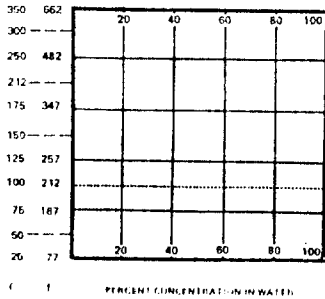


CORROSIVE	FERROUS ALLOYS				AUSTENITIC STAINLESS STEELS			Martensitic Stainless 405 410	COPPER BASE ALLOYS			
	CAST IRON			Mild Steel	302, 304, 321, 347	316, 317	AISI CN-20 20Cr-30Ni		Copper 85-99.9	Brass 70-80Cu + Zn, Sn or Pb	Brass 59-93Cu + Al, Zn or Au	Cupro- Nickel 66-88 : 11-33
	Gray	Nickel	Silicon									
DIETHYLENE TRIAMINE												
DIETHYL PHTHALATE												
DIETHYL SEBACATE												
DIFLUOROETHANE												
DIGLYCOLIC ACID												
DIGLYCOLIC ACID - DIBUTYL ESTER												
DIHYDROXYDIPHENYL-SULFONE												
DIISOBUTYL-CARBINOL												
DIISOBUTYL-KETONE												
DIISOPROPYL AMMONIUM NITRITE												
DIMETHYLAMINE												
DIMETHYL ETHER												



AVERAGE PENETRATION PER YEAR

Code	Mils	1 inch / 1000	Mil/year
●	< 2	0.002	50.8
○	< 20	0.020	508.0
□	20-50	0.050	1270.0
X	> 50	0.050	1270.0

SOME CONVERSION FACTORS
 Steel: mpy = lb/ft²/yr x 24.5
 spv x 8.96 x density = mil
 g/in²/d x 0.0144 x density = mpy
 l. fraction = 0.01937 mil
 Parts per million = 0.001 g/liter
 Percent = % equiv. liter (wt)

AVERAGE PENETRATION RATE/YR COMPARED TO WEIGHT LOSS

Code	mg/dm ² /day	g/m ² /yr	mil ² /yr
●	< 3.75	< 1.35	< 0.0284
○	< 17.90	< 6.46	< 0.284
□	17.9-94.5	6.46-34.50	0.284-0.71
X	> 94.5	> 34.50	> 0.71

Code	mg/dm ² /day	g/m ² /yr	mil ² /yr
●	< 11.9	< 4.35	< 0.0896
○	< 119.0	< 43.50	< 0.896
□	119.0-297.5	43.50-108.75	0.896-2.24
X	> 297.5	> 108.75	> 2.24

NICKEL BASE ALLOYS						MISCELLANEOUS METALS AND ALLOYS							
Nickel 99	Ni-Cu 66-32	Ni-Cr-Fe 76-16-7	Ni-Fe-Cr 32.47-26	Ni-Mo 37.28 Fe	Ni-Cr-Mo 54.15-16 Fe-W	Aluminum	Gold	Lead	Platinum	Silver	Tantalum	Titanium	Zirconium
1													
2													
3													
4													
5	21	21											
6						21	21						
7													
8													
9													
10													
11													
12						24							

FOOTNOTES FOR CORROSIVES

- | | |
|----------------------|-------------------|
| 1. Poison | 11. Fuming liquid |
| 2. Toxic | 12. Hygroscopic |
| 3. Explosive | |
| 4. Flammable | |
| 5. Ingestion poison | |
| 6. Inhalant poison | |
| 7. Attacks skin | |
| 8. Irritant | |
| 9. Vapor harmful | |
| 10. Ignites organics | |

FOOTNOTES FOR DATA SQUARES

- | | |
|-------------------------|--------------------------|
| 1. No water | 11. May discolor |
| 2. No air, oxygen | 12. May catalyze |
| 3. Low air, oxygen | 13. May pit |
| 4. Pits | 14. May stress crack |
| 5. Stress cracks | 15. Transgranular attack |
| 6. Stress corrosion | 16. Vapor |
| 7. Discolors | 17. Aerated |
| 8. Crevice attack | 18. Catalyzes |
| 9. Intergranular attack | 19. Static |
| 10. No chlorides | 20. Agitated |

- | |
|-------------------|
| 21. ~ 7 pH |
| 22. < 7 pH |
| 23. > 7 pH |
| 24. < 0.05% water |

NICKEL BASE ALLOYS						MISCELLANEOUS METALS AND ALLOYS							
Nickel 99	Ni-Cu 66-32	Ni-Cr-Fe 76-16-7	Ni-Fe-Cr 32-47-20	Ni-Mo 62-28 Fe, V	Ni-Cr-Mo 54-15-16 Fe, W	Aluminum	Gold	Lead	Platinum	Silver	Tantalum	Titanium	Zirconium
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													

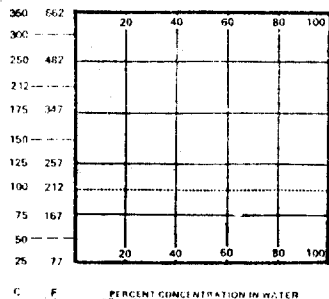
FOOTNOTES FOR CORROSIVES

- | | |
|----------------------|-------------------|
| 1. Poison | 11. Fuming liquid |
| 2. Toxic | 12. Hygroscopic |
| 3. Explosive | |
| 4. Flammable | |
| 5. Ingestion poison | |
| 6. Inhalant poison | |
| 7. Attacks skin | |
| 8. Irritant | |
| 9. Vapor harmful | |
| 10. Ignites organics | |

FOOTNOTES FOR DATA SQUARES

- | | | |
|-------------------------|--------------------------|-------------------|
| 1. No water | 11. May discolor | 21. ~ 7 pH |
| 2. No air, oxygen | 12. May catalyze | 22. < 7 pH |
| 3. Low air, oxygen | 13. May pit | 23. > 7 pH |
| 4. Pits | 14. May stress crack | 24. > 0.05% water |
| 5. Stress cracks | 15. Transgranular attack | 25. To 400 |
| 6. Stress corrosion | 16. Vapor | 26. > 0.1% water |
| 7. Discolors | 17. Aerated | |
| 8. Crevice attack | 18. Catalyzes | |
| 9. Intergranular attack | 19. Static | |
| 10. No chlorides | 20. Agitated | |

CORROSIVE	FERROUS ALLOYS				AUSTENITIC STAINLESS STEELS			Martensitic Stainless 40S-410	COPPER BASE ALLOYS			
	CAST IRON			Mild Steel	302, 304, 321, 347	316, 317	AISI CN-20 20Cr-30Ni		Cooper 85-99.9	Brass 70-80Cu + Zn, Sn or Pb	Brass 59-93Cu + Al, Zn or As	Cupro-Nickel 66-68-11-13
	Gray	Nickel	Silicon									
DISTILLER'S WASH	24	24		24	25	25			26		27	
1	[Corrosion]			[Corrosion]	[Corrosion]	[Corrosion]		[Corrosion]		[Corrosion]		
DIPHENYL CHLORIDE												
2												
DIPHENYLENE OXIDE												
3												
DIPHENYLOXIDE												
4												
DIPHENYL PROPANE												
5												
DITHIO ACID LIQUID & VAPOR												
6												
DODECYL BENZENE												
7												
DYES AND PIGMENTS	32	33		10	23	31	10	36	37		37	
8	[Corrosion]			[Corrosion]	[Corrosion]	[Corrosion]	[Corrosion]	[Corrosion]	[Corrosion]		[Corrosion]	
9												
10												
11												
12												



AVERAGE PENETRATION PER YEAR

Code	APR (mils/yr)	APR (mm/yr)	APR (mil/yr)
●	< 2	0.002	50.8
○	< 20	0.020	508.0
□	20	0.020	508.0
×	> 50	0.050	1270.0

SOME CONVERSION FACTORS
 1 mil = 0.001 inch = 0.0254 mm
 1 mil/yr = 0.001 in/yr = 0.0254 mm/yr
 1 mil/yr = 0.001 in/yr = 0.0254 mm/yr
 1 mil/yr = 0.001 in/yr = 0.0254 mm/yr
 1 mil/yr = 0.001 in/yr = 0.0254 mm/yr

AVERAGE PENETRATION RATE/YR COMPARED TO WEIGHT LOSS			
Code	APR (mils/yr)	W.L. (g/m ² /yr)	W.L. (lb/ft ² /yr)
ALUMINUM			
●	< 1.79	< 1.6	< 0.0284
○	< 17.9	< 16	< 0.284
□	17.9-179.5	1.6-16	0.284-2.84
×	> 179.5	> 16	> 2.84
COPPER, NICKEL & IRON			
●	< 1.18	< 1.1	< 0.0206
○	< 11.8	< 11	< 0.206
□	11.8-118.2	1.1-11	0.206-2.06
×	> 118.2	> 11	> 2.06
LEAD			
●	< 15.75	< 376	< 0.1178
○	< 157.5	< 3760	< 1.178
□	157.5-1575	376-3760	1.178-11.78
×	> 1575	> 3760	> 11.78
TANTALUM			
●	< 23.06	< 843	< 0.172
○	< 230.6	< 8430	< 1.72
□	230.6-2306	843-8430	1.72-17.2
×	> 2306	> 8430	> 17.2

NICKEL BASE ALLOYS					MISCELLANEOUS METALS AND ALLOYS							
Nickel 99	Ni-Cu 64-32	Ni-Cr-Fe 76-16-7	Ni-Fe-Cr 32-42-20	Ni-W-Cr 62-28-10	Ni-Cr-Mo 54-15-15-16	Aluminum	Copper	Zinc	Patinum	Silver	Titanium	Chromium
20	25	28						30		31		
1												
2												
3												
4												
5												
6												
7												
8	30	30	19					23		33		
9												
10												
11												
12												

FOOTNOTES FOR CORROSIVES		FOOTNOTES FOR DATA SQUARES	
1. Poison	1. No water	13. May pit	30. Nonfood
2. Toxic	2. No air, oxygen	14. May stress crack	31. Hydrogen blackens
3. Explosive	3. Low air, oxygen	15. Transgranular attack	32. < 1% sulfuric acid
4. Flammable	4. Pits	16. Vapor	33. Acid
5. Ingestion poison	5. Stress cracks	17. Aerated	34. No organic acids
6. Inhalant poison	6. Stress corrosion	18. Catalyzes	35. No sulfuric acid
7. Attacks skin	7. Discolor	19. Static	36. < 2.5% sulfuric acid
8. Irritant	8. Crevice attack	20. Agitated	37. Except thio, oxy acids
9. Vapor harmful	9. Intergranular attack	21. ~ 7 pH	38. No sulfur
10. Ignites organics	10. No chlorides	22. < 7 pH	39. Discolors in tannic acid
	11. May discolor	23. > 7 pH	40. Strong acids, chromes
	12. May catalyze	24. 4 to 9 pH	
		25. 1 to 9 pH	
		26. 2 to 7 pH	
		27. > 3 pH	
		28. 2 to 9 pH	
		29. 3.5 to 8 pH	

NICKEL BASE ALLOYS						MISCELLANEOUS METALS AND ALLOYS									
Nickel 99	Ni-Cu 66-32	70 Cr Fe 76-16-7	70 Fe Cr 32-47-20	70 Mo 76-29-Fe-3	Ni-Mo 54-5-5-1-1-3	Aluminum	Gold	Lead	Platinum	Silver	Ta Ti	Titanium	Zirconium		
1														1	
2														2	
3	24	24			24	24			27	10	29	21	9	10	3
4								2	21						4
5															5
6															6
7															7
8															8
9															9
10															10
11															11
12															12

- FOOTNOTES FOR CORROSIVES**
1. Poison
 2. Toxic
 3. Explosive
 4. Flammable
 5. Ingestion poison
 6. Inhalant poison
 7. Attacks skin
 8. Irritant
 9. Vapor harmful
 10. Ignites organics

- FOOTNOTES FOR DATA SQUARES**
1. No water
 2. No air, oxygen
 3. Low air, oxygen
 4. Pits
 5. Stress cracks
 6. Stress corrosion
 7. Discolors
 8. Crevice attack
 9. Inter-particle attacks
 10. No chlorides
 11. May discolor
 12. May catalyze
 13. May pit
 14. May stress crack
 15. Transgranular attack
 16. Vapor
 17. Aerated
 18. Catalyzes
 19. Static
 20. Agitated
 21. ~ 7 pH
 22. < 7 pH
 23. > 7 pH
 24. With H₂SO₄
 25. Not fuels
 26. < 0.05% water
 27. With hydrochloric acid
 28. No hydrochloric acid
 29. Propionic acid
 30. < 2% water
 31. Dealloys in water