

CLAIMS

What is claimed is:

1. A method for manufacturing a middle frame for mobile terminal, comprising:
providing (S101, S201) a metal plate (10);
5 forming (S102) a plurality of elongated protrusions (11) arranged in parallel on the metal plate (10), the plurality of elongated protrusions (11) each extending along a length direction of the metal plate (10);
forming (S103, S205) a tubular blank (10a) by bending the metal plate (10) such that each of the plurality of elongated protrusions (11) extends around the tubular blank (10a); and
10 cutting (S104, S206) the tubular blank (10a) into a plurality of annular pieces (15), wherein each of the plurality of annular pieces (15) comprises one of the plurality of elongated protrusions (11).
2. The method of claim 1, further comprising:
before the forming a tubular blank (10a) by bending the metal plate (10), forming (S203) a
15 plurality of spacing protrusions (12) between each two adjacent ones of the plurality of elongated protrusions (11) by stamping the metal plate (10), wherein each of the plurality of spacing protrusions (12) connects to two adjacent ones of the plurality of elongated protrusions (11);
wherein, during the cutting the tubular blank (10a) into the plurality of annular pieces (15),
each of the plurality of spacing protrusions (12) is cut in halves to form a protecting portion (121)
20 on each of the plurality of annular pieces (15).
3. The method of claim 2, further comprising:
connecting (S207) together two ends of the one of the plurality of elongated protrusions (11)
of each of the plurality of annular pieces (15).
4. The method of claim 3, wherein the connecting together the two ends of the one of the
25 plurality of elongated protrusions (11) comprises:
performing nano-molding treatment to connect together the two ends of the one of the
plurality of elongated protrusions (11).

5. The method of claim 3, further comprising:

forming (S208) a middle plate at a center of each of the plurality of annular pieces (15) by injection molding.

6. The method of claim 3, further comprising:

5 providing a plurality of middle plates, locating each of the plurality of middle plates at a center of a respective one of the plurality of annular pieces (15) and connecting each of the plurality of middle plates to the respective one of the plurality of annular pieces (15) by injection molding.

7. The method of claim 5 or claim 6, further comprising:

10 applying surface processing (S209) to an outer surface of each of the plurality of annular pieces (15).

8. The method of claim 7, wherein

the surface processing comprises at least one of anodizing, physical vapor deposition, deposition by electrophoresis or spraying.

15 9. The method of claim 7, further comprising:

after the applying the surface processing, removing (S210) the protecting portion (121) of each of the plurality of annular pieces (15).

10. The method of claim 2, further comprising:

20 before the forming the tubular blank (10a) by bending the metal plate (10), removing (S204) a portion of the metal plate (10) located between two adjacent ones of the plurality of elongated protrusions (11) and between two of the plurality of spacing protrusions (12).

11. The method of claim 1, wherein

25 each of the plurality of elongated protrusions (11) comprises a length portion (112) and a width portion (111), a width of the length portion (112) is different from a width of the width portion (111); and

during the forming the tubular blank (10a) by bending the metal plate (10) and the cutting the tubular blank (10a) into the plurality of annular pieces (15), the length portion (112) forms a

length edge of a respective one of the plurality of annular pieces (15), and the width portion (111) forms a width edge of the respective one of the plurality of annular pieces (15).

12. The method of claim 1, further comprising:

before the forming the plurality of elongated protrusions (11), forming (S202) a location
5 hole (16) on the metal plate (10).

13. The method of claim 1, wherein

a thickness of the metal plate (10) is no larger than 2mm.

14. A mobile terminal (20), comprising a display screen (21), a middle frame (22) and a
back case (23), wherein the middle frame (22) is connected between the display screen (21) and
10 the back case (23), and the middle frame (22) is manufactured by:

providing a metal plate (10);

forming a plurality of elongated protrusions (11) arranged in parallel on the metal plate (10),
the plurality of elongated protrusions (11) each extending along a length direction of the metal
plate (10);

15 forming a tubular blank (10a) by bending the metal plate (10) such that each of the plurality
of elongated protrusions (11) extends around the tubular blank (10a); and

cutting the tubular blank (10a) into a plurality of annular pieces (15), wherein each of the
plurality of annular pieces (15) comprises one of the plurality of elongated protrusions (11).