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[Manhole cover](#) in [Rome](#) ^[1]

Gullydeckel,

a free [open source engine](#) under the [GNU General Public License](#) written in [C](#) by [Martin Borriß](#). Supported platforms are [Linux](#) and [Windows](#). Gullydeckel is [Chess Engine Communication Protocol](#) compliant.

Gullydeckel's [board representation](#) relies on [Piece-Lists](#) and [0x88](#). Its [search](#) is plain [alpha-beta](#) using a recursive [null move pruning](#) with [depth reduction R](#) of 2.

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0x88 Difference

The preinitialized `static int vector[256]` in "attacks.c" ^[2] with [ray directions](#) encoded, which is indexed by [0x88 square difference](#) plus offset, somehow reminds on a [Gullydeckel](#), the colloquial German name for [Manhole cover](#) ^[3]:

```
/*
if we find that two squares are related according to matrix SqRel,
we use another matrix to look up the direction of the move required
('to walk the vector') if it is a sliding piece (R,B,Q)
*/
```

```
static int vector[256] = {
    0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,UR,0 ,0 ,0 ,0 ,0 ,0 ,
    UP ,0 ,0 ,0 ,0 ,0 ,0 ,UL,0 ,0 ,UR,0 ,0 ,0 ,0 ,0 ,
    UP ,0 ,0 ,0 ,0 ,0 ,UL,0 ,0 ,0 ,0 ,UR,0 ,0 ,0 ,0 ,
    UP ,0 ,0 ,0 ,0 ,UL,0 ,0 ,0 ,0 ,0 ,0 ,UR,0 ,0 ,0 ,
    UP ,0 ,0 ,0 ,UL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,UR,0 ,0 ,
    UP ,0 ,0 ,UL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,UR,0 ,
    UP ,0 ,UL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,UR,
    UP ,UL,0 ,0 ,0 ,0 ,0 ,0 ,RI,RI,RI,RI,RI,RI,RI,
    0 ,LE,LE,LE,LE,LE,LE,LE,LE,0 ,0 ,0 ,0 ,0 ,0 ,DR,
    DN ,DL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,DR,0 ,
    DN ,0 ,DL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,DR,0 ,0 ,
    DN ,0 ,0 ,DL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,DR,0 ,0 ,0 ,
    DN ,0 ,0 ,0 ,DL,0 ,0 ,0 ,0 ,0 ,0 ,DR,0 ,0 ,0 ,0 ,
    DN ,0 ,0 ,0 ,0 ,DL,0 ,0 ,0 ,0 ,DR,0 ,0 ,0 ,0 ,0 ,
    DN ,0 ,0 ,0 ,0 ,0 ,DL,0 ,0 ,DR,0 ,0 ,0 ,0 ,0 ,0 ,
    DN ,0 ,0 ,0 ,0 ,0 ,0 ,DL,0 ,0 ,0 ,0 ,0 ,0 ,0 ,0 ,
};
```

Forum Posts

- [Re: Deep Quiescence Searching](#) by [Martin Borriß](#), [rgcc](#), February 26, 1997
- [Gullydeckel - move generator](#) by [Thomas Mayer](#), [CCC](#), December 20, 2000

External Links

- [Gullydeckel Chess Program](#)
- [Manhole cover from Wikipedia](#)
- [Storm drain from Wikipedia](#)
- [Sanitary sewer from Wikipedia](#)
- [Gully \(disambiguation\) from Wikipedia](#)
- [Manhole cover - Wikimedia Commons](#)
- [Flickr: Gullydeckel - Manhole Cover](#)
- [New street crime: Thieves lift manhole covers](#), [USA Today](#), June 29, 2008
- [Deckel-Klau: Metaldiebe stehlen reihenweise Gullydeckel - Polizei & Justiz - Berlin](#), [Der Tagesspiegel](#), July 23, 2007 (German)

References

1. [^] [Manhole cover](#) in [Rome](#) with [SPQR](#) inscription, Image by [Indian Joe](#), January 08, 2007, [Wikimedia Commons](#), [SPQR from Wikipedia](#)
2. [^] [Gullydeckel Chess Program - Download](#)

3. [^](#) edited, symbols replaced for column alignment

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