

Table 1. Effect of dye concentration on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse blue 56 using conventional technique.

Dye conc.	K/S	Light fastness	Rubbing fastness		Washing fastness			Perspiration			
			dry	wet	St cotton	St Wool	Alt.	Acidic Alt	St	Alkaline Alt	St
0.5	3.5	5	5	4-5	4	4	4-5	4-5	4-5	4-5	4-5
1	7.9	5	4	4	4	4	4	4-5	4-5	4-5	4-5
2	12.3	5	4-5	4	4	4	4	4-5	4-5	4-5	4-5
3	14.6	5	4-5	4	4-5	4	4	4-5	4-5	4-5	4-5

* Liquor ratio 1:20, Temperature 100°C, dyeing time 45 minute, Carrier 1 g/L, dispersing agent 1 g/L pH=4.5

Table 2. Effect of dyeing time on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse blue 56 using microwave irradiation technique.

	Dyeing Time	K/S	Light fastness	Rubbing fastness		Washing fastness			Perspiration			
				dry	wet	St. on cotton	St. on wool	Alt.	Acidic		Alkaline	
									Alt	St.	Alt	St.
0.5% Shading	1	2.1	5	4	3-4	4	4	4	4	4	4	4
	2	4.1	5	4	4	4	4	4-5	4-5	4-5	4-5	4-5
	5	5.6	5	4	4	5	4	4-5	4-5	4-5	4-5	4-5
3% Shading	1	3.6	5	4	3-4	4	4	4	4	3-4	4	4
	2	6.35	5	4	4	4	4	4-5	4-5	4-5	4-5	4-5
	5	15.5	5	5	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5

* Microwave power 200 w, Liquor ratio 1:20, Temperature 100°C, Carrier 0 g/L, dispersing agent 0g/L pH=4.5

Table 3. Effect of liquor ratio on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse blue 56 using microwave irradiation technique.

				Rubbing		Washing fastness			Perspiration			
Dye			Light	fastness								
Conc.	Liquor ratio	K/S	Fastness			St. on	St. on		Acidic	Alkaline		
				dry	wet	cotton	wool	Alt.	Alt	St.	Alt	St.
0.5% Shading	1:20	5.6	5	4-5	4	4	4-5	4-5	4-5	4-5	4-5	4-5
	1:10	6.0	5	5	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5
	1:5	6.4	5	5	4-5	5	4	4-5	4-5	4-5	4-5	4-5
3% Shading	1:20	15.5	5	4	4	4	4-5	4	4-5	4-5	4-5	4
	1:10	15.9	5	4-5	4	4-5	4	4	4-5	4-5	4-5	4-5
	1:5	16.20	5	4	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5

*Microwave power 200 w, Temperature 100°C, dyeing time 5 minute, pH=4.5

Table 4. Effect of microwave power on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse blue 56 using microwave irradiation technique.

Dye Conc.	Power (Watt)	K/S	Light Fastness s	Rubbing fastness		Washing fastness			Perspiration			
				Dry	Wet	St. on	St. on	Alt.	Acidic		Alkaline	
						Cotton	Wool		Alt	St.	Alt	St.
0.5% Shading	200	6.4	5	4-5	4	4	4-5	4	4-5	5	4-5	5
	400	6.6	5	5	4-5	5	4	4-5	4-5	4-5	4-5	4-5
	600	6.7	5	5	4-5	5	4	4-5	4-5	4-5	4-5	4-5
3% Shading	200	16.2	5	4	4	4	4-5	4-5	4	4-5	4-5	4-5
	400	16.2	5	4	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5
	600	16.4	5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5

*Liquor ratio 1:5, Temperature 100°C, dyeing time 5 minute, pH=4.5

Table 5. Effect of dye concentration on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse dye red 60 using conventional technique.

Dye conc (%)	K/S	Light fastness	Rubbing fastness		Washing fastness			Perspiration				
								Acidic		Alkaline		
								St.		Alt.		
								Alt.	St.	Alt.	St.	Alt.
0.5	4.5	5	dry	wet	St.c	w	Alt.	4-5	4-5	4-5	4-5	4-5
1	8.5	5	4-5	4	4	4	4	4-5	4-5	4-5	4-5	4-5
2	11.4	5	4-5	4	4	4	4-5	4-5	4-5	4-5	4-5	4-5
3	15.6	5	4-5	4	4	4-5	4	4-5	4-5	4-5	4-5	4-5

* Liquor ratio 1:20, Temperature 100°C, dyeing time 45 minute, Carrier 1 g/L, dispersing agent 1 g/L pH=4.5

Table 6. Effect of dye concentration on the color strength and the overall fastness properties of dyeing* polyamide fabric using disperse dye red 60 using microwave irradiation technique. (Optimum condition)

Dye conc.%	K/S	Light fastness	Rubbing fastness		Washing fastness			Perspiration				
								Acidic		Alkaline		
								St.		Alt.		
								Alt.	St.	Alt.	St.	Alt.
0.5	4.9	5	Dry	wet	St. on cotton	St. on wool	Alt.	4-5	5	5	5	5
1	8.9	5	5	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
2	11.9	5	4-5	4	5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
3	16.0	5	4-5	4	4	4	4	4	4-5	4-5	4-5	4-5

*Liquor ratio 1:5, Microwave power 200w, Temperature 100°C, dyeing time 5 minute, Carrier 0 g/L, dispersing agent 0 g/L pH=4.