



**DYCRO**<sup>®</sup>

DYCROFIX



## Dycrofix "HE"

For hot exhaust economical dyes for standard requirements

| Dyeing                                                                              | Dycrofix HE                 | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application |
|-------------------------------------------------------------------------------------|-----------------------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|--------------------|
|                                                                                     |                             |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                    |
|    | Yellow HE6G<br>Yellow 135   | 4                   | H<br>M                   | 5             | 3<br>2-3           | 4<br>4-5     | 4<br>4-5   | 4-5      | 4                 | 5<br>4     | 2<br>3          | G                | 70         | •<br>- -           |
|    | Yellow HE3G<br>Yellow 105   | 5                   | H<br>M                   | 5             | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 3                 | 5<br>4     | 2<br>3          | F                | 80         | •<br>- -           |
|    | Yellow HE4G<br>Yellow 81    | 4                   | H<br>M                   | 5             | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 3-4      | 2                 | 5<br>4     | 2<br>3          | G                | 70         | •<br>- -           |
|   | G. Yellow HE4R<br>Yellow 84 | 5                   | H<br>M                   | 5             | 4<br>4             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4                 | 5<br>4     | 2-3<br>4-5      | F                | 80         | •<br>- -           |
|  | Orange HER<br>Orange 84     | 3-4                 | H<br>M                   | 5             | 3-4<br>2           | 3-4<br>4     | 3-4<br>4   | 3        | 4-5               | 5<br>3     | 4-5<br>4        | P                | 60         | •<br>- -           |
|  | Red HE3B<br>Red 120         | 4<br>5              | H<br>M                   | 5             | 4-5<br>3-4         | 4<br>4       | 4<br>4     | 4-5      | 4-5               | 5<br>3-4   | 2<br>4          | P                | 80         | •<br>- -           |
|  | Red HE7B<br>Red 141         | 3-4<br>4-5          | H<br>M                   | 4             | 4<br>3-4           | 4-5<br>4     | 4-5<br>4   | 4        | 4-5               | 5<br>3-4   | 3<br>4-5        | P                | 80         | •<br>- -           |
|  | Red HE8B<br>Red 152         | 3-4                 | H<br>M                   | 4             | 4<br>3-4           | 4<br>4       | 4<br>4     | 4        | 2                 | 5<br>3-4   | 3<br>4-5        | P                | 80         | •<br>- -           |
|  | Navy Blue HER<br>Blue 171   | 4                   | H<br>M                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 1                 | 5<br>3-4   | 2<br>4          | F                | 80         | •<br>- -           |
|  | Navy Blue HE2R<br>Blue 172  | 4                   | H<br>M                   | 4-5           | 4<br>3-4           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 5<br>3-4   | 2<br>4          | F                | 80         | •<br>- -           |
|  | Blue HERD<br>Blue 160       | 4-5                 | H<br>M                   | 5             | 4-5<br>4           | 4-5<br>4-5   | 4-5<br>4-5 | 4        | 2-3               | 5<br>3     | 2<br>3-4        | F                | 80         | •<br>- -           |
|  | Blue HEGN<br>Blue 198       | 4-5                 | H<br>M                   | 5             | 4<br>3-4           | 3-4<br>4     | 3-4<br>4   | 3-4      | 3-4               | 5<br>4     | 2<br>3-4        | P                | 50         | •<br>- -           |
|  | Green HE4BD<br>Green 19A    | 3-4                 | H<br>M                   | 3             | 3-4<br>2           | 4-5<br>4     | 4-5<br>4   | 4        | 2-3               | 5<br>3-4   | 2-3<br>4        | F                | 80         | •<br>- -           |
|  | Black HEBL                  | 4                   | H<br>M                   | 4             | 3-4<br>3           | 4-5<br>3     | 4-5<br>3   | 4-5      | 4                 | 4-5<br>2-3 | 2-3<br>4        | F                | 80         | •<br>- -           |



## Dycrofix "ME"

For warm exhaust and normal fastness with good reproductivity & reliable application

| Dyeing                                                                              | Dycrofix ME                  | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application                                                                    |
|-------------------------------------------------------------------------------------|------------------------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|---------------------------------------------------------------------------------------|
|                                                                                     |                              |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                                                                                       |
|    | Yellow ME4GL<br>Yellow 160A  | 4<br>3-4            | M<br>M                   | 4             | 3<br>2-3           | 4-5<br>4-5   | 4-5<br>4-5 | 3        | 4                 | 5<br>4     | 4               | F                | 100        |    |
|    | G. Yellow MERL<br>Yellow 145 | 4-5<br>4-5          | M<br>M                   | 3-4           | 4<br>4             | 5<br>4-5     | 5<br>4-5   | 4        | 4-5               | 5<br>4-5   | 4<br>3-4        | P                | 100        |    |
|    | Orange ME2RL<br>Orange 122   | 4<br>4-5            | M<br>H                   | 4-5           | 4<br>3-4           | 4<br>4-5     | 4<br>4-5   | 4-5      | 4                 | 5<br>3-4   | 3-4             | P                | 75         |    |
|    | Scarlet MEBL                 | 3-4<br>4            | M<br>M                   | 4-5           | 4<br>3-4           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4-5               | 4<br>3-4   | 4               | P                | 90         |    |
|  | Red ME3BL<br>Red 194         | 4<br>3-4            | M<br>H                   | 4-5           | 3-4<br>3           | 4<br>4-5     | 4<br>4-5   | 4-5      | 4                 | 5<br>3-4   | 4               | P                | 100        |  |
|  | Red ME4BL<br>Red 195         | 4<br>3-4            | M<br>M                   | 4-5           | 3-4<br>3           | 4<br>4-5     | 4<br>4-5   | 4-5      | 4-5               | 5<br>3-4   | 4-5             | P                | 150        |  |
|  | Red ME6BL<br>Red 196/250     | 4<br>3-4            | M<br>M                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>3-4 | 4               | P                | 80         |  |
|  | Red MERBL<br>Red 198A        | 4<br>3-4            | M<br>H                   | 5             | 3-4<br>2-3         | 4-5<br>4-5   | 4-5<br>4-5 | 4        | 3                 | 5<br>3-4   | 4               | P                | 100        |  |
|  | Red ME3GL<br>Red 223         | 4<br>3-4            | M<br>H                   | 4-5           | 3-4<br>3           | 4<br>4-5     | 4<br>4-5   | 4        | 4                 | 5<br>3-4   | 4               | F                | 100        |  |
|  | Scarlet S2G<br>Red 222       | 4-5<br>4            | H<br>M                   | 4-5           | 4<br>3-4           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>3-4 | 4-5             | P                | 120        |  |
|  | Navy Blue ME2GL<br>Blue 194  | 4-5<br>4            | M<br>M                   | 5             | 4<br>3-4           | 5<br>3-4     | 5<br>3-4   | 4-5      | 3-4               | 4-5<br>4   | 3-4             | F                | 100        |  |
|  | Navy Blue BRF<br>Blue 221    | 4-5<br>4            | H<br>M                   | 5             | 4<br>3-4           | 5<br>3-4     | 5<br>3-4   | 4-5      | 3-4               | 4-5<br>4   | 3-4             | P                | 100        |  |
|  | Blue BF<br>Blue 222          | 4-5<br>4            | H<br>H                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 3-4               | 4-5<br>3-4 | 4               | G                | 100        |  |
|  | Blue GX<br>Blue 223          | 4-5<br>4            | H<br>H                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 3-4               | 4-5<br>3-4 | 4               | G                | 100        |  |
|  | Blue ME2RL<br>Blue 248       | 4<br>3-4            | M<br>M                   | 5             | 4<br>3-4           | 5<br>3-4     | 5<br>3-4   | 4-5      | 3-4               | 4-5<br>4   | 3-4             | P                | 100        |  |



## Dycrofix "VS"

For warm exhaust and pad dyeing with excellent wet fastness

| Dyeing                                                                              | Dycrofix VS                 | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |          | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application                                                                    |
|-------------------------------------------------------------------------------------|-----------------------------|---------------------|--------------------------|---------------|--------------------|--------------|----------|----------|-------------------|------------|-----------------|------------------|------------|---------------------------------------------------------------------------------------|
|                                                                                     |                             |                     |                          |               |                    | Acidic       | Alkaline |          |                   |            |                 |                  |            |                                                                                       |
|    | Yellow FG<br>Yellow 42      | 4<br>5              | L<br>M                   | 5             | 4-5                | 5            | 5        | 4-5      | 2                 | 5<br>4-5   | 1               | G                | 100        |    |
|    | Yellow GL<br>Yellow 37      | 5<br>4-5            | L<br>M                   | 4-5           | 4                  | 5            | 5        | 4-5      | 2-3               | 5<br>4-5   | 2-3             | G                | 80         |    |
|    | Yellow GR<br>Yellow 15      | 4-5<br>4-5          | L<br>M                   | 5             | 4-5                | 5            | 5        | 4        | 2                 | 5<br>4-5   | 1               | G                | 100        |    |
|    | G. Yellow RNL<br>Orange 107 | 4-5<br>4            | L<br>H                   | 4-5           | 4                  | 5            | 5        | 4-5      | 2                 | 5<br>4-5   | 2               | G                | 100        |    |
|   | Orange 3R<br>Orange 16      | 5<br>4-5            | H<br>M                   | 4-5           | 4                  | 4-5          | 4-5      | 4-5      | 2                 | 4-5<br>4   | 1               | G                | 800        |   |
|  | Red BB<br>Red 21            | 5<br>3-4            | M<br>M                   | 4-5           | 4-5                | 4-5          | 4-5      | 4        | 4                 | 4<br>4     | 3-4             | G                | 100        |  |
|  | Red RB<br>Red 198           | 4-5                 | H<br>M                   | 5             | 4-5                | 5            | 5        | 4-5      | 2-3               | 4-5<br>3   | 3               | G                | 100        |  |
|  | Red 5B<br>Red 35            | 3-4<br>4            | L<br>M                   | 5             | 4-5                | 5            | 5        | 4-5      | 2                 | 4-5<br>3   | 4               | G                | 80         |  |
|  | Red F3B<br>Red 180          | 4<br>3-4            | H<br>M                   | 4             | 4-5                | 5            | 5        | 4        | 3                 | 4-5<br>3   | 2-3             | G                | 100        |  |
|  | Violet 5R<br>Violet 5       | 5<br>4-5            | M<br>M                   | 4-5           | 4-5                | 5            | 5        | 4-5      | 2                 | 4-5<br>3   | 2-3             | P                | 100        |  |
|  | Blue BB<br>Blue 220         | 4-5<br>5            | M<br>M                   | 4-5           | 4                  | 4            | 4-5      | 4        | 3                 | 4-5<br>4   | 3-4             | G                | 100        |  |
|  | N. Blue RGB<br>Blue 250     | 3-4<br>3            | M<br>H                   | 4             | 3                  | 5            | 5        | 4-5      | 3                 | 4-5<br>3   | 3               | F                | 100        |  |
|  | N. Blue H2GLN<br>Blue 203   | 4<br>3-4            | H<br>M                   | 4             | 4                  | 4            | 4-5      | 4        | 3-4               | 4-5<br>3   | 3               | G                | 100        |  |
|  | Brown GR<br>Brown 18        | 5<br>4-5            | M<br>M                   | 5             | 4                  | 5            | 5        | 4        | 2-3               | 4-5<br>4   | 2               | G                | 100        |  |
|  | Blue RS<br>Blue 19          | 4-5<br>4-5          | L<br>H                   | 5             | 4                  | 4-5          | 4-5      | 4-5      | 2-3               | 4-5<br>3-4 | 4               | F                | 150        |  |
|  | T. Blue G<br>Blue 21        | 4<br>3-4            | H<br>M                   | 4-5           | 2-3                | 4-5          | 4-5      | 4-5      | 2-3               | 4-5<br>2-3 | 3-4             | P                | 80         |  |
|  | Black RL<br>Black 31        | 5<br>4-5            | H<br>M                   | 5             | 4                  | 5            | 5        | 4-5      | 2-3               | 4-5<br>3-4 | 2               | F                | 100        |  |
|  | Black B<br>Black 5          | 4<br>3-4            | L<br>H                   | 4-5           | 4                  | 4-5<br>4-5   | 4        | 3-4      | 3-4               | 4-5<br>3-4 | 4               | D                | 100        |  |



## Dycrofix "S"

Multifunctional warm exhaust high fixation eco-friendly with reliable applications

| Dyeing | Dycrofix S       | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application |
|--------|------------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|--------------------|
|        |                  |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                    |
|        | Lemon S-3G       | 4<br>3-4            | M<br>M                   | 4             | 3<br>2-3           | 4-5<br>4-5   | 4-5<br>4-5 | 3        | 4                 | 5<br>4     | 4               | F                | 100        |                    |
|        | Yellow s-3R      | 4-5<br>4-5          | M<br>M                   | 3-4           | 4<br>4             | 5<br>4-5     | 5<br>4-5   | 4        | 4-5               | 5<br>4-5   | 4               | P                | 100        |                    |
|        | Deep Orange S-4R | 4-5<br>4            | M<br>H                   | 5             | 4<br>4             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>3-4 | 3               | D                | 80         |                    |
|        | Deep Cherry S-D  | 4-5<br>4            | M<br>H                   | 4             | 3-4<br>2-3         | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>3   | 3-4             | ND               | 100        |                    |
|        | Red S-B          | 4<br>3              | M<br>H                   | 5             | 3-4<br>3           | 4-5<br>4-5   | 4<br>4-5   | 3-4      | 3-4               | 4-5<br>3   | 4-5             | M                | 120        |                    |
|        | Ruby S-3B        | 4<br>3-4            | M<br>M                   | 4             | 3<br>3             | 4<br>4-5     | 4<br>4-5   | 4-5      | 4-5               | 4-5<br>3-4 | 4               | ND               | 100        |                    |
|        | Ocean S-R        | 4-5<br>4-5          | L<br>H                   | 5             | 4<br>3             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>3-4 | 4               | M                | 150        |                    |
|        | Dark Blue SGL    | 4-5<br>4            | H<br>H                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 3-4               | 4-5<br>3-4 | 4               | G                | 100        |                    |
|        | Deep Night S-R   | 3-4<br>3            | L<br>H                   | 4-5           | 2-3<br>2           | 4-5<br>4-5   | 4-5<br>4-5 | 3-4      | 3-4               | 4-5<br>3-4 | 4               | D                | 100        |                    |
|        | Black S-N        | 4-5<br>4-5          | L<br>H                   | 4             | 4-5<br>4           | 5<br>4-5     | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>2-3 | 4               | D                | 120        |                    |
|        | Super Black G    | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 4                 | 4-5<br>2-3 | 5               | D                | 120        |                    |
|        | Super Black R    | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |                    |

## Dycrofix "SSX"

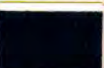
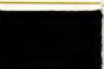
new poly-functional dyes to minimize the environmental impact from medium to ultra deep shades.

|  |                   |            |        |     |            |            |            |     |     |            |   |   |     |  |
|--|-------------------|------------|--------|-----|------------|------------|------------|-----|-----|------------|---|---|-----|--|
|  | Yellow SSX        | 4-5<br>4-5 | M<br>M | 4-5 | 4<br>4     | 5<br>4-5   | 5<br>4-5   | 4   | 4-5 | 5<br>4-5   | 4 | M | 150 |  |
|  | Deep orange SSX   | 4-5<br>4   | M<br>H | 4-5 | 4<br>4     | 4-5<br>4-5 | 4-5<br>4-5 | 4-5 | 3-4 | 4-5<br>3-4 | 4 | D | 150 |  |
|  | Brilliant red SSX | 4<br>3-4   | M<br>M | 4-5 | 3-4<br>3   | 4<br>4-5   | 4<br>4-5   | 4-5 | 4-5 | 5<br>3-4   | 4 | M | 150 |  |
|  | Deep Red SSX      | 4-5<br>4   | M<br>H | 4-5 | 3-4<br>2-3 | 4-5<br>4-5 | 4-5<br>4-5 | 4-5 | 4-5 | 4-5<br>3   | 4 | D | 150 |  |
|  | Navy SSX          | 3-4<br>3   | M<br>H | 4   | 3<br>2-3   | 5<br>4-5   | 5<br>4-5   | 4-5 | 3   | 4-5<br>3   | 3 | D | 150 |  |
|  | Black SSX         | 4-5<br>4   | L<br>H | 4-5 | 4<br>3-4   | 5<br>4-5   | 5<br>4-5   | 4-5 | 3-4 | 4-5<br>2-3 | 5 | D | 150 |  |



## Dycrofix "DD"

High performance dyes for ultra deep shades for exhaust and pad dyeing

| Dyeing                                                                              | Dycrofix DD    | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application                                                                    |
|-------------------------------------------------------------------------------------|----------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|---------------------------------------------------------------------------------------|
|                                                                                     |                |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                                                                                       |
|    | CITRON DD      | 4<br>3-4            | M<br>M                   | 4             | 3<br>2-3           | 4-5<br>4-5   | 4-5<br>4-5 | 3        | 4                 | 5<br>4     | 4               | F                | 100        |    |
|    | MERIGOLD DD    | 4<br>3-4            | M<br>M                   | 3-4           | 4<br>4             | 4-5<br>4     | 4-5<br>4   | 3        | 3-4               | 4<br>4-5   | 4               | P                | 120        |    |
|    | TANGERINE DD   | 4-5<br>4            | M<br>H                   | 5             | 4<br>4             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>3-4 | 3-4             | D                | 120        |    |
|    | RUST DD        | 4-5<br>4            | M<br>H                   | 5             | 4<br>4             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>3-4 | 3               | D                | 100        |    |
|    | ROSE DD        | 4<br>3-4            | M<br>M                   | 4             | 3<br>3             | 4<br>4-5     | 4<br>4-5   | 4-5      | 4-5               | 4-5<br>3-4 | 4               | ND               | 100        |    |
|   | CHILLI DD      | 4-5<br>4            | M<br>H                   | 4             | 3-4<br>2-3         | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>3   | 3-4             | ND               | 100        |   |
|  | AQUA MARINE DD | 4<br>3-4            | H<br>M                   | 4-5           | 2-3<br>2-3         | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>2-3 | 3-4             | P                | 80         |  |
|  | OCEAN DD       | 4-5<br>4-5          | L<br>H                   | 5             | 4<br>3             | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 2-3               | 4-5<br>3-4 | 4               | M                | 150        |  |
|  | COBALT DD      | 4-5<br>4            | H<br>M                   | 5             | 4<br>3-4           | 5<br>3-4     | 5<br>3-4   | 4-5      | 3-4               | 4-5<br>4   | 3-4             | P                | 100        |  |
|  | INDIGO DD      | 3-4<br>3            | L<br>H                   | 4-5           | 2-3<br>2           | 4-5<br>4-5   | 4-5<br>4-5 | 3-4      | 3-4               | 4-5<br>3-4 | 4               | D                | 100        |  |
|  | EXTREME DD     | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 150        |  |

## Dycrofix "LX"

for warm exhaust suitable for pale shades with perfect reproducibility & high light fastness

|                                                                                     |           |            |        |     |          |            |            |     |     |            |     |    |     |                                                                                       |
|-------------------------------------------------------------------------------------|-----------|------------|--------|-----|----------|------------|------------|-----|-----|------------|-----|----|-----|---------------------------------------------------------------------------------------|
|  | Yellow LX | 4-5<br>4-5 | M<br>M | 3-4 | 4<br>4   | 5<br>4-5   | 5<br>4-5   | 4   | 4-5 | 5<br>4-5   | 4   | M  | 120 |  |
|  | Red LX    | 4<br>3-4   | M<br>H | 4-5 | 3-4<br>3 | 4<br>4-5   | 4<br>4-5   | 4   | 4   | 5<br>3-4   | 4   | M  | 120 |  |
|  | Red LX2B  | 4<br>3-4   | M<br>H | 4-5 | 3-4<br>3 | 4<br>4-5   | 4<br>4-5   | 4   | 4   | 5<br>3-4   | 4   | ND | 140 |  |
|  | Blue LX   | 4-5<br>4   | H<br>M | 5   | 4<br>3-4 | 5<br>3-4   | 5<br>3-4   | 4-5 | 3-4 | 4-5<br>4   | 3-4 | M  | 120 |  |
|  | Navy LX   | 4-5<br>4   | H<br>H | 4-5 | 3-4<br>3 | 4-5<br>4-5 | 4-5<br>4-5 | 4-5 | 3-4 | 4-5<br>3-4 | 4   | M  | 100 |  |



## Dycrofix "SPD"

perfect for right first time dyeing with very high reproducibility

| Dyeing | Dycrofix SPD | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application |
|--------|--------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|--------------------|
|        |              |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                    |
|        | YELLOW SPD   | 4-5<br>4-5          | M<br>M                   | 4-5           | 4<br>4             | 4-5<br>4-5   | 4-5<br>4   | 4        | 4-5               | 4-5<br>3-4 | 4               | P                | 120        |                    |
|        | RED SPD      | 4<br>3-4            | M<br>M                   | 4-5           | 3-4<br>3           | 5<br>4-5     | 5<br>4-5   | 4-5      | 4-5               | 4-5<br>3-4 | 4               | M                | 120        |                    |
|        | BLUE SPD     | 4-5<br>4            | H<br>H                   | 4-5           | 3-4<br>3           | 4-5<br>4-5   | 4-5<br>4-5 | 4-5      | 3-4               | 4-5<br>3-4 | 3-4             | M                | 100        |                    |
|        | NAVY SPD     | 3-4<br>3-4          | M<br>M                   | 5             | 3-4<br>2-3         | 4-5<br>4     | 4-5<br>4   | 4-5      | 3-4               | 4-5<br>3-4 | 4               | G                | 120        |                    |

## Dycrofix "CS"

appropriate dye selection fulfills very high requirements and right first time dyeings for critical shades

|  |           |            |        |     |          |          |          |     |     |          |     |   |     |  |
|--|-----------|------------|--------|-----|----------|----------|----------|-----|-----|----------|-----|---|-----|--|
|  | YELLOW CS | 4-5<br>4-5 | M<br>M | 3-4 | 4<br>4   | 5<br>4-5 | 5<br>4-5 | 4   | 4-5 | 5<br>4-5 | 4   | M | 120 |  |
|  | RED CS    | 4<br>3-4   | M<br>H | 4-5 | 3-4<br>3 | 4<br>4-5 | 4<br>4-5 | 4   | 4   | 5<br>3-4 | 4   | M | 120 |  |
|  | BLUE CS   | 4-5<br>4   | H<br>M | 5   | 4<br>3-4 | 5<br>3-4 | 5<br>3-4 | 4-5 | 3-4 | 4-5<br>4 | 3-4 | M | 120 |  |

## Dycrofix "CPB"

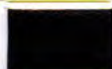
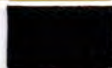
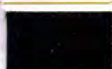
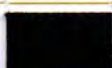
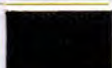
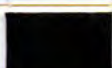
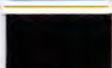
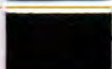
suitable for cold pad batch & continuous process with good build up in deep shades

|  |                 |          |        |     |            |            |            |     |     |            |     |    |     |  |
|--|-----------------|----------|--------|-----|------------|------------|------------|-----|-----|------------|-----|----|-----|--|
|  | YELLOW CPB      | 4<br>3-4 | M<br>M | 3-4 | 4<br>4     | 4-5<br>4   | 4-5<br>4   | 3   | 3-4 | 4<br>4-5   | 4   | P  | 120 |  |
|  | GOLD YELLOW CPB | 4-5<br>4 | M<br>H | 5   | 4<br>4     | 4-5<br>4-5 | 4-5<br>4-5 | 4-5 | 2-3 | 4-5<br>3-4 | 3   | D  | 100 |  |
|  | ORANGE CPB      | 4-5<br>4 | L<br>H | 4-5 | 4<br>3-4   | 5<br>4-5   | 5<br>4-5   | 4-5 | 3-4 | 4-5<br>2-3 | 5   | D  | 150 |  |
|  | RED CPB         | 4-5<br>4 | M<br>H | 4   | 3-4<br>2-3 | 4-5<br>4-5 | 4-5<br>4-5 | 4-5 | 4-5 | 4-5<br>3   | 3-4 | ND | 100 |  |
|  | DEEP RED CPB    | 3-4<br>3 | L<br>H | 4-5 | 2-3<br>2   | 4-5<br>4-5 | 4-5<br>4-5 | 3-4 | 3-4 | 4-5<br>3-4 | 4   | D  | 100 |  |
|  | BRILL BLUE CPB  | 4<br>3-4 | M<br>M | 4   | 3<br>2-3   | 4-5<br>4-5 | 4-5<br>4-5 | 3   | 4   | 5<br>4     | 4   | F  | 100 |  |
|  | NAVY CPB        | 4<br>3-4 | M<br>M | 4   | 3<br>3     | 4<br>4-5   | 4<br>4-5   | 4-5 | 4-5 | 4-5<br>3-4 | 4   | ND | 100 |  |
|  | BLACK CPB       | 4-5<br>4 | H<br>M | 5   | 4<br>3-4   | 5<br>3-4   | 5<br>3-4   | 4-5 | 3-4 | 4-5<br>4   | 3-4 | P  | 100 |  |



## Dycrofix "Blacks"

For warm exhaust and pad dyeing high quality, high performance, economical & most suitable Blacks

| Dyeing                                                                              | Dycrofix            | Day light 1/1 & 1/6 | Substantivity Reactivity | Washing ISO 4 | Perspiration Light | Perspiration |            | M&S C10A | Chlorinated water | Rubbing    | Peroxide Bleach | Dischargeability | Solubility | Dyeing application                                                                    |
|-------------------------------------------------------------------------------------|---------------------|---------------------|--------------------------|---------------|--------------------|--------------|------------|----------|-------------------|------------|-----------------|------------------|------------|---------------------------------------------------------------------------------------|
|                                                                                     |                     |                     |                          |               |                    | Acidic       | Alkaline   |          |                   |            |                 |                  |            |                                                                                       |
|    | Ultra Black DN CONC | 4-5<br>4-5          | L<br>H                   | 4             | 4-5<br>4           | 5<br>4-5     | 4-5<br>4-5 | 4-5      | 4-5               | 4-5<br>2-3 | 4               | D                | 120        |    |
|    | Deep Black S-N      | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 4                 | 4-5<br>2-3 | 5               | D                | 120        |    |
|    | Black DN            | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |    |
|    | Black DN CONC       | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |    |
|    | Black JN            | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |    |
|    | Black OXN           | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |    |
|  | Black DNN           | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |  |
|  | Black LCD           | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 4                 | 4-5<br>2-3 | 5               | D                | 120        |  |
|  | Black GDNNX         | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |  |
|  | Black WM            | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 4                 | 4-5<br>2-3 | 5               | D                | 120        |  |
|  | Black NG            | 4-5<br>4            | L<br>H                   | 4-5           | 4<br>3-4           | 5<br>4-5     | 5<br>4-5   | 4-5      | 3-4               | 4-5<br>2-3 | 5               | D                | 120        |  |



## Auxiliaries

### Sequestering agents

Sequestering agents are used to soften water and bond free heavy metal ions. Sequestering agents that do not remove the metals from reactive metal complex dyes should be used, as otherwise the shade can change and fastness properties can be impaired. Therefore EDTA-based products are not suitable.

### Antofoams

Foam can impair the running of the goods in bath and thus reduce levelness. Extremely dilute solutions should be dosed into the liquor slowly. Silicone-free antofoams should be used where possible.

### Lubricant

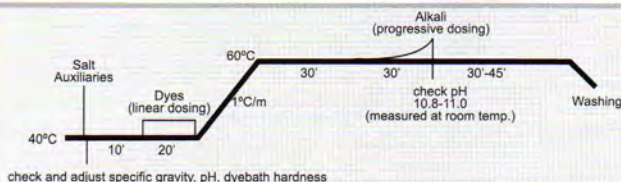
Lubricant agent prevents crack marks and creases. It should have no adverse effect on dye liquor stability.

## Alkali & Salt Recommendation

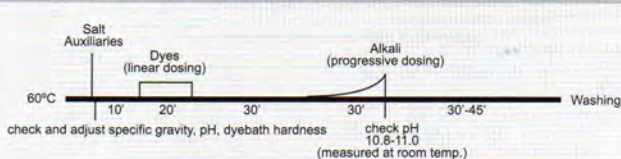
| Dyeing depth<br>(% o.w.f.) | Dycrofix HE |       |                                |                 |     | Dycrofix VS |       |                                |                 |     | Dycrofix ME, S, SSX, DD, LX, SPD, CS Dyes |       |                                |                 |     |
|----------------------------|-------------|-------|--------------------------------|-----------------|-----|-------------|-------|--------------------------------|-----------------|-----|-------------------------------------------|-------|--------------------------------|-----------------|-----|
|                            | Salt (g/l)  |       | Soda ash or Mixed alkali (g/l) |                 |     | Salt (g/l)  |       | Soda ash or Mixed alkali (g/l) |                 |     | Salt (g/l)                                |       | Soda ash or Mixed alkali (g/l) |                 |     |
|                            | unmerc.     | merc. | Soda ash                       | Soda ash + NaOH |     | unmerc.     | merc. | Soda ash                       | Soda ash + NaOH |     | unmerc.                                   | merc. | Soda ash                       | Soda ash + NaOH |     |
| up to 0.1                  | 10          | 5     | 10                             | 5               | 0.7 | 10          | 7     | 7                              | 5               | -   | 8                                         | 5     | 5                              | 5               | 0.2 |
| 0.3                        | 20          | 10    | 10                             | 5               | 0.7 | 20          | 10    | 10                             | 5               | 10  | 17                                        | 10    | 8                              | 5               | 0.5 |
| 0.5                        | 30          | 20    | 10                             | 5               | 0.7 | 30          | 15    | 12                             | 5               | 1.3 | 25                                        | 15    | 10                             | 5               | 0.5 |
| 1.0                        | 45          | 30    | 15                             | 5               | 1.0 | 35          | 20    | 15                             | 5               | 1.5 | 30                                        | 20    | 15                             | 5               | 1.0 |
| 1.5                        | 53          | 35    | 15                             | 5               | 1.0 | 40          | 25    | 15                             | 5               | 1.8 | 35                                        | 25    | 15                             | 5               | 1.2 |
| 2.0                        | 60          | 40    | 15                             | 5               | 1.0 | 45          | 30    | 20                             | 5               | 2.0 | 40                                        | 30    | 15                             | 5               | 1.5 |
| 2.5                        | 65          | 45    | 15                             | 5               | 1.5 | 50          | 35    | 20                             | 5               | 2.3 | 45                                        | 35    | 15                             | 5               | 1.8 |
| 3.0                        | 70          | 50    | 20                             | 5               | 1.5 | 55          | 40    | 20                             | 5               | 2.5 | 50                                        | 40    | 20                             | 5               | 2.0 |
| 3.5                        | 75          | 55    | 20                             | 5               | 1.5 | 60          | 45    | 20                             | 5               | 2.6 | 55                                        | 45    | 20                             | 5               | 2.0 |
| 4.0                        | 80          | 60    | 20                             | 5               | 1.5 | 65          | 50    | 20                             | 5               | 2.7 | 60                                        | 50    | 20                             | 5               | 2.5 |
| 4.5                        | 85          | 65    | 20                             | 5               | 1.5 | 70          | 55    | 20                             | 5               | 2.8 | 65                                        | 55    | 20                             | 5               | 2.5 |
| 5.0                        | 90          | 70    | 20                             | 5               | 1.5 | 75          | 60    | 20                             | 5               | 2.9 | 70                                        | 60    | 20                             | 5               | 2.5 |
| 5.5                        | 95          | 75    | 20                             | 5               | 1.5 | 80          | 65    | 20                             | 5               | 3.1 | 75                                        | 65    | 20                             | 5               | 2.5 |
| above 6.0                  | 100         | 80    | 20                             | 5               | 1.5 | 85          | 70    | 20                             | 5               | 3.3 | 80                                        | 70    | 20                             | 5               | 2.5 |

\* Mixed alkali : NaOH 36°Bé

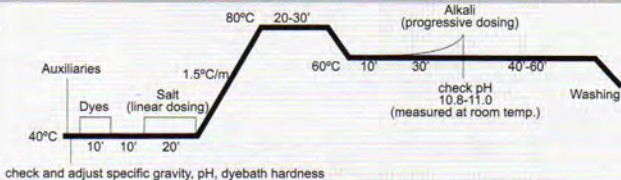
### A. Standard method Temperature rise



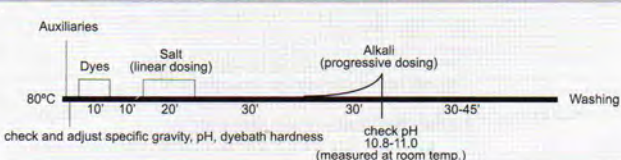
### B. Standard method Isothermal at 60°C



### C. Specific method Migration

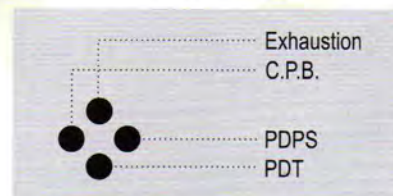


### D. Specific method Isothermal at 80°C



## Dyeing Application

- Suitable
- Not recommended





| Fastness                                     | Test method                                              |                                                                                                                                                                                                                                                                    |
|----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Light</b><br>ISO 105-B02                  | Shade change<br>Blue scale (1-8 grade)                   | Upper - 1/1 SD, Lower - 1/10 SD<br>NB, Bk : Upper -2/1 SD, Lower -1/1 SD                                                                                                                                                                                           |
| <b>Washing</b><br>ISO 105 C06-C25            | Upper - Shade change<br>Lower - Staining on cotton       | 4g/l ECE reference detergent, 1g/l Sodium perborate<br>30min. at 60°C                                                                                                                                                                                              |
| <b>Chlorinated water</b><br>ISO 105-E03      | Shade change                                             | 20mg/l Active chlorine at pH 7.5, Liquor ratio 100:1<br>Treat for 1hr at 27°C                                                                                                                                                                                      |
| <b>Perspiration</b><br>ISO 105-E04           | Upper - Shade change<br>Lower - Staining on cotton       | Acid solution 0.5g/l L-histidine, 5g/l NaCl<br>2.2g/l NaH <sub>2</sub> PO <sub>4</sub> ·2H <sub>2</sub> O, pH 5.5, 4hrs at 37°C<br>Acid solution 0.5g/l L-histidine, 5g/l NaCl<br>2.5g/l Na <sub>2</sub> HPO <sub>4</sub> ·2H <sub>2</sub> O, pH 8.0, 4hrs at 37°C |
| <b>Perspiration-light</b><br>ISO 105-B07     | Upper - Acid perspiration<br>Lower - Alkali perspiration | Perspiration fastness - ISO 105-E04<br>Light fastness - ISO 105-B02                                                                                                                                                                                                |
| <b>Bleaching</b><br>DIN 54034<br>ISO 105-N02 | Shade change                                             | 0.5g/l Active chlorine,<br>pH 11.0 by adding 10g Sodium carbonate, Liquor ratio 50:1<br>5.0ml/l H <sub>2</sub> O <sub>2</sub> (30%), 5ml/l Sodium silicate<br>0.1g/l Magnesium chloride, pH 10.5, 1hr at 90°C                                                      |
| <b>Rubbing</b><br>ISO 105-X12                | Staining on cotton                                       | Upper - Dry<br>Lower - Wet                                                                                                                                                                                                                                         |

## Cold pad-batch dyeing

Sodium silicate / Caustic soda



**Dyeing depth** Pale, Medium, Dark

**Padding Temp.** 20-30°C (high pad liquor stability at 20-25°C)

**Batching time** 8-16 hours

**Liquor pick up** Cotton 60-70%, Viscose rayon 70-80%

**Metering pump** Required

|                   |                                           |            |
|-------------------|-------------------------------------------|------------|
| <b>Pad liquor</b> | Dyes                                      | X g/l      |
|                   | Penetration agent<br>(with wetting agent) | 1-2 g/l    |
|                   | Sodium silicate 37-40°Be                  | 70 ml/l    |
|                   | Caustic soda 36°Be                        | 10-30 ml/l |

### Required amount of alkali

| Dyestuff                   | g/l  | <10 | 20 | 30 | 40 | 50 | 60 | >70 |
|----------------------------|------|-----|----|----|----|----|----|-----|
| Sodium silicate (37-40°Be) | ml/l |     |    |    | 70 |    |    |     |
| Caustic soda (36°Be)       | ml/l | 10  | 15 | 20 | 25 | 28 | 30 | 30  |

### Notes

- This method is the standard procedure for liquor temperature of 20-30°C.
- Short fixation time
- Metering pump required
- Good bath stability
- Atmospheric carbon dioxide has almost no effect during storage.

## Continuous dyeing

Pad-Dry-Pad-Steam (PDPS)



|                                |                                          |           |
|--------------------------------|------------------------------------------|-----------|
| <b>Pad liquor</b>              | Dyes                                     | X g/l     |
|                                | Wetting agent                            | 1-2 g/l   |
|                                | Reduction protectant                     | 1-3 ml/l  |
|                                | Migration inhibitor                      | 5-10 ml/l |
| <b>Pad liquor temp.</b>        | 20-30°C                                  |           |
| <b>Liquor pick up</b>          | 60-80%                                   |           |
| <b>I.R. pre-drying</b>         | To a residual moisture content of 30-35% |           |
| <b>Drying</b>                  | Dry at 110-120°C                         |           |
| <b>Chemical Liquor pick up</b> | 70-80%                                   |           |
| <b>Steaming</b>                | 60-90sec. in saturated steam (101 105°C) |           |

### Required amount of salt and alkali

| Dyestuff           | g/l  | <10 | 10-30 | >30 |
|--------------------|------|-----|-------|-----|
| Salt               | g/l  | 200 | 250   | 250 |
| Soda ash           | g/l  | 20  | 20    | 20  |
| Caustic soda 36°Be | ml/l | 8   | 12    | 15  |

### Notes

- High productivity and colour yield
- Good appearance
- Classic procedure for continuous dyeing of woven fabric
- When using dyes with low reactivity such as Dycrofix Turquoise Blue G the amount of caustic soda should be raised by 30%
- If the goods are stored, after drying but before fixation, they should be wrapped in an opaque material to protect them from daylight.



## Exhaustion dyeing

### Salt

The same amount of commonsalt (NaCl) or Glauber's salt anhydrous ( $\text{Na}_2\text{SO}_4$ ) can be used. If Glauber's salt cryst. ( $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ ) is used, the amount of salt must be doubled.

### Alkali

Caustic soda, soda ash are used to fix the dyes> The type and amount of alkali required is states as the below table.  
The final pH of Dycrofix reactive dye bath :

| Dyeing temperature | Final pH (30°C) |
|--------------------|-----------------|
| 50°C               | approx. 11.0    |
| 60°C               | approx. 10.5    |
| 80°C               | approx. 9.5     |

### Notes





ISO-9001:2015, 14001:2015 &  
45001:2018 CERTIFIED COMPANY



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