KEPIC 적용사례: MH-C-216

(승인일자: 2020. 5. 13.)

제목: KEPIC-MHD 시험에 대한 Test Form 사용

질의:

다음의 KEPIC-MHD 시험에 대해 적용 가능한 Test Form이 있습니까?

- 1. ACU 하우징 누설시험
- 2. ACU 하우징 구조적 내압력시험
- 3. ACU 공기유량 분배시험
- 4. 공기 에어로졸 혼합 균일성 시험
- 5. 헤파필터 뱅크 현장 누설시험
- 6. 흡착기 뱅크 현장 누설시험

답변:

다음의 양식으로 사용 가능합니다.

- 붙임 1. ACU 하우징 누설시험 양식
 - 2. ACU 하우징 구조적 내압력시험 양식
 - 3. ACU 공기유량 분배시험 양식
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 - 5. 헤파필터 뱅크 현장 누설시험 양식
 - 6. 흡착기 뱅크 현장 누설시험 양식

KEPIC CODE CASE: MH-C-216

(Approval Date : 2020. 5. 13.)

Subject: Usage of Test Form related to the Test of KEPIC-MHD

Inquiry:

Are the applicable test form available for the following tests of KEPIC-MHD?

- 1. ACU Housing Leak Test
- 2. ACU Housing Structural Capability Test
- 3. ACU Airflow Distribution Test
- 4. Air-Aerosol Mixing Uniformity Test
- 5. HEPA Filter In-place Leak Test
- 6. Adsorber Bank In-place Leak Test

Reply:

Yes. The following test forms are available.

- 1. ACU Housing Leak Test Report
- 2. ACU Housing Structural Capability Test Report
- 3. ACU Airflow Distribution Test Report
- 4. Air-Aerosol Mixing Uniformity Test Report
- 5. HEPA Filter Bank In-place Leak Test Report
- 6. ACU Carbon In-place Leak Test Report

붙임 1. ACU 하우징 누설시험 양식

	AC	U H	OUS!	ING	LEA	AK	TES	T FOR	M	Page	of			
Cu	stomer				Spec. N	0.			Report No.					
Proj	ect No.			Е	quip. Na	ame		'						
Proce	dure No.			I	Equip. N	lo.			Test Date					
1. Tes	st Condition	ns		•				<u> </u>						
Design	Air Flow	Rate			() c	emh (cfm)			m ³			
Max. O	perating Pres	sure (P)			() F	Pa (in.w.g)	Housing Volume	ft ³				
Test P	Pressure (P >	(1.25)			() I	Pa (in.w.g)	Volume					
2. Tes	st Equipme													
No.	Γ	Description	on			S	erial No).	Cal.	Due Date				
1														
2														
3														
3. Tes	st Data													
Time	Housing	g Pressu	re	I	Housing T	`emperat	ture	Calculated Housing Leakage Rate						
[min]	[Pa]	[]] [°C] [] [KEPIC-MHD Appendix TA							o] -marks			
1								-11	2)					
2								□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □						
3 4														
5								= avera	age leak rate, scfm(sm³/density =0.075 lb/ft³(1.2	(s)				
6									(kg/m^3)] $(r, ft^3(m^3))$					
7								= initia [Pa(a	oundary, lb/ft ²					
8								= final	pressure within test bo	undary, lb/ft ²				
9								갱	lute temperature at start		1			
10								7	lute temperature at end aa 라 time difference)			
11								pc "	at start of test (minute					
12								7 ×	at end of test (minutes	s)				
13								= gas (constant for air; 53.35 (g-°K)	ft-lb/lb-°R(0.286	6			
14								71-71-71- =		scfm(sm ³ /	(s)			
15								3) 있지같		_ `				
4. Tes	st Results					Acce	ptable	□ Una	cceptable					
Ассер	otance Criteri	ia (Give	n Leaka	ge Ra	ate × Ai	ir Flov	w) :	×	=	() cn	nh (cfm)			
Tested	d by : _			D	ate:									
Check	ted by :			D	ate:									
Appro	oved by :			D	ate:		Witne	ssed by :		Date:				

붙임 2. ACU 하우징 구조적 내압력시험 양식

ACU HOUSING STRUCTURAL CAPABILITY												
		TE	ST FORM	M				Page	of			
Customer			Spec. No.			Report No	0.					
Project No.		J	Equip. Name									
Procedure No.			Equip. No.			Test Date	e					
1. Test Condit	ions											
Design Air Flow Rate			() cmh (cf	m)	□ Test Dura	tion :	: Minimu Minutes				
Test Pressure (Max. Design Pres	ssure × 1.25)		() Pa (in.w	v.g)							
2. Test Equipm	nent											
No.	Description	1	S	erial No.		Cal. Due Date						
1												
2												
3												
3. Test Data												
Time Hou	using Pressu	re	Housing Te	emperature	Visual In	_		Remarks				
[min] [Pa]] []	[°C]	<a< td=""><td>any distortio</td><td>n or</td><td>breach></td><td>Kenana</td></a<>	any distortio	n or	breach>	Kenana				
0												
2												
4												
6												
8												
10												
4. Test Results	š		□ Acce	eptable ==	Unac	cceptable						
Acceptance Crit	ieria : No b	reach of in	ntegrity or Una	cceptable distor	tion							
Remark												
Tested by	:]	Date:	_								
Checked by	:]	Date:	_								
Approved by	:	1	Date:		Date:							

붙임 3. ACU 공기유량 분배시험 양식

AC	EU A	AIRF	L OW	DIS	STRII	BUTIO	ON '	TES	T F	ORM	Page	of
Customer	•			Sp	ec. No.				Re	port No.		
Project No	0.			Equ	ip. Nan	ne						
Procedure 1	No.			Eq	uip. No				Те	est Date		
1. Test Con	nditio	ons										
Design Air I	Flow	Rate	() (cmh (cf	m) Test	Air F	low R	ate	() cm	h (cfm)
2. Test Equ	uipme	ent										
No.		Descript	ion			Serial	No.			Cal.	Due Date	
1												
2												
3												
3. Test Data	a 🗆]	Moist Sep	arator 🗆	Prefilte	er Bank	□ Post I	IEPA I	Filter B	ank 🗆	Adsorber Ba	ank [UNIT	: m/s (fps)]
Row	1	2	3		4	5	6		7	8	9	Remark
A												
В												
С												
D												
Е												
AVG.												
4. Test Res	sults											
A	Accept	tance Cri	teria		Within	n ± 20 %	Chec	k the	door po	osition $()$		
		N	Лах.					F				
Velocity			Min.				1	 				
		1	V1111.									
Deviation	(Ma	ıx. Vel. / 1	Avg. Vel.)	× 100] [
	(Mi	n. Vel. / A	Avg. Vel.)	× 100								
			Test R	esults	: 🗆 Acc	ceptable		Unac	ceptabl	e		
Remark												
Tested by	:			Date	e :							
Checked by	:			Date	e :							
Approved by : Date					e :	Wi	tnessed	by:			Date:	

붙임 4. 공기 에어로졸 혼합 균일성시험 양식

A A	AIR	R-AERO	DSOL	M	IXIN	VG	UN	IFOR	MIT	Y			
			T	EST	Γ FC)RN	1					Page	of
Customer	•			Sp	ec. No).				Rep	ort No.		
Project No	o.			Equ	ip. Naı	me							
Procedure 1	No.			Eq	uip. No	0.				Tes	t Date		
1. Test Con	nditi	ons											
Design Air Flow Rate			()	cmh (ctm)			Test Air low Rate			() cı	mh (cfm)
Bank Differe Pressure (△			()	Pa (in	.w.g)		Challenge Aerosol					
2. Test Equ	ıipm	ent				'							
No.		Description	on			S	Serial	No.			Cal.	Due Date	
1													
2													
3													
3. Test Dat	a		□ НЕР	A Fil	ter Bar	ık ı	□ Po	st HEPA	Filter	Banl	ζ	[UNI	[T : %]
Row Height	1 2 3		4		5	5	6	7	,	8	9	Remark	
A													
В													
С													
D													
Е													
F													
AVG.				·									
4. Test Res	sults												
Α	Ссер	tance Crite	ria		Withi	n ± 2	0 %	Check th	e doo	r pos	sition $()$		
Concentration		Ma	ax.										
Concentration		M	in.										
Danietia u	(Ma	x. Con. / A	vg. Con.)	× 100)								
Deviation	(Mi	n. Con. / Av	vg. Con.)	× 100									
			Test Re	sults	: 🗆 Ac	ccepta	ble	□ Un	accep	table			
Remark													
Tested by	:			Date	e :								
Checked by	:				e :								
Approved by	y :			Date	e :		Wit	nessed by	:			Date:	

붙임 5. 헤파필터 뱅크 현장 누설시험 양식

		IN-PLACE	E LE	EAK TE	ST FO	ORM				
		(HEPA	\ FI	LTER E	BANK)			Page o	f
Cus	tomer		S	pec. No.			Repor	t No.		
Proje	ect No.		Equ	uip. Name						
Proced	lure No.		Ес	quip. No.			Test	Date		
1. Test	t Condition	ons								
	gn Air v Rate	() cmh (cfm)	Air Rate		() cm	ıh (cfm)	
	re (△P)	() Pa (in.w.g)	Chall Aero					
	ground entration	B _u (Upstream)				B _d (Downs	tream)			
2. Test	t Equipm	ent								
No.		Description		S	Serial No.		Cal. Due Date			
1										
2										
3										
3. Test	t Data	□ HE	PA Fil	ter Bank	□ Post F	IEPA Filter	Bank		[UNI]	: %]
No.	Upstre	eam Concentration (C	~u)	Downstream	n Concent	ration (C _d)	La	olengo Da	ata (9/)	Remark
INO.	Reading	<range :<="" td=""><td>_></td><td>Reading <</td><td>Range: _</td><td>></td><td>Lea</td><td>akage Ra</td><td>110 (70)</td><td>Kemark</td></range>	_>	Reading <	Range: _	>	Lea	akage Ra	110 (70)	Kemark
1st			%			%		강 강 × 정 정		
2nd			%			%	or $\frac{z_1}{\sigma} \times$			
3rd			%			%		겉		
4th			%			%	Note: If background value is			
5th			%		or background reading i					
6th			%			%				
AVG.										
4. Test	Results			□ Accepta	ble	□ Unac	ceptabl	e		
Accepta	ance Criter	ria (Leakage Rate)) : ≦	0.05%						
Remark	k									
Tested	by :		Da	te:						
Checke	ed by :		Da	te:						
Approved by : Da				te:	Witness	ed by :			Date:	

붙임 6. 흡착기 뱅크 현장 누설시험 양식

		IN-PLAC	E LE	EAK TE	ST 1	FORM						
		(AD	SOR	BER BA	ANK)			Page o	of		
Cus	stomer S _r			pec. No.			Repo	ort No.				
Proje	ect No.		Equ	uip. Name								
Procee	dure No.		Ec	quip. No.			Test	t Date				
1. Tes	t Conditi	ons										
Design Air Flow Rate		()) cmh (cfm)	Test Air Flow Rate			() cm	nh (cfm)		
	Differential are $(\triangle P)$	() Pa (in.w.g)	Туре	of Test			Bank	System			
	ground entration	B _u (Upstream)			B _d (Downs	tream)						
	Challeng	e Gas										
2. Tes	t Equipm	ent										
No.	Description			S	Serial N	o.		Cal. Due Date				
1												
2												
3												
3. Tes	t Data											
Pulse		Со	ncentratio	on Readings			Leakage Rate (%)			Remark		
No.		Upstream (C _u)		Dow	nstrean	n (C _d)				Kemark		
1st			ppm			pp	b	겉 겉				
2nd			ppm			pp	b or					
3rd			ppm			pp		겉				
4th			ppm			pp	b Note:		nd value is 0 and reading is			
5th			ppm		ppb							
AVG.	C _u :		ppm	C _d :		pp	b	걽걽강 겉	×			
4. Test	t Results			□ Accepta	ble	□ Un	acceptal	ble				
Accept	ance Crite	ria (Leakage Rat	e) : ≦	0.05%								
Remar	k 1.	Test Method:	□ Pulse	e 🗆 Conti	inuous							
	2.	Can use automa	tic log	data of other	r equipi	ment						
Tested	by :		Dat	te:								
Checke	ed by :			te:								
Appro	ved by :		Witne	ssed by : _			Date:					