

## LAMPIRAN

### Lampiran 1

Tabel 6.1. Tatacara Menentukan Efektifitas Inspeksi untuk *General Corrosion*

(sumber: Standar API-581)

Inspection Effectiveness Category	Example: Intrusive Inspection	Example: Nonintrusive Inspection
Highly Effective	50–100% examination of the surface (partial internals removed), and accompanied by thickness measurements.	50–100% ultrasonic scanning coverage (automated or manual) or profile radiography
Usually Effective	Nominally 20% examination (no internals removed), and spot external ultrasonic thickness measurements.	Nominally 20% ultrasonic scanning coverage (automated or manual), or profile radiography, or external spot thickness (statistically validated).
Fairly Effective	Visual examination without thickness measurements.	2–3% examination, spot external ultrasonic thickness measurements, and little or no internal visual examination.
Poorly Effective	External spot thickness readings only.	Several thickness measurements, and a documented inspection planning system.
Ineffective	No inspection.	Several thickness measurements taken only externally, and a poorly documented inspection planning system.

### Lampiran 2

Tabel 6.2. Jenis Penipisan

(sumber: Standar API-581)

Thinning Mechanism	Type of Thinning
Hydrochloric Acid (HCl) Corrosion	Localized
High Temperature Sulfidic/Naphthenic Acid Corrosion	
TAN ≤ 0.5	General
TAN > 0.5	Localized
High Temperature H <sub>2</sub> S/H <sub>2</sub> Corrosion	General
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ) Corrosion	
Low Velocity	General
<= 2 ft/sec for carbon steel, <= 4 ft/sec for SS, and <= 6 ft/sec for higher alloys	
High Velocity	Localized
> 2 ft/sec for carbon steel, > 4 ft/sec for SS, and > 6 ft/sec for higher alloys	
Hydrofluoric Acid (HF) Corrosion	Localized
Sour Water Corrosion	
Low Velocity	General
<= 20 ft/sec	
High Velocity	Localized
> 20 ft/sec	
Amine Corrosion	
Low Velocity	
< 5 fps rich amine	General
< 20 fps lean amine	General
High Velocity	
>5 fps rich amine	Localized
>20 fps lean amine	Localized
High Temperature Oxidation	General

Lampiran 3

Tabel 6.4. Penentuan Nilai *Technical Module Subfactor*

(sumber: Standar API-581)

Number of Inspections	1				2				3				4				5				6				
	Inspection Effectiveness				Inspection Effectiveness				Inspection Effectiveness				Inspection Effectiveness				Inspection Effectiveness				Inspection Effectiveness				
ar/t	No Inspect.	Poorly	Fairly	Usually	Highly	Poorly	Fairly	Usually	Highly	Poorly	Fairly	Usually	Highly	Poorly	Fairly	Usually	Highly	Poorly	Fairly	Usually	Highly	Poorly	Fairly	Usually	Highly
0.02	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.04	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.06	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.08	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.10	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.12	6	5	3	2	1	4	2	1	1	3	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1
0.14	20	17	10	6	1	13	6	1	1	10	3	1	1	7	2	1	1	5	1	1	1	4	1	1	1
0.16	90	70	50	20	3	50	20	4	1	40	10	1	1	30	5	1	1	20	2	1	1	14	1	1	1
0.18	250	200	130	70	7	170	70	10	1	130	35	3	1	100	15	1	1	70	7	1	1	50	3	1	1
0.20	400	300	210	110	15	290	120	20	1	260	60	5	1	180	20	2	1	120	10	1	1	100	6	1	1
0.25	520	450	290	150	20	350	170	30	2	240	80	6	1	200	30	2	1	150	15	2	1	120	7	1	1
0.30	650	550	400	200	30	400	200	40	4	320	110	9	2	240	50	4	2	180	25	3	2	150	10	2	2
0.35	750	650	550	300	80	600	300	80	10	540	150	20	5	440	90	10	4	350	70	6	4	280	40	5	4
0.40	900	800	700	400	130	700	400	120	30	600	200	50	10	500	140	20	8	400	110	10	8	350	90	9	8
0.45	1050	900	810	500	200	800	500	160	40	700	270	60	20	600	200	30	15	500	160	20	15	400	130	20	15
0.50	1200	1100	970	600	270	1000	600	200	60	900	360	80	40	800	270	50	40	700	210	40	40	600	180	40	40
0.55	1350	1200	1130	700	350	1100	750	300	100	1000	500	130	90	900	350	100	90	800	260	90	90	700	240	90	90
0.60	1500	1400	1250	850	500	1300	900	400	230	1200	620	250	210	1000	450	220	210	900	360	210	210	800	300	210	210
0.65	1900	1700	1400	1000	700	1600	1105	670	530	1300	880	550	500	1200	700	530	500	1100	640	500	500	1000	600	500	500

Instructions:

1. Find the row with the calculated ar/t value or the next higher value, or interpolation may be used between rows.
2. Determine subfactor under appropriate column for number of inspections of the highest inspection effectiveness.

