

# TWEDDLE LITHO QUALITY STANDARDS

## PRINTING QUALITY STANDARDS

### 1.0 REGISTER COLOR-COLOR

Maximum of 2 row of dots color-color.

1.1 For process four color, the maximum is one row of dots.

### 2.0 PAGE ALIGNMENT (Including)

2.1 Page alignment: vertical and horizontal

2.2 Fold / Cutoff: The variation will remain within the compensation box: (+/- .063") or the form ID box (+/- .063").

2.3 Page backup, front to back of the web: 1/32"

2.4 Crossover is not to exceed the thickness of the line.

### 3.0 SET-OFF

None allowed

### 4.0 LACK OF INK (ie. Linting, Picking etc. voids)

Not allowed if: 1. It makes a word or number illegible. 2 Is on the face of people in a photo, and is  $>1/16"$ . 3 On a Co. logo on the F/B cover and is  $>1/16"$ . 4 It is  $>1/16"$  long. 5 There are  $>3$  per Pg. same as extraneous except for voids.

### 5.0 SIZE OF COVER, TEXT

The variation allowed is +/-  $1/16"$  from nominal.

### 6.0 EXTRANEIOUS INK

Not allowed if: 1. It makes a word or number illegible. 2 Is on the face of people in a photo, and is  $>1/16"$ . 3 On a Co. logo on the F/B cover and is  $>1/16"$ . 4 It is  $>1/16"$  long. 5 There are  $>3$  per Pg. 6. all others, correct but don't sort.

### 7.0 INK FILM THICKNESS

The standard of +/- .15 density points from the desired target.

### 8.0 TAB CONSISTENCY (BMW customer requirement)

In uniform color throughout the manual is especially critical.

### 9.0 SCUMMING

None Allowed

### 10.0 BLISTERS

None Allowed

### 11.0 DOG EARS

None Allowed

### 12.0 WRINKLES

12.1 No Hard Wrinkles Allowed. A hard wrinkle is defined as having a fold or crease.

12.2 No Soft Wrinkles in the print area

**13.0 MOIRE**  
None Allowed

**14.0 SKEW: COVER, TEXT**  
Not to exceed 1/16" over an 8" distance.

**15.0 TEARS**  
None Allowed

**16.0 GLUING**  
An even bead with a minimum width and a continuous glue line.

### **BINDERY QUALITY STANDARDS**

**17.0 TRIM SIZE**  
Not to exceed +/- 1/8"  
Not to exceed +/- 1/16" for BMW specific product.  
Trim must be performed with new sharpened knives to eliminate trim marks on cut edges of books (BMW specific).  
Trimed books must be free from paper dust (BMW specific).

**18.0 COVER POSITION**  
17.1 Spine- Center within +/- 1/16"  
17.2 Crossover, inside cover- Within +/- 1/16"

**19.0 SKEWNESS**  
< or = to 1/16" over an 8" distance

**20.0 HOLES DRILLED**  
19.1 Must use correct size drill, in proper position, with correct number, and holes may not be in the work.  
19.2 Position and size +/- 1/32"

**21.0 GLUING (PERFECT BINDING)**  
21.1 Must meet page pull requirement of two pounds per binding inch minimum.  
21.2 Flex standard of 100 flexes per page  
21.3 No excessive glue on spine, (1/64th-1/32) or on inside cover.  
21.4 No excessive glue on the inside core or spine. Uniform appearance with no glue excess at top/bottom of manual (BMW specific). Use 1/8" glue catch at head and foot of the cover (BMW specific).  
21.5 No air bubbles on spine (BMW specific)  
21.6 No glue gaps, missing glue (BMW specific)

**22.0 STITCHING**  
22.1 Correct position on the spine  
22.2 Two or more unless specified  
22.3 Must be in such a manner that they do not create tears  
22.4 Flush on the inside

**23.0 TAB WIDTH**

**23.1 (BMW specific) +/- 1/16"**

**NOTE: Need to watch for consistency of tab width from page to page. Tolerance does not apply to laser printed materials (hold +/- 1/32" in these cases).**

**23.1 Tab Length (BMW specific) +/- 1/32" Bleed off all edges and no cut off text in tab. Does not apply to laser printed materials.**

**23.2 BMW logo box 2" X 1" +/- 1/16"**

## **23.0 PACKAGING**

**23.1 Uniform quantity in the same size carton, except the last carton**

**23.2 Slip sheets top and bottom**

**23.3 Proper fit to prevent damage to contents**

**23.4 Sealing tape needs to be adequate for the weight in the cartons**

**23.5 The cartons should be 200 lb test or greater, unless specified.**

**23.6 Proper identification should include part number (if applicable), quantity, description, and any other specified information.**

**23.7 A packing slip must be included in every shipment and attached in a conspicuous location.**

**23.8 The purchase order may include other instructions or requirements which supersede these standards.**

## **24.0 BINDERY FOLDING**

**24.1 Crossovers must be accurate within +/- 1/32"**

**24.2 No tears in the paper**

**24.3 Folds must be within +/- 1/16" of nominal**

**24.4 All folds must be square**

## **25.0 SQUARENESS**

**25.1 The cover and text pages should be square, that is the distance of the length and the width, at the thumbedge and the spine, the top to the bottom, should be within 1/32".**

## **PRINT ON DEMAND QUALITY STANDARDS**

### **26.0 PAGE ALIGNMENT (Including)**

**26.1 Page backup, front to back of the sheet: within 6 points (.083")**

**26.2 Crossover is not to exceed the thickness of the line.**

### **27.0 SET-OFF**

**27.1 Tab Set-Off: Some allowed on text; Not on all pages, get OK.**

### **28.0 SIZE OF COVER, TEXT**

**28.1 The variation allowed is +/- 1/16" from nominal**

### **29.0 DOG EARS**

**None Allowed**

### **30.0 WRINKLES**

**None Allowed**

**31.0 MOIRE**  
Compare to sample, get OK if more than go-by

**32.0 SKEW: COVER, TEXT**  
+/- .093" (3/32") over an 8" distance

**33.0 TEARS**  
None Allowed longer than 1/8"

**PRINT ON DEMAND BINDERY QUALITY STANDARDS**

**34.0 TRIM SIZE**  
Not to exceed +/- 1/8"

**35.0 COVER POSITION**

**35.1 Spine- +/- .093"**

**35.2 Crossover, inside cover- +/- .093"**

**36.0 SKEWNESS**

**36.1 +/- .093" (3/32") over an 8" distance**

**37.0 HOLES DRILLED**

**37.1 Must use correct size drill, in proper position, with correct number, and holes may not be in work.**

**37.2 Position and size +/- 1/32"; No standard established at this time.**

**38.0 GLUING (PERFECT BINDING)**

**38.1 No excessive glue on spine, or on inside cover**

**38.2 No excessive glue on the inside core or spine**

**38.3 Even and continuous glue to hold pages**

**39.0 PACKAGING**

**39.1 Uniform quantity in the same size carton, except last carton**

**39.2 Proper fit to prevent damage to contents**

**39.3 Sealing tape needs to be adequate for the weight in the cartons**

**39.4 The cartons should be 200lb test or greater, unless specified**

**39.5 Proper identification should include part number (if applicable), quantity, description, and any other specified information.**

**39.6 A Load Marker must be included in every shipment and attached in a conspicuous location.**

**39.7 The purchase order may include other instructions or requirements which supersede these standards.**

**40.0 SQUARENESS**

**The cover and text pages should be square, that is the distance of the length and the width, at the thumbedge and the spine, the top to the bottom, should be within .063".**

**\*\* Tweddle will follow customer specifications in all cases.\*\***

**PAPER QUALITY STANDARDS**

- 41.0 BASIS WEIGHT**  
**+/- 5% From Specified Basis Weight**
- 42.0 ROLL WIDTH**  
**+/- 1/32" From Specified Size**
- 43.0 OUTSIDE DIAMETER**  
**50" O.D. + 0", - 5-1/2"**
- 44.0 ROLL CORE**  
**3" I.D., Nonreturnable Cores With Plugs**
- 45.0 WEB BREAKS**  
**No More Than One Per Roll**
- |      |                |
|------|----------------|
| 27lb | 12 Per C Rolls |
| 30lb | 12 Per C Rolls |
| 33lb | 10 Per C Rolls |
| 35lb | 8 Per C Rolls  |
| 40lb | 7 Per C Rolls  |
| 50lb | 6 Per C Rolls  |
| 60lb | 5 Per C Rolls  |
| 70lb | 5 Per C Rolls  |
- 46.0 SPLICES**
- 46.1 No More Than 3 Per Roll**
- 46.2 No Nearer Than 1" From Outside Of The Roll**
- 46.3 No Nearer Than 2" From The Core**
- 46.4 No Splices Closer Than 1" From Each Other**
- 47.0 BRIGHTNESS**  
**+/- 1%**
- 48.0 OPACITY**  
**+ Infinity ; - 3%**
- 49.0 SHADE**  
**Commercial Match**
- 50.0 BAGGY ROLLS**  
**None Allowed**
- 51.0 SHEET SIZE**  
**+/- 1/32" Form Specified Size**
- 52.0 SHEET SQUARENESS**  
**Within 1/32" From Specified Size**
- 53.0 SLIME HOLES**  
**None Over 1/32" In Diameter**
- 54.0 SLITS**  
**None Allowed**
- 55.0 DUSTING**  
**None Allowed**
- 56.0 CALIPER / PPI**  
**+/- 1/16" / 1000 Sheets**
- 57.0 LOAD ROLLS ON END**
- 58.0 STREAKING**  
**None Allowed**

- 59.0 PHYSICAL DAMAGE**  
**No Visible Damage Allowed, not to exceed 1/4"**
- 60.0 CURL**  
**None Allowed**
- 61.0 TELESCOPING ROLLS**  
**None Allowed**
- 62.0 CRUSHED CORES**  
**None Allowed**
- 63.0 TIGHT OR WAVY EDGES**  
**None Allowed**
- 64.0 ORDER SIZE**  
**+/- 5%; Unless Otherwise Specified**

- 65.0 PALLETS**
  - 65.1 Press Ready Quick Change Pallets** **On All Making Orders**
  - 65.2 Single Stack or Breakaway** **On All Making Orders**
  - 65.3 37" High Maximum (from floor to first sheet)** **On All Making Orders**
  - 65.4 2-Way or 4-Way Entry** **On All Making Orders**
  - 65.5 With Load Markers** **On All Making Orders**

**2/23/2009**