QUALITEK®

HDT-200
Digital Titration Kit

DESCRIPTION

The HDT-200 Titration Kit contains the following:

1. 1 Hach digital titrator (6900-02)
2. 10 ml. plastic graduated cylinder (GRAD-001)
3. 1- 125ml. Erlenmeyer flask (FLASK-001)
4. 1 ounce of phenolphthaiein indicator solution (SOLN-P)
5. 1- 1.6 ounce N NaOH cartridge (CART-001)
6. 5 delivery hook tubes (TUBE-001)

APPLICATION METHODS

All no-clean, low-solids liquid fluxes may be monitored by an acid /base titration procedure. A measured amount of flux is titrated with a strong base titrant (of known concentration) to an end point indicated by a color change. The titration reading allows for a calculation of the acid number. The tables are used to determine the appropriate amount of thinner to maintain the flux concentration within the prescribed range. This method of process control is very useful, since acid number is proportional to the solids content of the flux.

Acid number is defined as the milligrams of pure KOH needed to neutralize the acid contained with one gram of flux.

PROCEDURE

1. Attach a clean delivery tube to a known normality (1.6N) cartridge of NaOH. Fasten the cartridge to the body of the digital titrator.
2. Flush the delivery tube by turning the coarse delivery knob to eject a few drops of titrant (1.6N NaOH). Reset the counter to zero and dry the tip.
3. Take a sample from the flux tank. Using the pipette, transfer 2.0ml into the 125-ml flask. Add the solution of 80 IPA/20 DI Water (V/V) to the 75-ml mark on the flask. (This carrier solution may be obtained from Qualitek).
4. Add 3 drops of indicator solution to the flask and swirl gently to mix.
5. Immerse the end of the delivery tube into the sample and perform titration by turning the delivery knob. Keep turning the knob until the sample changes from a clear solution to a light pink solution. When the pink coloration persists within the solution (the color does not fade with mixing), this is the end point of the titration.
6. The number in the digital titration window is used calculate the acid number: AN=Titrator Number/Flux Factor
7. Depress the plunger release button and manually retract the plunger into the body of the titrator. Remove the cartridge and delivery tube, and reseal the cartridge.
8. Use the acid number conversion and add the appropriate amount of thinner to the flux reservoir based on the process control chart on Table 1.

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Consult MSDS for health and safety information

Low Solids No-Clean Fluxes
Table 1

#302 FLUX		
Flux Factor = 14.3		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
242-299	17-21	0
314	22	7
328	23	13
342	24	19
357	25	24
371	26	29

#303 FLUX		
Flux Factor = 14.3		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
258-301	18-21	0
315	22	7
330	23	13
344	24	18
358	25	23
373	26	28

#305 FLUX		
Flux Factor = 14.2		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
312-368	22-26	0
383	27	5
397	28	9
411	29	13
425	30	17
439	31	21

#312 FLUX		
Flux Factor = 14.1		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
239-296	17-21	0
310	22	6
324	23	13
338	24	18
352	25	23
366	26	28

#321 FLUX		
Flux Factor = 14.5		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
262-320	18-22	0
335	23	6
349	24	11
364	25	16
378	26	20
393	27	25

#326 FLUX		
Flux Factor = 14.4		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
216-302	15-21	0
316	22	1
331	23	9
345	24	16
360	25	23
374	26	29

#360 FLUX		
Flux Factor = 14.6		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
219-262	15-18	0
292	19	7
306	20	13
321	21	18
335	22	23
350	23	28

#380 FLUX		
Flux Factor = 14.1		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
212-269	15-19	0
283	20	16
297	21	22
311	22	27
325	23	32
339	24	36

#350NVOC FLUX		
Flux Factor = 17.9		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
323-395	18-22	0
413	23	6
431	24	11
449	25	16
467	25	20
485	27	24

#350NVOCF FLUX		
Flux Factor = 17.9		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
323-395	18-22	0
413	23	11
431	24	16
449	25	20
467	26	25
485	27	28

#365 FLUX		
Flux Factor = 14.3		
Digits*	Acid Number mgKOH/g	Thinner required fl oz/ga
230-287	16-20	0
301	21	15
316	22	20
330	23	25
344	24	28
359	25	32