

ORIGINAL

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We Claim:

1. An optically readable code support (30) adapted to be associated with or be part of a capsule intended for delivering a beverage in a beverage producing device, the support comprising at least one sequence of symbols represented on the support so that each symbol is sequentially readable by a reading arrangement of an external reading device while the capsule is driven in rotation along an axis of rotation, wherein the symbols are essentially formed of a pattern of light reflective surface portions (610-615) and light absorbing surface portions (600-604); said light absorbing surface portions providing a lower light-reflective intensity than the light-reflective surface portions, wherein the code support comprises at least one base layer or structure (500) extending continuously at least along said sequence of symbols, wherein the light-absorbing surface portions are roughened surface portions having a higher rugosity (Rz) than the light-reflective surface portions.
2. Optically readable code support (30) according to claim 1, wherein the light-reflective surface portions are non-roughened or mirror-reflective surfaces of the base layer or structure itself.
3. Optically readable code support (30) according to claims 1 or 2, wherein the light-absorbing surfaces are formed integrally in the base layer or structure.
4. Optically readable code support according to claim 3, wherein the light-absorbing surfaces are formed in the base layer or structure by any one of: sand blasting, shot blasting, milling, chemical attack, laser engraving, in-mould forming and combinations thereof.
5. Optically readable code support according to claim 4, wherein the light-absorbing surfaces are formed by injection-moulding of the base layer or structure.
6. Optically readable code support according to claim 2, wherein the light absorbing surface portions are formed by one or more layer portions or deposit of roughened material applied onto the base layer or structure.
7. Optically readable code support according to claim 1, wherein the light reflective surface portions are formed by one or more layer portions or deposit of material applied onto a base layer or structure of roughened surface.

8. Optically readable code support (30) according to any one of the preceding claims, wherein the light-absorbing surfaces have a rugosity (Rz) of at least 2 microns, preferably between 2 and 100 microns, most preferably of about 5 and 10 microns.
9. Optically readable code support (30) according to any one of the preceding claims, wherein the light-reflective surfaces have a rugosity of less than 2 microns.
10. Optically readable code support according to any of the preceding claims, wherein the light-reflective surface portions and light-absorbing surface portions are arranged such that an incident light beam of given inclination is reflected, at a maximum of intensity, as reflected light beams within about the same reflection angle or reflection angles which differ one another of less than 90 degrees, preferably, differ one another of less than 45 degrees.
11. Optically readable code support according to any of the preceding claims, wherein it has an annular configuration.
12. Optically readable code support according to claim 11, wherein the pattern of light reflective surface portions (610-615) and light absorbing surface portions (600-604) extends fully or partially on the circumference of the support.
13. Capsule comprising an optically readable code support according to any one of the preceding claims.
14. A method for producing a optically readable code support according to any one of the preceding claims 1 to 8, wherein the light-absorbing surfaces are formed integrally in the base layer or structure and are obtained by any one of: sand blasting, shot blasting, milling, chemical attack, laser engraving, in-mould forming and combinations thereof.
15. An injection-mould for producing an optical readable support according to any one of claims 1 to 8, by injection-moulding of an injection-mouldable material such as plastic, wherein the mould comprises a preferably annular moulding surface; said surface comprising a series of discrete roughened surface portions for moulding the light-absorbing surface portions and a series of discrete mirror surface portions or portions having a lower rugosity than the roughened surface portions for moulding the light-reflective surface portions.

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(Dr. Vishal Tripathi)

Agent for Applicant