
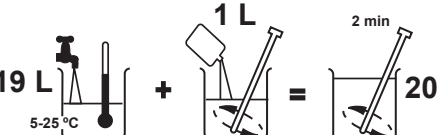

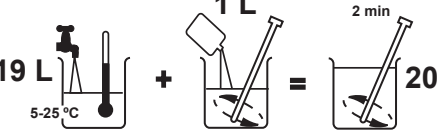


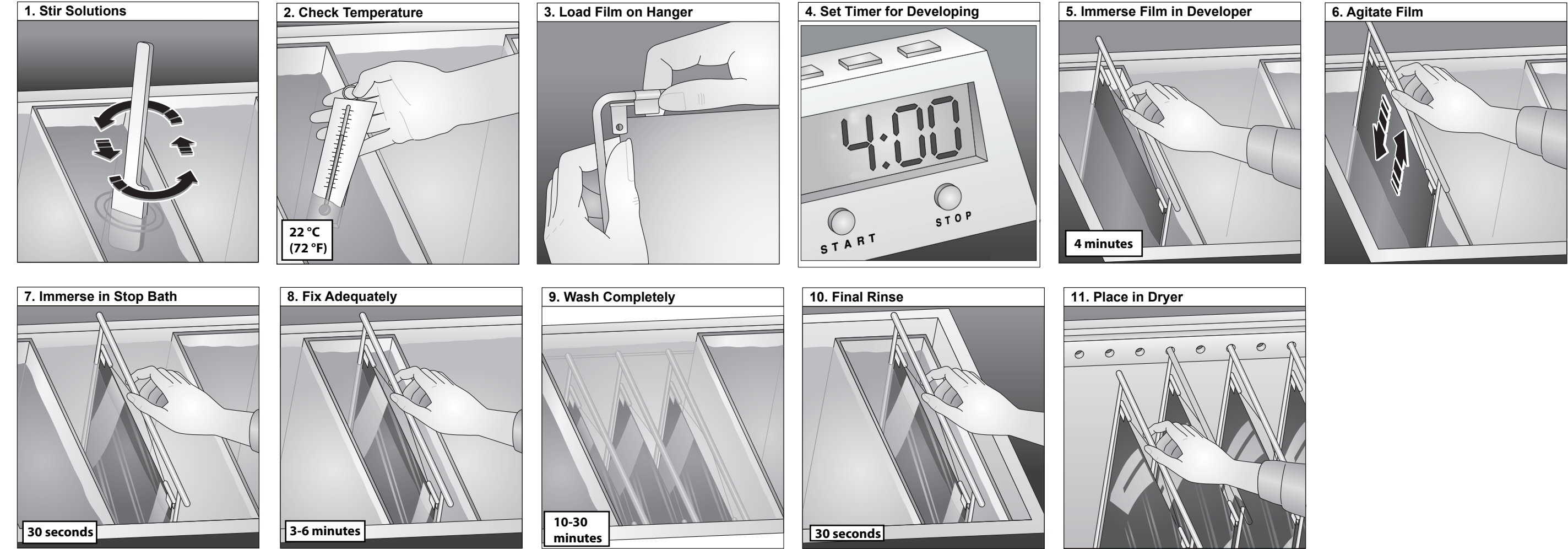
CarestreamNDT

Reference Guide to Manual Processing of INDUSTREX Films

NOTE: For more information, see CHSP-8791.

Recommended Chemicals and Mixing Instructions

	Dilution Concentrate + H ₂ O	Replenishment Rate	pH Working Strength	Specific Gravity Working Strength	To Make Working Strength Solution
Developer					
Use INDUSTREX Single Part Developer Replenisher or INDUSTREX Manual Developer. NOTE: Although optimized for automatic processing, the improved Single Part Developer Replenisher can be used for manual processing. However, optimal manual processing performance is obtained with the INDUSTREX Manual Developer Kit and Fixer Kit.	1 + 3	665mL/m ² (e.g., 100 mL per 14 x 17 inch sheet)	10.55 +/- 0.10 (25 °C, 77 °F)	1.078 +/- 0.005 (20 °C, 68 °F)	
Stop Bath					
Use INDUSTREX Manual Stop Bath. This stop bath rapidly halts development, preventing most spotting and streaking and prolongs the life of the fixing bath. This odorless stop bath features an indicator that changes color (from orange-yellow to magenta-red) at pH 5.2 to alert the user of declining activity, so that the solution can be changed or additional concentrate added.	1 + 19	No replenishment required. Add water to compensate for carryover and evaporation. Change out the solution when a color change occurs, or add more concentrate.	2.20 +/- 0.10 (25 °C, 77 °F)	— —	
Fixer					
Use INDUSTREX LO Fixer and Replenisher or INDUSTREX Manual Fixer and Replenisher.	1 + 3	1200mL/m ² (e.g., 180mL per 14 x 17 inch sheet) It may be neccessary to discard some used solution before adding the proper volume of replenisher.	5.80 +/- 0.10 (25 °C, 77 °F)	1.095 +/- 0.005 (20 °C, 68 °F)	
Final Rinse					
Use INDUSTREX Manual Rinse Solution. This solution is a wetting agent that effectively reduces water spots and drying marks.	1 + 19	No replenishment required. Add water to compensate for carryover and evaporation. Change out the solution when other solutions are changed.	— —	— —	



Manual Processing Cycle

	Developer	Stop Bath	Fixer	Wash	Rinse Solution
Time/Temperature	5 minutes - 20 °C (68 °F) 4 minutes - 22 °C (72 °F)* 3 minutes - 24 °C (75 °F) 2 minutes - 26 °C (79 °F)	30 seconds	3 to 6 minutes or twice the time to clear film	10 to 30 minutes in running water (8 volume changes per hour)	30 seconds
Notes	Important: Immediately after immersion in the developer, tap the hanger to dislodge air bubbles. Do not agitate further. Use floating covers on the developer tank to reduce oxidation and evaporation; store developer replenisher in a closed airtight container. Fill the developer tank to its original level each day (topping off) with developer replenisher solution.	Important: PULL AND PLUNGE FILM DIRECTLY FROM DEVELOPER INTO STOPTH. DO NOT ALLOW EXCESS DEVELOPER TO DRAIN BACK INTO DEVELOPER TANK. Continuous moderate agitation. Fill the stop bath tank to its original level each day (topping off) with water.	Important: Agitate the film for 5 seconds every 30 seconds. Fill the fixer tank to its original level each day (topping off) with fixer replenisher solution.		Fill the final rinse tank to its original level each day (topping off) with water.
	Stir solutions after each addition.				
	Discard solutions after adding two tank volumes of replenisher to the tank, or at least once per month, and then refill with fresh solution.				

* Recommended

Ensuring Process Quality

Use a test kit to ensure good life expectancy (LE) characteristics for radiographs. A test kit such as the X-OMAT Hypo Estimator Test Kit (CAT 196 5847) determines whether film has been adequately washed and provides an estimate of the archival life you can expect. The kit comes with testing solution, eyedropper, instructions for use, and a visual Hypo Estimator.

Exposure Film Factor (R) - Film Types and Desired Densities

		2	2.5	3	3.5
Selenium	M100	3.6	4.6	5.5	6.5
	MX125	2.2	2.9	3.6	4.4
	T200	1.4	1.8	2.2	2.6
	AA400	0.8	1.2	1.6	2
	HS800	0.3	0.6	0.8	1
Iridium	M100	3.2	4.3	5.5	6.6
	MX125	2.3	3.1	3.9	4.7
	T200	1.1	1.5	2	2.4
	AA400	0.8	1.1	1.5	1.9
	HS800	0.2	0.5	0.7	0.9
Cobalt	M100	7.3	9.3	11.4	13.4
	MX125	3.9	5.3	6.7	7.9
	T200	2.3	3.1	3.9	4.7
	AA400	1.2	1.8	2.4	2.9
	HS800	0.1	0.6	1	1.4

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