

ORN (immediate)

Bitwise inclusive OR with inverted immediate (unpredicated)

Bitwise inclusive OR an inverted immediate with each 64-bit element of the source vector, and destructively place the results in the corresponding elements of the source vector. The immediate is a 64-bit value consisting of a single run of ones or zeros repeating every 2, 4, 8, 16, 32 or 64 bits. This instruction is unpredicated.

This is a pseudo-instruction of [ORR \(immediate\)](#). This means:

- The encodings in this description are named to match the encodings of [ORR \(immediate\)](#).
- The assembler syntax is used only for assembly, and is not used on disassembly.
- The description of [ORR \(immediate\)](#) gives the operational pseudocode, any constrained unpredictable behavior, and any operational information for this instruction.

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	0	0	0	1	0	1	0	0	0	0	0	imm13												Zdn						

ORN [<Zdn>.<T>](#), [<Zdn>.<T>](#), #[<const>](#)

is equivalent to

[ORR](#) [<Zdn>.<T>](#), [<Zdn>.<T>](#), #([-<const>](#) - 1)

Assembler Symbols

<Zdn> Is the name of the source and destination scalable vector register, encoded in the "Zdn" field.

<T> Is the size specifier, encoded in "imm13<12>:imm13<5:0>":

imm13<12>	imm13<5:0>	<T>
0	0xxxxx	S
0	10xxxx	H
0	110xxx	B
0	1110xx	B
0	11110x	B
0	111110	RESERVED
0	111111	RESERVED
1	xxxxxx	D

<const> Is a 64, 32, 16 or 8-bit bitmask consisting of replicated 2, 4, 8, 16, 32 or 64 bit fields, each field containing a rotated run of non-zero bits, encoded in the "imm13" field.

Operation

The description of [ORR \(immediate\)](#) gives the operational pseudocode for this instruction.

Operational information

If FEAT_SVE2 is implemented or FEAT_SME is implemented, then if PSTATE.DIT is 1:

- The execution time of this instruction is independent of:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.
- The response of this instruction to asynchronous exceptions does not vary based on:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.

This instruction might be immediately preceded in program order by a MOVPRFX instruction. The MOVPRFX instruction must conform to all of the following requirements, otherwise the behavior of the MOVPRFX and this instruction is unpredictable:

- The MOVPRFX instruction must be unpredicated.
- The MOVPRFX instruction must specify the same destination register as this instruction.
- The destination register must not refer to architectural register state referenced by any other source operand register of this instruction.

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