa resistência
Good resistance

Sat. Saturado à temperatura ambiente
Sol. Solução
Dil. Diluído

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		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	20°C	60°C
arcton 113 (refrigerant)												
arsenic acid	concentrated	✓	✗	dil & sat.					Sat	Sat		
B												
barium carbonate		✓	✓						Sat	Sat		Sat. Sat.
barium chloride		✓	✓			✓	✓		Sat	Sat	✓	Sat. Sat.
barium hydroxide		✓				✓	✗		Sat	Sat		Sat. Sat.
barium sulphate		✓	✓						Sat	Sat		Sat. Sat.
barium salts				✓	✓				✓	✓		
benzaldehyde	100%		✗	✗	✗				✓	✓		
benzene		✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
benzoic acid			✗	✗	✗				Sat	Sat		Sat.
benzoyl chloride		✗	✗									✗
benzyl acetate			✗									
bleach (see calcium hypochloride)								12,5%	active chlorine			
borax (sodium tetraborate)		✓		✓	✗	✓	✓	aq.	aq.	✓	sol	sol
brake fluid								✓	✓			
bromidic acid	<= 48%			✓	✗						✓	✗
bromic acid	10%			✓							✓	✗
bromine liquid		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
butadiene				✓	✓			✓				
butane				✗	✗	✓				✓	✓	
butanol				✓	✗			✓	✓		✓	✗
butyl acetate		✗	✗	✗	✗	✓	✓	✓	✗	✗	✗	✗
butyl alcohol (butanol)				✓	✗	✓	✗			✗		
C												
calcium arsenate						✓	✓					
calcium bichromate						✓	✓					
calcium bisulphite		✓	✓									
calcium carbonate		✓	✓						Sat	Sat		Sat
calcium chlorate		✓	✓						Sat	Sat		
calcium chloride	aq. Solution	✓	✓	✓	✓	✓	✓		✓	✓	✓	Sat
calcium hydroxide (lime solution)		✓		✓	✗	✓			Sat	Sat		Sat
chloride of lime, bleach	dilute						✗			✓		
calcium nitrate		✓	✓	50%	50%				Sat	Sat		Sat.
calcium phosphate		✓	✓									
calcium salts				✓	✓							
calcium sulphate		✓	✓						Sat	Sat		
calcium sulfide		✓	✓						sol dil	sol dil		
carbon dioxide		✓	✓	✓	✓	✓	✓	✓	✓	✓		
carbonic (gas)	moist			✓	✓							
caustic soda (sodium hydroxide)	50%								✓	✓		
chlorine	10% (dry gas)			✗	✗	✗	✗					
chloro	(dry gas)			✗	✗			✗	✗		✗	✗
chlorobenzene		✗	✗	✗	✗			✗	✗			
chlorobutane		✗	✗									
chlorodane		✗	✗									
chloroform		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
chlorosulphonic acid		✗	✗	✗	✗			✗	✗		✗	✗
chromium salts (bi/trivalent aq.)									✓	✓		
common salt	dry								✓	✓		
copper chloride		✓	✓	✓	✓				Sat	Sat		sol.Sat. sol.Sat.
copper cyanide		✓	✓									
copper fluoride		✓	✓	2%	2%							
copper nitrate		✓	✓						Sat	Sat		
crude oil										✓		
petroleum oil									✓	✓		

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		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C		20°C	60°C
cupric nitrate		■	■									
cupric sulphate		■	■									
cyclohexane						■	■	■	■	■	■	■
cyclohexanone		■	■	■	■	■	■	■	■	■	■	■
D				■	■	■	■	■	■	■	■	■
decahydronaphthalene								■	■			100%
decahydroxlnaphthlene								100%	100%			
detergents, sintetic	all concentrations	■	■	■	■			■	■	■		
dextrose sol. sol.		■	■	■	■	■	■			■	■	■
di amonium phosphate						■	■					
dichlorethylene		■	■	■	■							(α, β)
dichlorobenzene		■	■	■	■							
dichloroethane				■	■	■						
diesel oil				■	■	■	■	■	■	■		
dietyl ketone		■	■									
dimethyl phthalate						■				■		
dimethyl sulphoxide						■	■					
di octyl phosphate						■	■					
dioctyl phthalate		■	■			■	■	■	■	■		
dioxane		■	■					■	■		■	■
DIXAN®								■	■		■	■
E												
emulsifiers	all concentrations	■	■	■	■							
ethers				■	■			■				
ethyl acetate		■	■	■	■	■	■	■	■	■	■	■
ethyl acrylate		■	■	■	■							
ethyl alcohol (ethanol)						■	■			■		
ethylene chloride		■	■			■		■	■			
ethylene dibromide		■	■									
ethylene dichloride (dichloro ethane)		■	■	■	■	■						
ethylene glycol (glycol)		■		■	■	■	■	■	■	■	■	■
ethylic (alcohol)	<= 95%			■	■						■	■
ethylene oxide		■	■			■	■					
F												
fats				■	■			■	■			
fatty acids				■	■	■	■					
ferric nitrate		■	■			■						
ferric salts				■	■							
ferric sulphate		■	■									
flavour & essences						■	■			■		
floor wax								■	■			
fluorine		■	■	■	■	■	■					
fluor	gas							■	■			
fluorhydric acid	dilute											■
fluosilic acid				32%	32%			40%	40%			
fomaldehyde	40% w/w in water	■		■	■	■	■	■	■	■	■	■
FORMALIN®								■	■			
formic acid	50% aq. Solution		■	■	■	■	■	■	■			
formic (acid) anhydrous	100%										■	■
Fuel								■	■			
petrol, normal								■	■			
petrol, regular								■	■			
petrol, super								■				
Fuel A (ASTM)		■	■									
Fuel B (ASTM)		■	■									
fuel oil						■	■	■	■	■		

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G												
gas oil						sol	sol			sol		
glucose		sol	sol	sol	sol			Sat	Sat			
glycerine		sol	sol	sol	sol	sol	sol	sol	sol	sol		
glycerol		sol	sol								sol	sol
glycolic acid	30%			sol	sol			sol	sol		sol	sol
greases, general						sol	sol			sol		
greases, mineral						sol	sol			sol		
H												
heptane								sol	sol		sol	sol
hexadecanol (cetyl alcohol)		sol	sol	sol	sol						sol	sol
hexane						sol	sol	sol	sol	sol	sol	sol
hydrobromic acid	50% aq. Solution	sol	sol									
hydrocyanic acid								sol	sol			
hydrochloric acid	10% aq. Solution	sol	sol	sol	sol	sol	sol	sol	sol			
hydrofluoric acid	40% aq. Solution	sol	sol	sol	sol							
hydrogen		sol	sol	sol	sol	sol	sol	sol	sol	sol	sol	sol
hydrogen peroxide	3% (10 vol)	sol	sol	sol	sol						sol	sol
hydrogen phosphide (phosphine)		sol	sol									
hydrogen sulphide		sol	sol	sol	sol							
hydrogen benzene		sol	sol									
hydroquinone		sol	sol									
hypochlorous acid		sol	sol									
I												
industrial methylated (I.M.S.)						sol	sol			sol		
iodine, tincture of										sol		
solution in potassium	iodide	sol	sol	sol	sol					sol		
iron (II) chloride	saturated			sol	sol			sol	sol			
iron(II) sulphate								sol	sol			
iron (III) nitrate	sol							sol	sol			
iron salts,aq.	saturated							sol	sol			
isopropyl alcohol						sol	sol	sol	sol	sol	sol	sol
J												
juice apple								sol	sol		sol	sol
lemon								sol	sol		sol	sol
fruits								sol	sol		sol	sol
K												
kerosene (parafin oil)						sol	sol					
L												
lacquer solvents				sol	sol							
lactid acid (dodecanoic acid)						sol	sol			sol		
lactic acid	10%			sol	sol							
lactic acid	100%			sol	sol			sol	sol			
lanoline		sol	sol								sol	sol
LANOLIN®								sol	sol			
lauric acid		sol	sol	sol	sol							
lead acetate		sol	sol	sol	sol	sol	sol	Sat		sol		
lead arsenate		sol	sol									
lead nitrate		sol	sol									
lead salts				sol	sol							
lead tetraethyl (see tetraethyl lead)		sol	sol	sol	sol							
LYSOL®								sol	sol			
M												
magnesium carbonate		sol	sol					Sat	Sat		sol	Sat
magnesium chloride		sol	sol	sol	sol			Sat	Sat	sol	sol	Sat
magnesium nitrate		sol	sol					Sat	Sat			

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		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	20°C	60°C	
magnesium sulphate		■	■	■	■							sol. Sat. ■	
manganese sulphate		■	■	■	■	conc. Soln							
MARLIPAL®MG	50%								■	■			
mercury		■	■			■	■		■	■	■	■	
mercury (I) nitrate									sol	sol			
mercury (II) cyanide									Sat	Sat			
mercury (II) chloride									Sat	Sat			
methanol (wood alcohol)				■	■				■	■			
methyl acetate		■	■			■	■					■	■
methyl alcohol (methanol)						■	■						
methyl chloride (chloro methane)		■	■	■	■	■	■				■		
methylene chloride (dichloro methane)		■	■	■	■	■	■	■			■	■	■
methylxyl ketone									■	■			
mineral oils		■	■	■	■				■	■			
mixed acids (sulphuric/nitric) various proportions			■	■	■								
molasses		■	■	■	■				■	■			
motor oil (cars)									■	■			
N													
nail polish									■	■			
nail polish remover									■	■			
naphtha				■	■	■	■				■	■	■
naphthalene		■	■	■	■	■	■	■	■				
natural gas (mainly methane)						■	■						
neon gas						■	■						
nickel acetate						■	■						
nickel chloride		■	■						Sat	Sat		■	■
nickel nitrate		■	■						Sat	Sat		■	■
nickel salts				■	■	■			Sat	Sat	■		
nickel sulphate		■	■	■	■				Sat	Sat		■	■
nitric acid	50% aq. Solution	■	■	■	■				■	■			
nitric acid, red fuming												■	■
O													
oil, ASTM OIL N° 3									■	■	■		
oil, ASTM ref. Fuel A											■		
oil, ASTM Ref. Fuel B											■		
oil, camphor												■	■
oil, corn												■	■
oil, coconuts												■	
oil, cotton grain												■	■
oil, hydraulic, petroleum base						■					■		
oil, mineral (including common lubricating oils)							■	■	■	■	■		
oil, parafin -see kerosene												FL 65	FL 65
oil, peanuts												■	■
oil, peppermint												■	
oil, vegetable							■	■			■		
oleic acid		■	■	■	■	■	■	■	■	■	■	100%	100%
olive oil									■	■		■	■
oxygen		■	■	■	■	■	■	■	■	■	■	100%	
ozone		■		■	■	■	■	■	■	■	■		
P													
Palmitic acid		■		■	■								
paraffin		■		■	■				■	■			
paraffin oil									■	■			
perchloric acid	10%			■	■							■	
perchloroethylene						■	■	■	■	■	■		
petrol				■	■				■	■			

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		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	20°C	60°C
petrol, aliphatic 2 star						✓	✓			✓	✗	✗
	3 star					✓	✓			✓	✗	✗
	4 star					✓	✓			✓	✗	✗
	5 star					✓	✓			✓	✗	✗
	high octane					✓	✓			✓		
petrol, aromatic (containing benzene)						✓	✓			✓		
petrol/benzene mixture	80:20 ratio	✗	✗	✗	✗							
petroleum, crude								✓	✗			
petroleum ether		✗	✗					✓	✗	✗	✗	✗
peroxide, hydrogen	<= 10%											✓
	<= 30%											✓
phenol (s) (carbolic acid)			✗	✗	✗	✗	✗	sol	sol	✗		
	90%			✗	✗							✓
phenol, aqueous phase	sat							✓	✓			
phenolic phase	sat							✓	✓			
phosphates		✓	✓									
phosphoric acid	20% aq. Solution	✓	✓	✓	✓							
polyglycol ethers		✗	✗									
potassium bicarbonate		✓	✓					Sa	tSat		sol.	Sat.
potassium bichromate		✓						Sat	Sat			
potassium bisulphite		✓	✓					sol	sol			
potassium borate		✓	✓								sol.	Sat
potassium bromate		✓	✓					Sat	Sat		até 10%	
potassium bromide		✓	✓	Sat	Sat			Sat	Sat		Sat	✓
potassium carbonate		✓	✓					Sat	Sat		Sat	
potassium chlorate		✓	✓					Sat	Sat		Sat	✓
potassium chloride		✓	✓	Sat	Sat							
potassium chromate		✓	✓	40%	40%			Sat	Sat			
potassium cyanide		✓	✓	sol	sol			sol	sol		sol	
potassium perchlorite		✓										
potassium permanganate		✓						✓	✓		2N	
potassium persulphate		✓	✓	Sat	Sat			✓	✓		sol.sat.	
potassium phosphate		✓	✓									
potassium sulphate		✓	✓	✓	✓	✓	✓	✓	✓	✓	Sat.	
potassium sulphide		✓	✓									
potassium thiosulphate		✓	✓									
propane		✓	✓	✓	✓	✓	✓			✓	100%	
propylene dichloride (1,2 dichloro propane)		✗	✗	✗	✗							
propylene oxide		✗	✗									
Q												
quinine								✓	✓			
quinol (hydroquinone)								Sat	Sat			
S												
salicylic acid (ortho hydroxy benzoic acid)				✗	✗			Sat	Sat			
sea water		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
silver acetate		✓	✓					Sat	Sat			
silver cyanide		✓	✓					Sat	Sat			
silver nitrate				✓	✗	✓		Sat	Sat		Sat	Sat
silver salts, aq.	sat							✓	✓			
soap, cake soap								✓	✓			
soap solution		✓		✓	✗	✓		✓	✓			
soda	10%							✓	✓			
sodium benzoate		✓	✗	35%	35%			Sat	Sat		35%	
sodium bicarbonate		✓				✓	✓	Sat	Sat	✓	✓	✓
sodium bichromate											✓	✓
sodium bisulphite		✓						sol	sol		✓	

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sodium bromide		■	■					Sat	Sat			
sodium carbonate (washing soda)		■				■	■	■	■			< 50% ■
sodium chlorure												10% ■ 10% ■
sodium cyanide								Sat	Sat			
sodium dicromate		■	■									
sodium disulphide	Sat			■	■							
sodium ferrocyanide		■	■									
sodium hidrate		■										
sodium hydroxide (caustic soda)40% aq. Sol.		■	■	■	■			■	■			■ ■
sodium hypochlorite (bleaching agent) concent.		■		■	■					■		
sodium orthophosphate		■	■					Sat	Sat			■
sodium perborate		■	■					■	■			
sodium phosphate		■	■									
sodium silicate				■	■							
sodium sulphate		■	■					Sat	Sat			■ ■
sodium sulphide		■	■			■	■	■	■	■		■ ■
sodium sulphur	concentrated	■	■					Sat	Sat			
sodium sulphite												■
sodium tetraborate						■	■			■		■ 40%
sodium thiosulphate		■						■	■			
stearin (see also stearine)				■	■	■	■			■		■ ■
storage-battery acid								■	■			
sulphamic acid						■	■					
sulphur						■	■	■	■	■		
sulphur dioxide	gas&liquid							dry	dry			
sulphur trioxide						■	■					■
sulphuric acid	dilute							■	■	■		
	10% aq. Solution	■	■	■	■			■	■			■
	98%aq. Solution	■	■	■	■	■	■	■	■			■ ■
sulphurous acid	10% aq. Solution	■						■	■			
surface active agents (emulsifiers, syntetic detergents	all concentrations	■	■									
T												
tallow		■		■	■							
tannic acid		■		■	■			sol	sol			
tanning extracts		■		■	■							
tartaric acid		■		■	■	■	■	sol	sol			10% ■
tin chloride	(II)			■	■			Sat	Sat			Sat ■
toluene		■	■	■	■	■	■	■	■	■		■ ■
transformer oil		■	■	■	■	■		■	■	■		
trichloroethane		■	■			■	■			■		
trichloroethylene		■	■	■	■	■	■	■	■	■		
trisodium phosphate		■	■			■	■			■		
U												
urea		■		■	■			sol	sol			Sat
urea, formaldehde soln.						■						
uric acid						■	■					
V												
vaseline								■	■			
vegetables								■	■			
vegetable oils		■		■	■			■	■			
vinegar		■		■	■	■	■	■	■	■		■
vinyl acetate		■	■	■	■							
W												
water		■	■	■	■	■	■	■	■			
	100°C											

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		20°C	60°C	20°C	60°C	20°C	60°C	20°C	60°C	20°C	20°C	60°C
	40°C (up to)									■		
steam	100°C					■	■			■		
wetting agents	all concentrations	■	■	■	■							
white spirit						■	■	■	■	■		
X												
xenon												
xylene (dimethyl benzene)	100%	■	■	■	■	■	■	■	■	■	■	■
xylenol (dimethyl phenol)		■	■									
Y												
yeast		■										
Z												
zinc ammonium carbonate		■	■									
zinc acetate												
zinc carbonate		■	■					Sat	Sat			
zinc chloride		■	■	Sat	Sat	■	■			■	■	■
zinc oxide		■	■					Sat	Sat			
zinc salts				■	■			■	■			
zinc sulfate	sol.sat							Sat	Sat		■	■
zinc sulphide		■	■									

conselhos para a utilização dos tubos heliflex

Use of heliflex hoses

• Sistemas de acoplamento dos tubos heliflex:

O tubo heliflex deverá ser aquecido em glicerina ou óleo a uma temperatura não superior a 160°C e aproveitar a elasticidade que o produto termoplástico oferece quando aquecido. Os acoplamentos aplicados devem ser de diâmetro pouco maior que o diâmetro interno do tubo. A maioria dos acoplamentos encontrados no mercado podem ser utilizados nos tubos heliflex. Em casos especiais recomendamos o uso de uniões de metal com estrias espaçadas. Para se obter o melhor resultado deste processo, sugerimos seguir as seguintes recomendações:

1. Use glicerina ou óleo a uma temperatura não superior a 160°C. Como alternativa poderá utilizar água fervente.

• heliflex Pipes Coupling System:

The system most used is the heating of the Heliflex pipe in glycerine or oil at a temperature not superior to 160°C and taking advantage of the elasticity that the thermoplastic product has to offer when heated. The diameter of the applied couplings should be slightly larger than the internal diameter of the tube. The majority of couplings available in the market can be used with heliflex pipes. For better results we recommend the following procedures:

1. Use glycerine or oil at a temperature not superior to 160°C. As an alternative you may use boiling water.
2. To avoid possible defects of the pipe during the heating process, avoid touching the walls or the bottom of the recipient with the extremity of the same.

• Systeme d'Acouplement des Tubes heliflex:

Le système le plus usuel est celui qui consiste à chauffer un tube heliflex dans de la glycérine ou de l'huile à une température qui n'excède pas les 160°C et profiter de l'élasticité du produit thermoplastique quand il est chauffé. Les accouplements que l'on trouve sur le marché peuvent être utilisés sur les tubes. Dans des cas spéciaux nous recommandons l'utilisation d'unions en métal avec des stries espacées. Pour obtenir le meilleur résultat en ce qui concerne ce procédé, nous suggérons de suivre les recommandations suivantes:

1. Utilisez de la glycérine ou de l'huile à une température n'excédant pas les 160°C. Comme alternative, on pourra utiliser de l'eau bouillante.
2. Pour éviter toute déformation du tube durant le procédé de réchauffement,

• Sistema de Acoplamiento de los Tubos heliflex:

El sistema mas utilizado es de calentar el tubo heliflex en glicerina o aceite a una temperatura no superior a 160°C y aprovechar la elasticidad que el producto termoplástico ofrece cuando esta caliente. Los acoplamientos aplicados deben ser de diametro poco mayor que el diametro interno del tubo. La mayoría de los acoplamientos encontrados en el mercado pueden ser utilizados en los tubos heliflex. En casos especiales, recomendamos el uso de uniones de metal con estrias espaciadas. Para obtener el mejor resultado de este proceso, sugerimos que siga las siguientes recomendaciones:

1. Use glicerina o aceite a una temperatura no superior a 160°C. Como alternativa podra usar agua hirviendo.
2. Para evitar posibles deformaciones del tubo durante el proceso de calentamiento,

2. Para evitar possíveis deformações do tubo, durante o processo de aquecimento, evite que a extremidade do mesmo se apoie nas paredes ou no fundo do recipiente. 3. O tempo de aquecimento poderá ser determinado por experimentação. Contudo, apresentamos os tempos aproximados necessários à sua efectivação:

- 2 minutos para os tubos de 2" e 3"
- 3 minutos para os tubos de 4" e 5"
- 4 minutos para os tubos de 6"

No caso de utilizar água fervente, os tempos de aquecimento deverão ser um pouco mais longos.

4. Uma vez o tubo aquecido, deverá proceder à montagem, ajustando as abraçadeiras e apertando-as suavemente. Depois do conjunto frio, termine o aperto.

3. The heating time may be determined through experimentation. However, below are the approximate times necessary for its effectiveness:

- 2 minutes for 2" and 3" pipes
- 3 minutes for 4" and 5" pipes
- 4 minutes for 6" pipes

When using boiling water the heating times should be somewhat longer.

4. Once you have heated the tube proceed to mount the coupling adjusting the clamps and tightening them gently. Finish tightening the clamps after the set has cooled off.

éviter que l'extrémité du tube ne s'appuie sur les parois ou le fond du récipient.

3. Le temps de réchauffement pourra être déterminé par expérimentation. Néanmoins nous indiquons les temps approximatifs nécessaires à sa réalisation:

- 2 minutes pour les tubes de 2" et 3"
- 3 minutes pour les tubes de 4" et 5"
- 4 minutes pour les tubes de 6"

En cas d'utilisation d'eau bouillante, les temps seront un peu plus longs.

4. Une fois le tube est chauffé, on procède au montage du couplement, ajustant les colliers et les resserrant délicatement. Après refroidissement de l'ensemble terminez le resserrage.

evite que la extremidad del mismo se apoye en las paredes o en el fondo del recipiente.

3. El tiempo de calentamiento podra ser determinado por experimentación. No obstante presentamos los tiempos aproximados necesarios para su realización:

- 2 minutos para los tubos de 2" y 3"
- 3 minutos para los tubos de 4" y 5"
- 4 minutos para los tubos de 6"

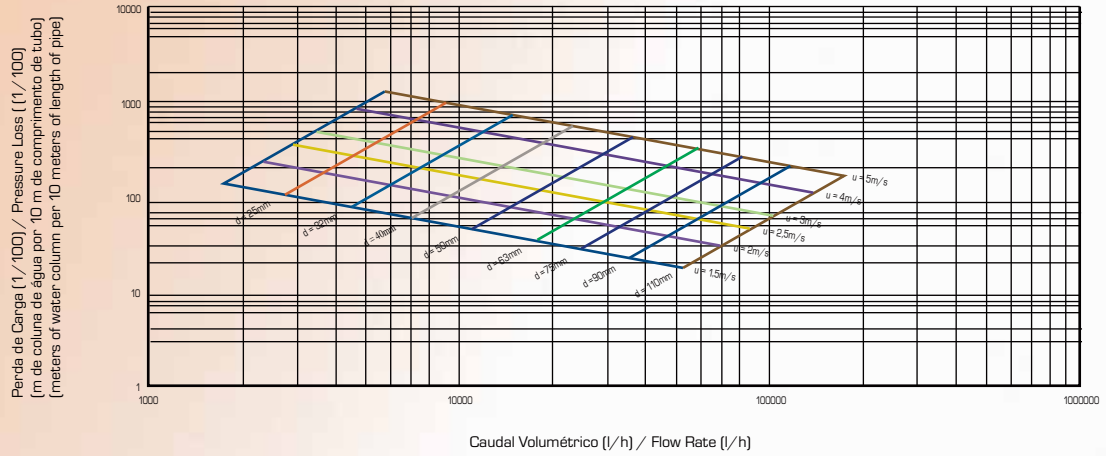
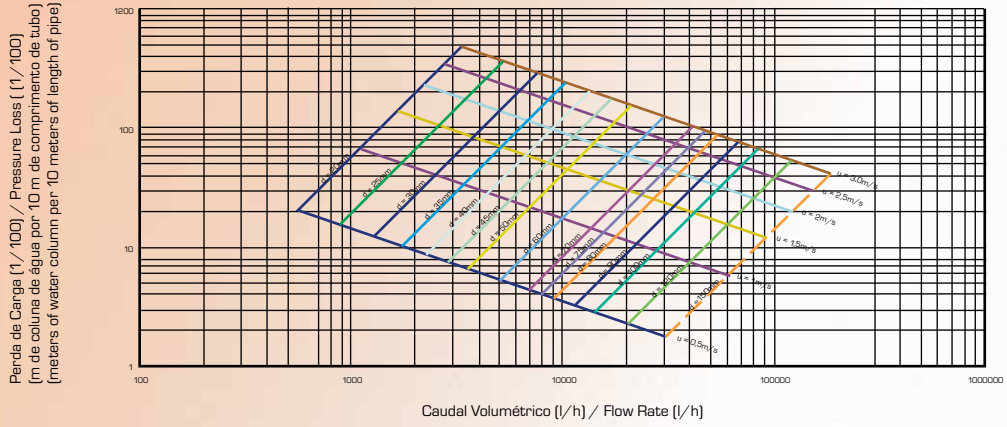
En el caso de utilizar agua hirviendo los tiempos de calentamiento deberan ser poco mas largos.

4. Una vez calentado el tubo proceda a montaje del accesorio ajustando las abrazaderas y apretandola suavemente. Despues de el conjunto frio, termine de apretarlas.

gráfico de perda de carga

Flow losses diagram

Perda de Carga em função do Caudal Volumétrico - helidur (PVC) / Pressure Loss - helidur (PVC)



Perda de Carga em função do Caudal - helithen (polietileno) / Pressure Loss - helithen (polietileno)

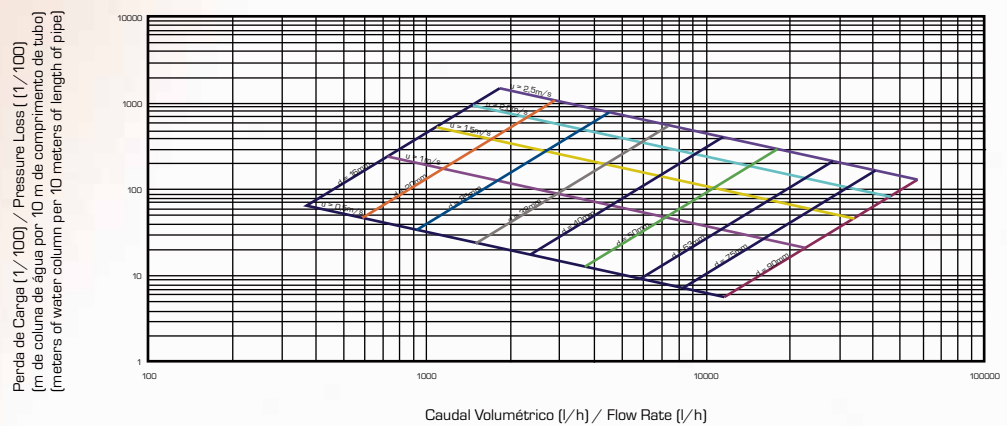
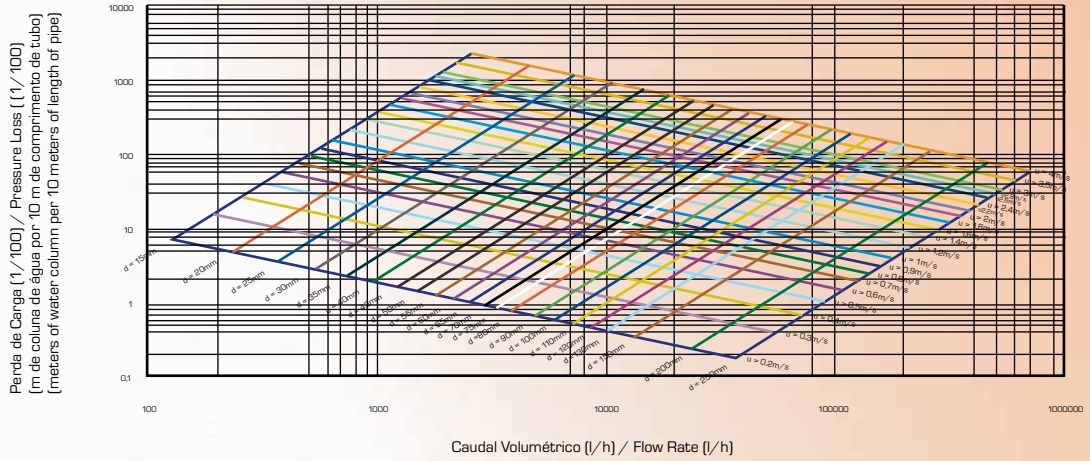


gráfico de perda de carga

Flow losses diagram

Perda de Carga em função do Caudal - heliflex / Pressure Loss - heliflex



Perda de Carga em função do Caudal - heliflat / Pressure Loss - heliflat

